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# **Implications for the Future of Wind Power in the Norwegian Context: An Exploratory Study of Energy Justice and the Concession Process**

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MSc Global Development Studies

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## Declaration,

I, Andreas Daniel Gilbert, declare that this thesis is a result of my research investigations and findings. Sources of information other than my own have been acknowledged and a reference list has been appended. This work has not been previously submitted to any other university for award of any type of academic degree.

Signature:  , Oslo, Norway

Date: August 16<sup>th</sup>, 2021

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## Abstract

How can we better understand the future of onshore wind power in the Norwegian context? Adaptation processes, such as the shift towards renewable energy resources, have accelerated in recent decades. Wind turbine technologies have become more efficient and cheaper, leading to a significant increase in applications for—and approvals of—concessions for onshore wind power projects in Norway. Increased concessions and building have despite their desired environmental outcomes led to protests, problems of social acceptance, how socio-technical futures are imagined, and emergent questions of energy justice. In order to understand the future of Norwegian onshore wind power, I draw on literature, six semi-structured interviews, and a report from the Norwegian Water Resources and Energy Directorate (NVE). In my analysis, I assess NVE's recommended measures for concession process improvement through an energy justice framework, and interview data through the lenses of energy justice and socio-technical imaginaries. I find that the recommended measures correspond with tenets of energy justice, and that respondents view communication, framing, and predictability as integral improvements needed for future concessions to be considered. These results address micro and meso level injustices experienced by stakeholders. Macro level injustices are underrepresented, and the broader implications of renewable energy development have not yet been widely discussed. Socio-technical imaginations may aid in re-framing the direction onshore wind power will take within the Norwegian context in years to come. The thesis informs scholarship on topics related to energy justice, socio-technical imaginaries, social acceptance, concession processes, and adaptation/transition thinking—and their significance to wind power and communities impacted by its development.

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## 1. Introduction

The development of Norwegian onshore wind power happened slowly, and then all at once. In recent years, as installed capacity has increased, so too has opposition to its installation. Globally, governments and energy developers are pivoting towards sustainable energy sources and developing adaptation strategies to more readily harness domestically sourced renewable energy (Atteridge & Remling, 2018; Eriksen et al., 2015; Scoville-Simonds et al., 2020). Norway has a long history of domestically sourced renewable energy, however, and many have begun to question the need for increasingly large wind turbine installations (Brunborg, 2020; Normann, 2021; Thunold et al., 2021; Wicken et al., 2011).

As for all large-scale projects in Norway, developing wind power facilities is contingent on a concession process that grants licenses to developers (Fauchald, 2018; NVE, 2021a). In recent years the Norwegian Water Resources and Energy Directorate (NVE), has been criticized and questioned in its role as deliberator of unjust project developments as the licensing authority (Inderberg et al., 2019). Questions of fairness, social acceptance, community benefit plans, and installing larger, more efficient turbines, are all pertinent topics within the literature, protests, and industry. Consequently, implications for *energy justice* have been cited in several recent studies (Batel, 2020; Gulbrandsen et al., 2021; Inderberg et al., 2019; Saglie et al., 2020; Vasstrøm & Lysgård, 2021). Additionally, some critics question the meaning of “sustainability”. These questions often address how large wind power installations in “untouched” natural environments qualify as adaptations for the climate, and how they will affect Norwegian society now, and in the future. Imagining the ways in which society and technology coalesce has led to the elaboration of *socio-technical imaginaries*<sup>1</sup> as a relevant literature with the future of onshore wind power in Norway in question (Harangozo et al., 2018; Jasanoff & Kim, 2015; Liljenfeldt, 2015; Sareen & Haarstad, 2018; Skjølsvold et al., 2020).

Wind power is a particularly interesting source of renewable energy. Its relevance has increased significantly in recent years, as technological advances have made turbines not only more efficient, but much more cost-effective (Hillerbrand, 2018). Consequently, installations globally have grown exponentially. However, this growth has also led to research that has highlighted several negative externalities associated with the technology (Aitken, 2010; Cowell et al., 2011; Darpö, 2020; Dugstad et al., 2020; Krekel & Zerrahn, 2017; Mattmann et al., 2016;

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<sup>1</sup> “Collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology” (Jasanoff & Kim, 2015, p. 6).



Saglie et al., 2020; Verweijen & Dunlap, 2021). Within the Norwegian context, these externalities typically involve issues of procedural, recognition, and distributional justice.<sup>2</sup> In Norway the technological improvements in turbines have simultaneously led to increased applications for concessions, as well as increased installed effect at locations that had received concessions many years prior (Enova, 2014; Vasstrøm & Lysgård, 2021; Wiig et al., 2019). The speed at which this was allowed to happen in Norway reflected poorly on government agencies as some municipalities lost their ability to control the process after concessions had been approved (Gulbrandsen, 2020; Inderberg et al., 2019). Planning, Building and Energy Acts played their role in distributing and re-distributing the responsibilities between municipalities and NVE. However, local sentiments have soured (Fauchald, 2021). After a national framework (NVE, 2019b) for wind power was disapproved, a moratorium was placed on the acceptance of wind power applications. This will last until at least 2022 (OED, 2021; Solberg et al., 2019).

As a result of the problems the concession process and Norwegian wind power more generally have had with issues of social acceptance, questions have arisen regarding the true purpose of wind power in Norway. Several socio-technical imaginaries play into the ways in which Norwegians understand onshore wind power. Questions of energy justice, which seek to understand the roots of just action within the adaptation process of the sustainable energy transition have also emerged. How comprehensive these understandings of justice should be, and how these understandings implicate the way in which society imagines its energy future are the questions that motivates this thesis.

## 1.1 Research Questions

The goal of this thesis is to gain a deeper understanding of the implications of energy justice and socio-technical imaginaries within the Norwegian wind power context. In this study I draw on a vast literature, six semi-structured interviews, and a report from NVE to better understand this issue.

With that considered, the following main research question has been formulated:

*How can we better understand the future of Norwegian onshore wind power?*

To answer this research question, the following specific research questions have been applied:

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<sup>2</sup> These will be defined in chapter 2.

- Can the Norwegian concession process for onshore wind power be improved by tenets of energy justice?
- How do socio-technical imaginaries help frame the future of Norwegian onshore wind power?
- Can the broader implications of energy justice affect the ways in which Norway's overall energy transition takes place?
- Are there other factors that could improve the perceived fairness of future wind power development in the Norwegian context?

By exploring these questions in the following chapters, I aim to develop a deeper understanding of how social acceptance, fairness, imaginations, and tenets of energy justice might improve future renewable energy policy and development.

## 1.2 Structure

This thesis is made up of seven chapters. The first chapter introduces the theme and background for the study, its research question, and area of study. In chapter 2 I provide the theoretical orientation for the thesis, by first describing the state of adaptation processes, and then introducing both energy justice and socio-technical imaginaries as concepts. In chapter 3 I present the study's methodology, explaining the ways in which literature was assembled, interviews were conducted, and documents were analyzed. I also address matters of validity and reliability. In chapter 4 I present the historical and contextual background for the focus of the thesis. This chapter presents Norwegian energy history and precedents for onshore wind power, before providing the historical and political context for onshore wind developments. I then give an overview of the concession process that licences wind power developments, and issues that have arisen on account of its procedural complications. Chapter 5 provides an overview of the results of the study. I begin by describing my analysis of a report of recommended measures for the concession process through the lens of energy justice. I then provide a narrative style depiction of interview results. In chapter 6 I discuss the results from chapter 5 within the broader theoretical and historical context. I address the implications of energy justice for the concession process, and how socio-technical imaginaries provide a foundation for the future of renewable energy development. In chapter 7 I conclude the thesis by providing an overview of the results, and their implications for the research question.

## 2. Theoretical Orientation

This chapter establishes the theoretical basis for this thesis. I begin by justifying the inevitability of climate change adaptations, their processes, and the vulnerabilities/externalities inherent within them. I describe the dynamic ways in which communities, firms, and countries address them, both procedurally and through the social conscience. I then give an overview of the conceptualization of social acceptance, its interpretations – from a normative approach through to the critical approach this thesis takes.

Critical approaches are notable in their holistic approach to understanding social acceptance of renewable energy. This understanding contrasts with earlier normative approaches, which dichotomise conflicts and are now recognized as oversimplifying the inherent complexities of adaptation processes. I move from NIMBYism (Not In My Backyard) through to energy justice, tracking the pedigree of theorizations of acceptance in development. I provide a brief example of a Norwegian wind park in Fosen. This contextualizes the relevance of energy justice and socio-technical imaginaries within the Norwegian wind power debate.

Energy justice is multifaceted, and not all its tenets are applicable within the Norwegian context. I therefore elaborate upon the relevant forms of justice within energy justice: distributional justice, recognition justice, procedural justice, and cosmopolitan justice. Here I use dimensions, definitions, and applications outlined by Sovacool et al. (2019a, 2019b), Sovacool and Dworkin (2015), and LaBelle (2017). These aid in the formation of lenses through which low to high level analyses can be made of energy justice debates. I also summarize an energy justice decision-making tool provided by Sovacool and Dworkin (2015). These tools and definitions provide support in the analysis chapter. Notably, literatures and concepts similar to energy justice from differing academic backgrounds also tackle issues of responsibility and policy integration, e.g., value-sensitive design and responsible research innovation. I briefly address these literatures and explain why I have decided to refer to energy justice as a holistic term that covers many of the similar, yet siloed, concepts held between the literatures.

I conclude this chapter by outlining the key theoretical perspective of socio-technical imaginaries, a theory that holds science and technological innovation as consequential to the cultural circumstances from which they arise. Stemming from ideas of collective consciousness, socio-technical imaginaries look to the future and represent the various ways in which societies imagine, implement, and install technological innovation (Efron, 2011; Jasanoff & Kim, 2015; Wortmann, 2011).

## 2.1 Adaptation and Vulnerabilities

Global climate change is taking place within a dynamic socio-political context, influenced by several developing systemic changes. Climate change adaptation in its various forms is attracting higher levels of investment, as well as political attention. The United Nations (UN) have established Sustainable Development Goals (SDG's), and governments around the world are committing increasing levels of human and natural resources to the establishment of alternative/sustainable energy sources (Okereke & Massaquoi, 2017, pp. 332–333). Sustainable energy sources are predicted to lower the risk of major political economic conflict over energy resources. Additionally, a hydrocarbon-rich country such as Norway is poised to eventually lose revenues from its fossil fuel extraction while simultaneously pivoting to renewable energy exports (Moe et al., 2021; Vakulchuk et al., 2020).

In addition to mitigating the climate crisis, threats to the biosphere and a subsequent pivot away from fossil fuels, the potential monetary gain from investments in renewable energy resources has multiplied in conjunction with technological innovations (Vakulchuk et al., 2020). Therefore, climate change adaptation as it pertains to a global energy shift can be seen as an inevitability that will form the epistemological basis for this thesis. Whether said shift is done by individual governments to lower greenhouse gas (GHG) emissions, strengthen political economic standing, or exploit resources remains to be seen. The shift is one that is ongoing and predicted to continue well into the 21<sup>st</sup> century (D'Amato et al., 2021; Eriksen et al., 2015; Feola, 2020; Harangozo et al., 2018; Leichenko & O'Brien, 2019a; Okereke & Massaquoi, 2017; Schipper et al., 2020; Shao, 2020; Vakulchuk et al., 2020). Global sustainable development processes and a green transition to less environmentally harmful, “cleaner”, sources of energy have become a viable and popular form of reactive and anticipatory adaptation strategies (Eriksen et al., 2015; Leichenko & O'Brien, 2019a; Okereke & Massaquoi, 2017). Building resilience and sustainability within a social context, however, requires a combination of policies, cost-benefit and risk-management approaches, and questions of justice.

The concession process within the Norwegian context is presently in limbo due to several social factors, and is in a process of adaptation/transition (Gulbrandsen et al., 2021; Vasstrøm & Lysgård, 2021). Adaptation in and of itself is a political process, however, and adaptations can be framed as positive through one lens but can also be framed as maladaptive through others. Several authors explore maladaptation in their critiques of “green” transitions, and the inherent extractive nature of a 21<sup>st</sup> century global energy transition, questioning the

very meaning of sustainability within the current capitalist paradigm (D'Amato et al., 2021; Dunlap, 2018; Harangozo et al., 2018; Månsson, 2015; B. K. Sovacool et al., 2020; van den Bergh, 2011; Verweijen & Dunlap, 2021).

Adaptation takes place in contexts of existing, dynamic patterns of social relations in which subjectivities are reinforced, challenged, and transformed as a means of engaging with, controlling, and innovating in the face of change (Eriksen et al., 2015). All adaptation decisions, processes and interventions are embedded in arrangements of authority affecting what decisions are taken, by whom, which interests are furthered in decision-making, and the outcomes on differential vulnerability for the environment and stakeholders (Atteridge & Remling, 2018; Eriksen et al., 2015; Leichenko & O'Brien, 2019b; Nykvist & Nilsson, 2009; Therivel & Wood, 2018; Veldhuizen, 2021). The green transition towards renewable energy sources is a form of adaptation, and thus a creator of several forms of vulnerabilities, externalities, and conflict.

Environmental Impact Assessments (EIA) are for example forms of authority-driven policy in action. They can be interpreted as adaptation practices that represent and reflect the most contemporary fields of knowledge (Therivel & Wood, 2018). However, they can also be manipulated to conceal particular areas of knowledge in favour of political or economic targets, making them potential sources of conflict, particularly between local knowledge and professional knowledge (Gulbrandsen et al., 2021).

Kirsch (Kirsch, 2014) argues that modern corporate social responsibility and “corporate science” can be, and have been, co-opted by major corporate interest groups. Comparing the environmental failures of EIAs used by Ok Tedi Mining Ltd. to the co-option of science by both the modern pharmaceutical industry and the history of “tobacco industry science” (Kirsch, 2014, pp. 129–134). Kirsch notes that consultancy firms responsible for EIAs in the mining industry are seldom held responsible for the accuracy of their predictions after completing their assessments. Assessments by consultancy firms in general can be ethically contestable as consultants rely on the industry they serve for future contracts. Furthermore, Kirsch notes that mining companies are seldom held accountable for discrepancies in EIAs produced by consultants, instead being held accountable to legal pollution limits. Kirsch references a study wherein 183 mining EIAs in the USA were compared to their actual impacts on water quality. The study found that EIAs “systematically underestimated” most mines’ eventual real world impacts (Kirsch, 2014, p. 135).

EIAs for wind power developments are related in their practice to those of mining and are therefore susceptible in similar ways. Notably, EIA practitioners are not unaware of the

discrepancies of their reports and best-practice methodologies are consistently being improved to more adequately address the cumulative effects of renewable energy projects at local and global levels (Broderick et al., 2018, pp. 673–674). According to researchers Nykvist and Nilsson (2009), EIAs should establish clear instructions for social and environmental priorities in a local framework. As vulnerability is most often shaped by local factors, the politics of adaptation decision-making must acknowledge that climate change adaptation procedures create “winners” and “losers” (Nykvist & Nilsson, 2009).

Sustainable governance policy should therefore aim to address vulnerabilities in a way that increases wellbeing-oriented and just transformations (Heinrichs, 2020; Zagonari, 2020). Heinrichs (2020) makes a case for more sensory-informed policymaking practices for sustainable development. Arguing that it has the potential to lead to “qualitatively better decision-making”, that more completely reflects human beings’ multisensorial nature (Heinrichs, 2020). Kirsch (2014) reflects upon the recognition of corporate manipulations of science in the name of sustainable growth, referring to this practice as “the aggressive purveyor of misleading utopian visions” (Kirsch, 2014, p. 156). This practice delegitimizes the capitalist notion that every environmental problem has a practical, growth-oriented solution. Within the Norwegian context, this is to say that adaptation decision-making and who benefits from it involve the inclusion or exclusion of different groups, opinions, values, and knowledges. Accordingly, several researchers argue that it behooves decision-makers to be aware of who decides *and* how we adapt to climate change as well as the impacts of the distributive effects and adaptation policies on all involved stakeholders (Broderick et al., 2018, 2018; Heinrichs, 2020; Schipper et al., 2020; Scoville-Simonds et al., 2020; B. K. Sovacool et al., 2021, 2019a).

If adaptation activity is experienced as simply shifting risks, vulnerabilities, and externalities around the board, the effectiveness and sustainability of its intent remains in question. *Maladaptation* can be defined as “action taken ostensibly to avoid or reduce vulnerability to climate change that impacts adversely on, or increases the vulnerability of, other systems, sectors or social groups” (Atteridge & Remling, 2018, p. 2). Social connections and institutions are forged and re-worked continuously in response to different factors, with biophysical connections featuring increasingly within the globalisation discourse. Vulnerability redistribution in climate finance mechanisms and adaptation projects should recognise the possibility of positive and negative impacts on different sectors and actors, induced by the development project (Atteridge & Remling, 2018). In practice, vulnerability redistribution at the local level is most often *actively* addressed within the stages of a project’s EIA and concession process.

In the Norwegian context, The Ministry of Petroleum and Energy (OED) directs the Norwegian Water Resources and Energy Directorate (NVE) through annual letters of allocation. These letters outline budgetary allocations as well as the Directorate's intentions and prioritizations. The goals outlined by these letters are diverse. Gulbrandsen, Inderberg, and Jevnaker (2021) have categorized these goals and noted that "Efficient and Sustainable Governance" and "Energy Transition" make up roughly half of the goals and prioritized tasks for NVE between 1998 and 2019 (Gulbrandsen et al., 2021). These measures are an indication, they argue, of adaptation and the green transition in so far as it pertains to Norwegian energy policy. These goals and prioritized tasks have varied throughout the years, reflecting shifting political desires. Respondents in Gulbrandsen et al.'s study at NVE and OED indicated that goals that were politically motivated were prioritized, and subsequent corners were therefore cut in the name of streamlining the concession process and awarding more licenses (Gulbrandsen et al., 2021). This in turn has resulted in what might be considered an externality of *maladaptation*, wherein a consistent disregard for certain stakeholders, and recurring problems within the concession process have resulted in a growing protest movement towards questions of procedural energy justice, which led to the moratorium on onshore wind power developments.

## 2.2 Social Acceptance of Wind Power

In the face of protest and shifting sentiments amongst local stakeholders, as well as the Norwegian public, it is important to contextualize certain theories as they pertain to acceptance of adaptation processes, more specifically, concepts of social acceptance, energy justice, social aspects of energy landscapes, socio-technical imaginaries, and the global implications of sustainable energy transitions. All adaptation decisions, processes and interventions are embedded in arrangements of authority affecting what decisions are taken, by whom, which interests are furthered in decision-making, and the outcomes on differential vulnerability (Atteridge & Remling, 2018; Nykvist & Nilsson, 2009; Skjølvold et al., 2020; B. K. Sovacool et al., 2021). Moreover, authority and knowledge in adaptation are dynamic and self-reinforcing features (Eriksen et al., 2015; Leichenko & O'Brien, 2019b). As such, authority is legitimized, reinforced, and challenged using knowledge; and knowledge serves as a basis for challenging or asserting the legitimacy of authority.

The following sections address the way that adaptation knowledge is interpreted, experienced, and transmitted to and through stakeholders. First, the interpretations and

experiences of local communities are addressed in the knowledge transition from NIMBYism to energy justice. Then, the transmission and moulding of this knowledge on a local, national, and global scale are addressed in the section on socio-technical imaginaries.

### *2.2.1 From NIMBYism to Energy Justice*

New kinds of subjectivities are emerging in relation to climate change, with contentious effects on power, vulnerability, and sustainability (Dunlap, 2018; B. K. Sovacool et al., 2021). Adaptation takes place in contexts of existing, dynamic patterns of social relations and knowledge in which subjectivities are reinforced, challenged, and transformed as a means of engaging with, controlling, and innovating in the face of change (Atteridge & Remling, 2018; Eriksen et al., 2015; Jasanoff & Kim, 2015; Leichenko & O'Brien, 2019b; Schipper et al., 2020). This is to say, the social acceptance of wind power is more than a simple contention between *pro* or *anti*. Instead, it is a rigorous conversation, focused primarily upon compromise, concession, compensation, and conciliation. Within the Norwegian context, this conversation is exceptionally nuanced, privileged, and arguably at the forefront of what renewable energy development in the Global North should consider when establishing itself as “sustainable” and equally importantly, at the local *and* global levels as justice oriented.

Concepts of “acceptance” as they pertain to communities, adaptation, and the renewable energy technologies that affect them have seen a gradual development within the social sciences over the past few decades (Batel, 2020; Leiren et al., 2020; Roddis et al., 2018; Scherhauser et al., 2017; Wolsink, 2012; Wüstenhagen et al., 2007). They have occurred concurrently with the development of renewable energy sources as an increasingly significant energy contributor, and as such have become more realized theories and concepts. This section will focus primarily upon research that pertains to wind power development, the involvement of local communities, and theories of social acceptance. Ultimately, the concept of *energy justice* will be discussed as it affects Norwegian wind power and its future developments within that framework.

Having expanded upon the key role that wind energy will provide in the transition towards a low-carbon society, the issue of acceptance in its various forms arises. The social aspects of renewable energy technology developments were first widely researched in the late 1980s and early 1990s as large-scale wind farms were built in major markets in the Global North, namely Germany, Denmark, and the USA (Batel, 2020; Batel et al., 2013). In her article 2020 article, Susana Batel summarizes 30 years of social sciences research on issues of social



acceptance within the context of renewable energy development. Batel organizes the research into three waves of approach – *normative*, *criticism*, and *critical*.

### 2.2.2 Normative Approach

The *normative approach* has a strong focus on NIMBYism, wherein researchers and social impact reviews characterized opposers and supporters of renewable energy development within a community by their proximity to developments (Batel, 2020). The goal of this kind of enquiry is to aid projects in overcoming opposition to the development of their proposals, viewing renewable energy development as inevitable, the general population as inherent supporters of said developments, and communities that take issue with the size, intrusiveness, or local environmental impact as strictly *proximity based*, i.e., NIMBY communities (Batel, 2020; Batel et al., 2013; Devine-Wright, 2005; Devine-Wright & Howes, 2010; Heffron & McCauley, 2014; Wüstenhagen et al., 2007).

NIMBY perspectives are often regarded as overly simplistic by modern social acceptance standards. They are framed in large part as a developer-driven perspective on the externalities of projects. Viewing opposition as ill informed or ignorant, NIMBY perspectives on the extreme-end frame local stakeholders as “luddites” unwilling to adapt to inevitable energy shifts. As an early critic of the normative approach, Devine-Wright (2005) argues for an integrated framework for understanding the public perceptions of wind energy. Findings, at that time (2005), were already indicating that local communities were open to the concept of wind farms in their local environment, i.e., *in their backyards* so to speak, but were apprehensive about the structuring of benefit deals, environmental impacts, and profit sharing within the proposed projects plan (Devine-Wright, 2005; Devine-Wright & Howes, 2010).

### 2.2.3 Criticism Approach

Researchers observed that local oppositions were characteristically more complex than normative-approach descriptions. The oversimplification of NIMBYism within the normative approach, therefore, led to *criticism approaches*. Wolsink (2012), Devine-Wright and Batel (2005, 2010, 2013, 2015), Wüstenhagen et al. (2007), Cowell et al. (2011), and Pettersson et al. (2010) offer more holistic approaches to the procedural development of wind power projects and the conflicts that surround them. Batel (2020) divides the criticism approach into two strands.

The first is politically-economically more strategic in nature, viewing opposition players as “qualified resistance” who will accept wind power development if certain conditions are met (Batel, 2020; Batel & Devine-Wright, 2015; Devine-Wright, 2005). Some findings suggest that place attachment and green-on-green development results in local communities protesting nature/industry’s symbolic contradictions, i.e., pristine natural environments being converted into massive industrial arenas in the name of sustainability (Devine-Wright & Howes, 2010). Others look to the wider political arena, considering national, regional, and institutional factors that drive landscape protectionism, financial incentive and support systems, and regional planning institutions (García et al., 2016; Wolsink, 2012; Wüstenhagen et al., 2007).

The second strand is fundamentally more sociological, addressing the perceptions of procedural justice, fairness in deployment, and distributive justice from the perspective of local community members and stakeholders alike. This in turn has resulted in a focus on a democratic process and its ability, or lack thereof, to foster community benefits and in so doing generate community acceptance (Aitken, 2010; Cowell et al., 2011; Ek & Matti, 2015; Hegtvedt, 2011; B. K. Sovacool et al., 2021).

#### *2.2.4 Critical Approach*

In *Why we still don’t understand the social aspects of wind power: A critique of key assumptions within the literature* (2010) Aitken addresses key assumptions within wind power development rhetoric: “(1) The majority of the public supports wind power. (2) Opposition to wind power is therefore deviant. (3) Opponents are ignorant or misinformed. (4) The reason for understanding opposition is to overcome it. (5) Trust is key” (Aitken, 2010, p. 1834). Aitken argues that to make any progress in the name of justice, and to truly understand social acceptance, the *a priori* framing of opposition cannot be deemed ill informed, wrong, or as something to overcome. Instead, renewable energy technological development should be understood in a universal social context as opposed to a mitigation tactic (Aitken, 2010). This is seen as the ideological change that has led to the *critical approach*, or the “third wave”. Marked by a need to address social issues holistically with acknowledgements of power relations, the propagation of renewable energy technologies in a neo-liberal manner like that of fossil fuels, and the use of rigorous discourse analysis, in order to fundamentally question whether opposition to wind power developments should indeed be seen as a challenge to be reduced or overcome.

An exemplification of the critical approach to wind power development, in the Global North, is acknowledging whether a positive municipality is a necessary prerequisite when deciding to invest in wind power (Aitken, 2010; Batel, 2020; Bosch & Schmidt, 2019; Darpö, 2020; Dugstad et al., 2020; Fournis & Fortin, 2017; Heffron & McCauley, 2014; Inderberg et al., 2019; Lamy et al., 2020; Otte et al., 2018; Saglie et al., 2020, 2020; Scherhauser et al., 2017; B. K. Sovacool et al., 2019a, 2019b). In *Contested wind energy: discourses on energy impacts and their significance for energy justice in Fosen*, Otte et al. (2018) encapsulate the sentiments of the critical approach through a discourse analysis of Fosen Wind Park.

### *2.2.5 The Example of Fosen Wind Park*

Fosen is Europe's largest onshore wind farm with a capacity of 1GW of production, which doubled Norway's wind power capacity at the time of building (Otte et al., 2018). Through four interconnected discourses, Otte et al. portray a complex temporal, environmental, political, and energy-impact driven shift with several potential outcomes for Norwegian national interests. The political rhetoric, and the framing of the project as a win-win-win for business, stakeholders, and the nation alike ignores a vast number of social injustices and inevitable future complexities. Otte et al. (2018) describe how local politicians acted in a manner that exploited local South Sámi populations, collecting their local knowledge and data on the potential impacts to their livelihood, only to then ignore it in the final rounds of decision making, ultimately disempowering local indigenous knowledge, while at the same time empowering local political groups in favour of wind power as a bargaining tool (Otte et al., 2018). As developments were in discussion, local welfare incentives were propagated throughout the communities, mainly through local job generation as well as a new swimming hall.

Otte et al. (2018) critique the local, to national, to international, discrepancies made by the developers in Fosen as a "gross oversimplification" by a local government and its industrial energy company partners, framing their renewable energy project as a climate positive, adaptive step towards sustainability and propagating the narrative of inevitable energy integration with the EU (Moe et al., 2021; Otte et al., 2018). However, as addressed in section [4.2.5](#), these developments are exceptionally complex socio-political and temporally sensitive international issues. In propagating international rhetoric with concerns to a local development, the politicians in Fosen, though democratically elected by local stakeholders, were promoting the narrative of national renewable energy development in the name of sustainability (Moe et

al., 2021; Otte et al., 2018). This in turn brought about an extraneous political-economic perspective for local stakeholders. Many felt their local interests were sidelined as their protest was subsequently critiqued and re-framed through a national narrative, criticizing their “lack of global climate perspective”.

Normann (2021) expands upon this re-framing, having interviewed several Southern Sámi involved in protests against, amongst others, Fosen Vind. Normann found that for Sámi stakeholders the development of wind power projects in traditional Sámi herding grounds represents the continuation of state-driven dispossession and colonialism. Normann’s respondents refer to bureaucratic interpretations of EIA reports as blatantly ignoring local knowledge; gaps that the reports lacked (Normann, 2021, pp. 86–87). Moreover, the intersection of knowledge hierarchies, especially the dismissal of traditional or indigenous knowledge, represents the continuation of state-driven existential threats to indigenous livelihoods (Normann, 2021). The states inability to recognize itself in this role, Normann argues, reflects the permeation of biased research on renewable energy development and NIMBY assumptions prevalent within bureaucratic knowledge hierarchies (Normann, 2021).

The issue of balance, knowledge hierarchies, relative fairness, acceptance, distributive and procedural justice, compensation, and benefit sharing as it pertains to local stakeholders, large-scale energy developments and their global effects is what is termed: *energy justice* (Aitken, 2010; K. Jenkins et al., 2016; K. E. H. Jenkins et al., 2020; LaBelle, 2017; Leichenko & O’Brien, 2019b; Otte et al., 2018; Scherhauser et al., 2017; B. K. Sovacool et al., 2019a, 2019b).

## 2.3 Energy Justice

Philosophical contemplations of *Justice* are myriad and ancient. Stemming from questions of ethics, morality, and philosophy, their conflation with 21<sup>st</sup> century energy systems can at times seem incongruous. Global climate change *is* occurring, however, and adaptation processes to the vulnerabilities, externalities, and economic opportunities presented by these pressing changes *are* happening. Understanding the implications of a global ecological shift that fundamentally affects every living thing on our planet is extraordinarily complex to process and define. This is perhaps why climate change can be framed as the ultimate threat to human existence, while simultaneously being the platform from which adaptation processes like “green” energy are launched (Dunlap, 2018). Industrial scale “green” energy requires vast amounts of untapped and finite resources to develop, build, and maintain, all to reduce the use

of other finite resources that are currently driving rising GHGs. Sustainable sources of energy, however, *are* required and global energy demand is set to rise. Within this dichotomy exists the challenge of energy justice.

Energy justice recognises the uneven distribution of both social and environmental benefits and costs of energy location, production, and consumption. In *Energy Justice: A Conceptual Review* (2016) Jenkins et al. consolidate the core tenets of energy justice, namely: distributional justice, recognition justice, and procedural justice. Per their definition, energy justice is an integrally inter-disciplinary perspective, drawing concepts from business, geography, political science, legal studies, philosophy, and environmental studies. Throughout the review, they evaluate “(a) where injustices emerge, (b) which affected sections of society are ignored, (c) which processes exist for their remediation in order to (i) reveal, and (ii) reduce such injustices” (K. Jenkins et al., 2016; K. E. H. Jenkins et al., 2020).

*Distributional justice* addresses the distribution of natural resources, the distribution of society in relation to said resources, and the way in which said resources are then distributed throughout society. Thus, it is concerned with the notion of who benefits *from* and who pays *for* energy development. With regard to wind power, distribution of wind resources is inevitably unevenly distributed. Moreover, so too is the distribution of minable materials needed in the manufacturing of wind turbines. Therefore, energy-just wind power requires both the levelling out of injustices as well as arguments for fair treatment in response to them (Dunlap, 2018; K. Jenkins et al., 2016; K. E. H. Jenkins et al., 2020; Otte et al., 2018; Scherhauser et al., 2017; B. K. Sovacool et al., 2021, 2019a, 2019b; Verweijen & Dunlap, 2021).

*Procedural justice* is perhaps the most formal of Jenkins et al.’s three tenets, concerned predominantly with access, and the processes of decision-making that govern the establishment, management, and practices involved in the development process. Moreover, procedural justice involves the inclusion of all relevant social groups and employs their knowledge as a decision-making tool in an effort to most readily fulfill the needs of the previous tenets (Batel & Devine-Wright, 2015; K. Jenkins et al., 2016; Otte et al., 2018; Roddis et al., 2018; B. K. Sovacool et al., 2019b).

*Recognition justice* makes the case for equal and fair representation, the offering of complete and equal political rights, respecting identities and cultural differences, and a freedom from physical threats. The opposite is often attributed with cultural or political domination, insults, degradation, devaluation, or framing or misrecognising the opinions of opponents in a distorted manner (K. Jenkins et al., 2016; Otte et al., 2018; B. K. Sovacool et al., 2019b). Issues

of recognition justice are typical of some Norwegian protests against wind power, as the arguments against future developments are framed as “hillbilly hysteria” or overtly conservative opinions easily conflated with climate skepticism (Moe et al., 2021; Valberg, 2021; Vasstrøm & Lysgård, 2021; Wiig et al., 2019).

In addition to the three tenets addressed by Jenkins et al. (2016), Sovacool et al. (2019b) add the tenet of *cosmopolitan justice*. This tenet views the global community as a holistic social entity, beholden to every human being before communities or nations—essentially, the “golden rule” of energy justice, wherein all humans have equal moral worth as actors within the energy system, and should therefore treat others as they themselves would wish to be treated (B. K. Sovacool et al., 2019b).

Additionally, works by Sovacool and Hook et al. (2019a), Sovacool and Martikainen et al., (2019b), and Labelle (2017) make arguments for a global/holistic approach to an *energy-just* analysis of the energy system. Their definitions differ slightly, distinguishing respectively between the micro, meso, and macro scale injustices attributable to energy driven externalities (B. K. Sovacool et al., 2019a, 2019b). And *universal justice* and *particular justice* Labelle (2017).

Micro injustices concern local impacts to livelihoods, health, and environment. Meso injustices concern national-scale electricity prices, questions of access and poverty, environmental encroachments, and questions of neo-colonial energy developments in indigenous territories. Macro injustices are attributable to the winners and losers on the global scale, e.g., countries where mining and extraction unjustly supply other countries “sustainable” development (B. K. Sovacool et al., 2019a; Verweijen & Dunlap, 2021). Similarly, *universal justice* concerns itself with the tenets of distributional, procedural, and cosmopolitan justice (LaBelle, 2017). It can be defined as a “global energy system that fairly disseminates both the benefits and costs of energy services, and one that has representative and impartial energy decision-making” (B. K. Sovacool & Dworkin, 2015, p. 436). Conversely, *particular justice* addresses local experiences and perspectives, concerning itself with local issues and interpretations of energy sources and services (LaBelle, 2017). By maintaining a focus on the tenet of recognition justice, it allows for a local activist/protest perspective to be maintained and recognized within the framework. As development, environmental, and financial costs are interpreted at a local level, representation and the presence of local interest groups create unique socio-technical environments for each individual development and affected group (LaBelle, 2017). Notably, the combination of universal and particular justice, or micro-meso-macro injustices, is not contradictory. These perspectives provide lenses through which

interpretations of energy justice can be made more discretely (LaBelle, 2017; B. K. Sovacool & Dworkin, 2015).

### 2.3.1 A Framework for Energy Justice Decision Making

Making decisions in the name of development and energy justice, therefore, ranges from local perspectives to holistic ones within an energy justice framework and individual principles of energy justice apply differing facets of the outlined justices. In *Table 1* Sovacool and Dworkin (2015) provide a framework through which decisions might more accurately be made to promote tenets of energy justice (B. K. Sovacool & Dworkin, 2015, p. 440). All the principles are important, but as they progress from 1–8, they increase in complexity and become more controversial (B. K. Sovacool & Dworkin, 2015). Consequentially, as I later explore the Norwegian context, much of the Norwegian energy system and wind power concession process, in theory, already address these principles. However, as we approach principles 5–8, a more holistic/universal approach to questions of energy justice becomes more relevant.

<b>Principle:</b>	<b>Explanation:</b>
(1) Availability	People deserve sufficient energy resources of high quality.
(2) Affordability	All people, including the poor, should pay no more than 10 percent of their income for energy services.
(3) Due Process	Countries should respect due process and human rights in their production of energy.
(4) Good Governance	All people should have access to high quality information about energy and the environment and fair, transparent, and accountable forms of energy decision making.
(5) Sustainability	Energy resources should not be depleted too quickly.
(6) Intragenerational Equity	All people have a right to fairly access energy services.
(7) Intergenerational Equity	Future generations have a right to enjoy a good life undisturbed by the damage our energy systems inflict on the world today.
(8) Responsibility	All nations have a responsibility to protect the natural environment and minimize energy-related environmental threats.

*Table 1: "Energy justice decision-making tool" Based on Sovacool and Dworkin (2015, p. 440)*

### 2.3.2 Similar Literatures and Less Applicable Vulnerabilities

Jenkins et al. (2020) provide a conceptual review of three similar yet siloed literatures: *value sensitive design*, *responsible research and innovation*, and *energy justice*<sup>3</sup>. Each of the three concepts is supported in academia and practice but stems from a different discipline. Jenkins et al. (2020) aim to bridge the gap between the concepts, viewing each as an inherently socio-technical construct, yet with differing areas of focus, emphasis, philosophy and method. This in turn results in what they describe as each concept's partial understanding of the socio-technical energy system.

Energy justice is the most temporally flexible concept of the three, with a focus on transitions, adaptation and vulnerabilities thinking. Seeking to expose marginalization wherever it can, energy justice provides a holistic approach to systems analysis. It is therefore the most capable of identifying externalities and potential injustices within a temporal scheme (K. E. H. Jenkins et al., 2020). In concluding their article, they provide a system for holistic analysis of energy systems "from source-to-sink" (K. E. H. Jenkins et al., 2020, p. 12). Noting that despite the uptake of the concepts in academic circles and in some cases policy decisions, their usage is still relatively underdeveloped in industry circles. As such, their relevance remains undervalued as industry practitioners and developers remain on the peripheries of the discussion (K. E. H. Jenkins et al., 2020). Moving forward, I will refer to the frameworks of these three concepts as *energy justice*, not as interchangeable concepts but holistically as one overarching concept: *energy justice*.

It is also important to note that issues of energy poverty, energy vulnerability, energy access, and energy security though relevant and issues of high importance within the energy justice literature, are peripheral within the Norwegian context due to Norway's well-established energy grid (Bredvold, 2020; LaBelle, 2017; Okereke & Massaquoi, 2017). Ultimately, with regard to the Norwegian energy system and its future developments the concepts of energy justice are perhaps *most* relevant and problematic in cases where tenets of justice are ignored in order to fulfill processes that advance unjust "preconceived outcomes" of national energy policy (K. Jenkins et al., 2016; K. E. H. Jenkins et al., 2020; Normann, 2021; Otte et al., 2018; B. K. Sovacool et al., 2019b). In another sense, "preconceived outcomes", especially regarding a national energy policy imply *socio-technical imaginaries*.

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<sup>3</sup> The same theory of energy justice discussed in 2.3 and 2.3.1.



## 2.4 Socio-Technical Imaginaries

Socio-technical imaginaries, from a sociological perspective, operate at the intersection of collective consciousness, technology, science, and culture (see, Efron, 2011; Wortmann, 2011). Jasanoff and Kim (2015) define socio-technical imaginaries as “collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology” (Jasanoff & Kim, 2015, p. 6). Socio-technical imaginaries at the highest level of the nation state, then, are driven by the collective consciousness of the electorate, as state-level policy development (Eaton et al., 2014; Wortmann, 2011). Additionally, socio-technical imaginaries operate, not only as drivers of adaptation, but as the basis for protest or opposition to adaptation (Skjølsvold et al., 2020). They can therefore also be interpreted through the lens of *particular justice* within the framework of energy justice (LaBelle, 2017). Through this lens, socio-technical imaginaries can be interpreted as a collection of societal and cultural norms, values, and movements, encapsulating the ways in which they fuse with technological developments. These ideas are inescapably “shared” collective imaginations that reverberate throughout a society’s collective consciousness, but they are not necessarily ubiquitously maintained imaginations within that society (Wortmann, 2011). Therefore, differing socio-technical imaginaries can compete for manifestation within said society and be promoted as the socio-political philosophy of organizations, corporations, knowledge, or social movements (Skjølsvold et al., 2020). Moreover, the creation and dissemination of knowledge, and what that knowledge represents, can play a crucial role in the interpretation and development of socio-technical imaginaries (Normann, 2021; Sareen, 2020).

Within the broader European context, as addressed later in Section [4.2.5](#), there are centralized social orders driving the socio-technical imaginary of a “green” Europe. The myriad programs driven by EU initiatives represent the established, or status-quo, adaptation response. Climate agreements, accords, and action plans, touting lofty programs with titles such as “zero carbon society by 20XX”, both frame and put into practice leading socio-technical imaginaries. Re-imagining the fundamental meaning and role of just and sustainable transitions within these imaginaries can lead to discrete analysis and critical reflection of foundational concepts of the greater modern socio-technical experience (Feola, 2020; Veldhuizen, 2021). These imaginations permeate society in a way that drives the proximity of policies and practices towards understood levels of “sustainability”, thus providing socio-

technical imaginaries through which we can develop solutions that create pro-environmental behaviour and the social acceptance of it (van den Bergh, 2011).

Eaton et al. (2014) illustrate the potency of collective local actions in differing interpretations of national socio-technical imaginaries between local and non-local stakeholders. They find that framing and “memories of place” play a significant role in garnering shifts in sentiments towards national socio-technical imaginaries. Framing and imaginaries, therefore, go hand-in-hand, as the former acts to promote the political philosophy of the latter. With specific regard to concession processes, and the interplay of local stakeholders with developers, Eaton et al. (2014) find that the sentiments and framing of development projects can be deeply rooted in “lived experiences, remembered histories, and community and technical discourse” (Eaton et al., 2014, p. 251). Moreover, these sentiments suggest that local stakeholders engage in rigorous community, historical, and socio-technical discourse when aligning themselves with stances for or against “national” development within their community. Consequently, perceptions of control over technological developments play an important role in stakeholders’ interpretation of broader socio-technical imaginaries.

Within the Norwegian context, as addressed later in [Phase 3](#), Section [4.2.3](#), public perceptions of control towards onshore wind power developments shifted rather drastically over a two-to-three-year period. Within this time frame, national socio-technical imaginaries have galvanized, transformed, and fortified. As national political plans have developed, and international deals have been made, local sentiments towards an imaginary that seemingly disregards them have also developed. Moreover, Norway’s history of environmental protest, history of, and reliance upon hydro power, as well as a strong national identity rooted in unionized labour, law, and relationship to the environment have resulted in conflicting socio-technical imaginaries and questions of energy justice. Consequently, questions of energy justice and competing socio-technical imaginaries will form the analytical theoretical basis from which this thesis will root itself when analyzing interviews regarding the future of Norwegian onshore wind power and the concession process.

## 2.5 Concluding Remarks

In this chapter I have addressed the literature on adaptation methods and policies, vulnerabilities, and the circumstances under which they have arisen. I have also provided a background for ideas surrounding social acceptance of renewable energy technology, moving from simplistic initial interpretations like NIMBYism, to the more complex and holistic ideas

of energy justice and socio-technical imaginaries. The theoretical frameworks provided by both energy justice and socio-technical imaginaries will serve as lenses through which I analyse interview and document data in the chapter [6](#). These frameworks have been used as initial codes in the coding process and will feature as separate sub-sections within the results and analysis chapters. The intention behind both the literature review and theory chapters has been to establish the groundwork for this thesis, providing a multi-faceted and complex picture of the state of renewable energy development, and more specifically onshore wind power in Norway and the concession process that has driven it.

### 3. Methods and Study Design

In this chapter I present and justify the methodological choices I made throughout the process of writing this thesis. I first describe my methodological approach and how it lends itself to answering my research question. I then explain the methods I used for data collection, including the use of secondary literature, document analysis of an NVE report, and six semi-structured interviews. I then explain how recruitment and the interviews were carried out as well as the transcription process. I briefly summarize the framework approach to thematic analysis that was used to analyze coded interviews. I conclude by discussing the study's validity, reliability, and the obstacles encountered throughout the process.

#### 3.1 Methodological Approach

The purpose of this study was to explore the implications tenets of energy justice might for the future of the Norwegian concession process for onshore wind power development, as well as to assess socio-technical imaginaries present within a group deeply familiar with the current state of Norwegian wind power and ideas of growth surrounding Norway's renewable energy sector. In order to attain the required information and sentiments within the Norwegian discourse I relied upon separate but mutually complementary strategies to acquire data. The first involved assembling a vast array of documents and literature describing wind power development in Norway to analyse and summarize them in order to understand the history and current state of Norwegian wind power. The second was composed of six semi-structured interviews carried out concurrently with document assembly. The third involved qualitative content analysis of an official NVE report addressing the future of the Norwegian onshore concession process.

In order to most adequately answer the research question my analysis addresses the secondary literature I assembled prior to interviewing, data drawn from the six semi-structured interviews, and a report published by NVE (2019b) in response to the massive resistance it received after presenting the aforementioned National Framework for Wind Power, titled *The Concession Process for On Shore Wind Power: Descriptions, Challenges, and Possible Mitigation Measures* (NVE et al., 2020). This document was selected for its relevance to the research question after being suggested by a respondent from NVE. NVE's position within the Norwegian governmental structure envisions a measured understanding of future directions for the concession process. This makes it a relevant benchmark for the ways Norwegian experts view future onshore wind power developments.

Ideas of social acceptance of wind power, energy justice, and socio-technical imaginaries are generally less concrete, more ephemeral concepts than say, measuring the total energy output of Norwegian onshore wind power in MWs because these concepts deal in large part with people and their complexities both psychologically and sociologically. Given the nature of the research question and purpose of this thesis, I decided on a generic qualitative approach using thematic analysis in a deductive manner to analyze my results through the pre-established theoretical frameworks of energy justice and socio-technical imaginaries. I also included related themes that were drawn from the data using an inductive manner. Using a combined deductive and inductive approach is advantageous when literature and theoretical frameworks are used because it offers the ability to both place themes, as well as interpret new themes from the data (Cho & Lee, 2014; Vaismoradi et al., 2013). Vaismoradi et al. (2013) describe the process of thematic analysis as “a realist, essentialist, constructionist, and factist” perspective that analyzes data through description and interpretation in both a deductive and inductive manner (Vaismoradi et al., 2013, p. 399), placing an emphasis on historical and contemporary contexts, using non-linear processes in an iterative manner to draw conclusions from data (Bryman, 2016; Cho & Lee, 2014; Vaismoradi et al., 2013).

### 3.2 Secondary Literature

As I began this project rather unaware of the enormity of the research done on both Norwegian wind power, and theories surrounding social acceptance of renewable energy sources, my approach started as a collection and analysis of relevant secondary literature<sup>4</sup>. I began this process by assembling and categorizing the literature, followed by writing a preliminary literature review and an outline of theoretical frameworks for energy justice and socio-technical imaginaries. The assembly of the literature was done using a snowball method (Babbie & Benaquisto, 2010). I began by consulting relevant bibliographies and reference lists within my preliminary literature review. I continued this process iteratively until an adequate depth of topic was achieved, and a more robust and representative literature review could be written (Bryman, 2016, p. 418). A disadvantage of this method of finding literature is that I was often searching retrospectively, moving from the most recently written articles to the older more foundational ones. However, many online databases allow for forward temporal searches by

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<sup>4</sup> A literature review was required for my master’s program’s proposal application a year prior to submission. Therefore, a rudimentary literature review was written in order to receive project approval. This literature was used as a jumping-off point for both my topic and further relevant literature.

way of searching for “citing articles”, i.e., recent articles that have cited foundational articles. In this way, I was able to move backwards and forwards temporally through relevant articles, chapters, white papers, reports, etc.

For the sake of relevance, I found that researching, writing, and updating my literature review prior to *and* after interview data collection was advantageous. Writing an ongoing literature review can be useful for student researchers as knowledge and information is continuously added to (Bryman, 2016, p. 109). Moreover, many of the processes discussed in chapters [2](#) and [4](#) were developing as research took place, which necessitated updating throughout.<sup>5</sup>

In writing a literature review I noted that ideas of energy justice in relation to Norwegian wind power were suggested as areas for future research in several recently published articles (see, Gulbrandsen et al., 2021; Inderberg et al., 2019; Månsson, 2015; Saglie et al., 2020; B. K. Sovacool et al., 2019a; Vasstrøm & Lysgård, 2021; Vasstrøm & Normann, 2019). Socio-technical imaginaries provided an additionally relevant method of analyzing the future of onshore wind power in Norway, as recommended by my thesis advisor. As discussed in chapter [2](#), socio-technical imaginaries are becoming increasingly relevant in relation to literatures and rhetoric surrounding degrowth, political ecology/economy, and policy-driven environmental and energy justice (see, Cowell et al., 2011; Eaton et al., 2014; Eriksen et al., 2015; Heinrichs, 2020; Jasanoff, 2009; Jasanoff & Kim, 2015; LaBelle, 2017; Runhaar et al., 2014; Sareen, 2020; B. K. Sovacool et al., 2019a; van den Bergh, 2010; Verweijen & Dunlap, 2021). Reviewing these literatures allowed for the development of my research and interview questions. The review was conceptualized as a report, framing the written discourse of my topic in a way that provided discussion and summary, to serve as a “component part” of my thesis (Bryman, 2016, p. 94).

### 3.3 Interview Data Collection

For this study I conducted six semi-structured interviews with respondents with significant connections to Norwegian wind power developments. Respondents had varying experiences and roles within the development of Norwegian wind power and were knowledgeable sources of information for the purposes of the study. Due to ongoing Covid-19 restrictions at the time

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<sup>5</sup> This thesis was written during lockdown periods of the Covid-19 pandemic. Travel restrictions and in-person restrictions hindered my ability to conduct fieldwork or in-person interviews. Therefore, a reliance on secondary literature needed to play an equal role to that of the interviews that I was able to conduct.

of data collection and writing (spring/summer 2021), interviews were conducted either over Zoom or Microsoft Teams. This was not experienced as a hindrance; as it allowed for interviews with respondents from across Norway who would have otherwise been too remote or expensive to interview in person. A disadvantage of online video interviewing is often “initial difficulties in securing a rapport between researcher and respondent” (NVE et al., 2020, p. 2). However, this is a social barrier that I argue has improved throughout the ongoing Covid-19 pandemic, i.e., people meeting for the first time over video calls. Few hindrances if any were experienced besides slight audio glitches. A lack of more personal visual cues, however, was an ongoing challenge, as was speaking over respondents when audio signals became delayed. These two issues were noted and improved upon progressively throughout the interview and transcription process where possible.

### *3.3.1 Respondent Selection*

Respondents were selected using what Bryman dubs “generic purposive sampling”, a nonprobability sampling method that can lend itself to an approach where a literature review and theory section were written prior to interviews taking place, wherein the researcher “establishes criteria concerning the kinds of cases needed to address the research questions, identifies appropriate cases, and then samples from those cases that have been identified.” (Bryman, 2016, p. 413). This method of sampling is ideal for the identification and selection of information-rich cases connected to specific areas of interest. This method is not, however, representative of a wider population and is not particularly adept at inferring generalizable results.

With that in mind, respondents were selected in order to build a holistic understanding of sentiments towards wind power in Norway. Respondents were recruited by email and in one case over Facebook’s Messenger app. Recruitment emails/messages were sent to several significant players who were selected through the literature review process. Of the 25 recruitment emails sent, six respondents agreed to be interviewed. See *Table 2: List of Respondents* for general respondent and interview information. [Appendix 2.3](#) provides an example of the recruitment emails that were sent, each one tailored to the specific potential respondent.

A notable hindrance of qualitative methodology can be the sheer amount of data assembled that then requires transcription and analysis (Babbie & Benaquisto, 2010; Bryman,

2016). After conducting and transcribing six interviews I felt that the amount of data I had assembled was sufficient to answer the research question.

<b>Name:</b>	<b>Affiliation with Norwegian wind power:</b>	<b>Length:</b>	<b>Language:</b>
R1-Motvind	A prominent member of the “Against Wind” (Motvind) movement. A democratic membership organisation that wholly opposes Norwegian wind power developments on a broad spectrum of reasons.	63 min.	Norwegian
R2-Haramsøya	A local inhabitant of Haramsøya, an island in Ålesund Municipality in Møre og Romsdal. Haramsøya is a hotly contested wind power development that has aided in galvanizing protests to wind power.	55 min.	Norwegian
R3-Naturvernforbundet	An advisor to The Norwegian Society for the Conservation of Nature (Naturvernforbundet), or “Friends of the Earth Norway” on issues of wind power. A democratic membership organisation, and Norway’s oldest nature and environmental organisation.	29 min.	Norwegian
R4-NVE	A representative in the Norwegian Water Resources and Energy Directorate (NVE), with experience in wind power concessions.	45 min.	Norwegian
R5-LNVK	A representative of the National Association of Norwegian Wind Power Municipalities (LNVK). An interest organisation that represents 47 Norwegian municipalities that have or are planning to develop wind power.	39 min.	English
R6-Norwea	A representative of The Norwegian Wind Energy Association (NORWEA). Representing the entire value chain of the Norwegian wind power industry, NORWEA is “the voice” of the industry. This includes developers, contractors, electricity providers, lawyers, consultants, and research institutions.	23 min.	English

*Table 2: List of Respondents*

### *3.3.2 Conducting Interviews and Transcription*

Interviews were conducted over Zoom or Microsoft Teams in the spring and summer of 2021. Interviews were recorded using the “record” function through the selected video call app. Before recording began, I ran through a basic overview of the study, explained that recordings and transcriptions would be deleted upon delivery of the thesis, and asked for consent to record the interview. Bryman (2016), and Babbie & Benaquisto (2010) offer valuable advice for *best practice* semi-structured interviewing, beginning with a relevant theme and inspiration from the literature, designing an interview that seeks to uncover as much relevant information in the time available (see [Appendix 2.0](#)), using probes when applicable to explore ideas that need unpacking, and maintaining a looser adherence to the interview guide circling back if certain



topics were not adequately addressed (Babbie & Benaquisto, 2010; Bryman, 2016). I wrapped up interviews by asking if there was anything of importance that we had not covered, and this supplied a bevy of interesting perspectives. Interviews were conducted in both English and Norwegian as I speak both fluently. For the sake of consistency, a translated interview guide was made for respondents who desired to converse in Norwegian (see [Appendix 2.1](#)).

Interviews were transcribed soon after being conducted. This is advantageous because transcription is time consuming and can build up quickly (Bryman, 2016, p. 481). Interviews conducted in English were transcribed in English, and interviews conducted in Norwegian to Bokmål Norwegian. Two Norwegian respondents had dialects that required dictionaries and the help of online Norwegian translators to fully comprehend. Unclear audio or language was repeated until it was understood to the best of my abilities. I have maintained a focus on as precise an interpretation of the interview as possible so as not to misinterpret or change the opinions or sentence structure of my respondents (Bryman, 2016, p. 483). Norwegian interviews were transcribed as such. I have translated the selected excerpts in section [5.2](#) into English to the best of my abilities.

### *3.3.3 Coding*

I used a thematic analysis approach to coding, what Bryman describes as the elaboration of initial coding to higher-order codes and themes. Initial coding allows for the understanding of events and descriptions with theoretical insight and possibilities. Elaborating initial coding to themes involves combining codes into more overarching ideas. A theme can be interpreted as a category defined by the researcher, or that builds on the researches focus/literature (Bryman, 2016, p. 584). Higher-order codes or *themes* are sometimes also referred to as “focused coding” in grounded theory approaches. Focused coding employs theoretical sensitivity in order to draw abstract terms from data and relate them to studied phenomena (Charmaz, 2014, pp. 113–161). Throughout this process I kept rudimentary memos to trace my progress through the transcription and coding processes (Bryman, 2016, p. 588). This allowed for my focused coding to more readily fit into emergent categories, which I maintained in a separate document containing quotations of particular interest for later use in section [5](#). This practice is known as the “framework approach to thematic analysis” (Bryman, 2016, p. 586), according to which separate tables are created for themes, and respondents’ quotations fill the separate cells that are titled with higher-order codes. Themes were then compared with the framework for energy justice and ideas of socio-technical imaginaries outlined in chapter [2](#). These tables were not

used in reporting the data, however, as I chose to report the data by re-ordering quotations in a way that sought to create a coherent narrative.

### 3.4 Report Selection and Inter-Textuality

R4 from NVE could not respond to several of the interview questions as their responses could be misinterpreted and this could jeopardize their employment and legitimacy. They instead referred me to a report from NVE which describes and addresses the problems the concession process had had up until this point, providing 25 concrete measures that might improve the concession system.

This document was selected for its relevance to the research question, its position within the Norwegian governmental structure as a realistic proposal of future directions for the concession process, and its applicability within the theoretical orientation of this thesis. The document itself can be interpreted as a relevant benchmark for the ways expert licensing officials view future onshore wind developments, the issues that have beleaguered it, and ways in which they might be mitigated. Bryman points to two important factors when considering the use of documents produced by the state. The first is recognizing issues of credibility and representativeness in government documents as depictions of reality. The second is the “establishment of a cogent theoretical account” and “examining that account in other related contexts” (Bryman, 2016, p. 553).

Atkinson and Coffey (2011) address the first factor arguing that a documents “reality” is contingent on why it was produced and its intended readership/audience. In this sense, documents are produced in order to reflect favourably on their authors and who they represent. Moreover, documents are rarely produced in a vacuum and are therefore often responses to, or produced in conjunction with other documents. This is referred to as a document’s inter-textuality (Atkinson & Coffey, 2011). The inter-textuality of NVE’s Report 3 (2020) recognizes that it was produced by the licensing directorate in response to the rejection of the National Framework (2019). The document intends to address the numerous complaints received both at the hearings for the framework, but also general lingering issues that have plagued onshore developments throughout Norway’s history with wind power. This report’s distinct purpose, then, NVE’s suggestions for improvement to the concession system, is not a direct reflection of reality (Atkinson & Coffey, 2011; Bryman, 2016, p. 561). Therefore, Bryman’s recommendation that theoretical accounts be examined in related contexts is

important. To this end, I have buttressed my document analysis with six semi-structured interviews, providing validity and a deeper understanding of reality to my data.

### *3.4.1 Analysis*

As the report is only available in Norwegian, I began the process of analysis by translating the measures from the report into English. Using methods of qualitative content analysis, I then divided the themed measures from NVE's report into four separate tables (see [Appendices 1.0-1.3](#)). The themes that NVE used were: (1) *Measures for increased knowledge, information and guidance*, (2) *Measures in the process from notification to concession decision*, (3) *Measures in the process from concession decision to operation*, (4) *Measures for stronger volume control and localization* (NVE et al., 2020, p. 2). The themed measures were then placed in corresponding tables. I then wrote brief summaries of each of the 25 measures. Using a deductive approach to content analysis, I applied relevant tenets of energy justice to all applicable measures, as well as applicable principles from the framework for decision makers.

This application is necessarily based on my own subjective interpretations of the data through the lens of my chosen theoretical orientation. These tables are, however, intended to provide a more formalized buttress to the interview data and secondary literature, with concrete examples of likely improvement measures.

## **3.5 Validity and Reliability**

It is important for researchers to recognize the limitations inherent in their study's design, data collection, and analysis. The following sections critique issues of internal and external validity as well as the reliability of this study.

### *3.5.1 Internal Validity*

Internal validity constitutes the extent to which a study can claim validity through cause and effect evident within its selected data. To this extent, the selection of, and reliability of the respondents selected for a qualitative study are of significant importance (Bryman, 2016, pp. 383–384). The goal of this study was to interpret possible future directions for Norwegian onshore wind power and analyse the experiences of several different actors within that process. My study has recruited relevant respondents with varying opinions on the state of wind power, the concession process, ideas of energy justice, and future directions for renewable energy. All my respondents were well informed and provided a myriad of information in their respective

interviews. I have no reason to doubt their reporting of events or their experiences within said contexts.

There are natural biases present in every individual's interpretation of events. It was not this study's goal to interview neutral parties, nor respondents with little experience of onshore wind power. Consequently, respondents had strong opinions on the subject matter. As only six interviews were carried out, these opinions, though perhaps stronger than those most Norwegians hold regarding the subject matter, represent decision-makers and protestors alike. I should note that I failed to interview a respondent who could represent the Sámi people. Several efforts were made to speak with leaders and local Sámi stakeholders, but all were too busy to be interviewed within my timeframe for conducting interviews.

All respondents requested to be kept anonymous, and two requested to be allowed to redact parts of their interview if not satisfied with my transcription and reporting of their answers. These respondents were contacted in the drafting stage of writing and checked their own quotations. Most respondents used a few filler words throughout their responses that I have redacted in the results section in order to improve the flow of sentences where necessary.

With respect to the report from NVE, the applicability of energy justice tenets and principles exemplifies their focus within future developments and processes. Questions of internal validity regarding the energy justice categorization of these themed measures are relevant in that I as the researcher have applied specific tenets to specific measures. However, these applications are based upon a robust theoretical framework and are verifiable and replicable when individual measures are assessed through the differing tenets and principles of Energy Justice.

### *3.5.2 External Validity*

The employment of small sample sizes in qualitative research represents a problem for the generalization of findings (Bryman, 2016, p. 384). Though this study employs a significant literature on the issues Norwegian wind power developments have had, my contribution consists of merely six respondents. It would therefore be naïve to think that my study has any ability to be replicable or transferable in any meaningful capacity. I would argue, however, that this thesis does provide what Bryman (2016) refers to as “thick description” of the history of issues surrounding, and the potential future directions of Norwegian wind power development, backing up these claims with respondent validations. My purely qualitative approach to the interpretation of and coding of my data is an inherently subjective interpretation. Therefore,

one of the only ways to adequately backup the findings of this study is if they provide an increased understanding of the observed phenomena within other studies (Vaismoradi et al., 2013, p. 608).

Having recognized the history and contentious nature of certain developments in socio-technical integrations of renewable energy sources in the Norwegian context, it is important to emphasize the context within which this thesis was written. This thesis is situated as an assessment of future directions for onshore wind power in Norway, taking a thematic analysis approach to data analyses, evaluating the emergent theory/themes through an energy justice framework, as well as assessing socio-technical imaginaries that presented themselves through the data. The use of a qualitative method in this sense was an effort to provide depth, complexity, and proximity to an issue that is both contemporarily relevant for Norwegian society, as well as internationally. The sample size and scale needed for this type of study to be representative is not achieved in this study.

In this study I, as the researcher, am aware of my role as researcher, and the implications of my own social constructions that influence my interpretations of the data. I am therefore only interested in presenting information garnered from interviews and reports as accurately and truthfully as possible, acknowledging that at certain points I had to translate transcriptions from Norwegian to English. Citations are used continuously throughout the discussion chapter to situate the theoretical and argumentative stances that I take within the literature.

## 4. Historical and Contextual Background of Norwegian Wind Power

This chapter establishes the contextual reasoning on which this thesis is founded. Recognizing the green transition and climate adaptation processes, I argue that international, continental, and national development will move decidedly towards renewable energy sources in the coming decades. Within the Norwegian context, the green transition is most often associated with wind energy. The processes by which the transition is regulated and undertaken varies across countries and regions. However, a growing literature focused on specific groupings of energy development projects have started to outline best-practice methodologies supported by empirical studies. Moreover, they detail specific ways wind power projects can lead to more justice-oriented approaches in their associations with local stakeholders. These associations I argue are integral to the establishment of well-functioning, justice-oriented energy policy.

Concurrently, as I will outline, new energy development may also function to trigger widespread protest movements, acting as catalysts in the sowing of distrust within larger social spheres. Norwegian energy policy, with specific regard to onshore wind power development is a hotly contested issue, rife with protest, and maladaptations in various contentious forms. Increasing levels of negative sentiment could be widespread throughout Norway within a few decades, if developments continue in the procedural direction they have historically (Inderberg, 2020).

As a result of a moratorium introduced by the government in response to rising levels of social discontent, Norwegian energy policy for onshore wind projects has been in a state of limbo, at the time of writing (see, OED, 2021). I argue that the concession process must adopt tenets of energy justice to further develop onshore wind power. It is through questions of energy justice and socio-technical imaginaries that this thesis investigates the Norwegian concession process for onshore wind power projects and the role of decision-makers and stakeholders within that process.

The chapter below is intended to situate this thesis and to demonstrate the positioning of Norwegian wind development within a wider global energy shift. To do so, backgrounds are drawn and summarized historically and individually. They are then assembled into a conclusion intended to adequately situate the subsequent results chapter within the Norwegian onshore wind power debate.

## 4.1 Norwegian Energy History

Norway is uniquely placed in the European energy market, and thus faces challenges that are different from most of the developed world. For context, annually, Norway produces ten times the energy it consumes, and over 90% of this produced energy is exported in the form of fossil fuels. Additionally, Norway has a century-long history of domestic renewable energy production and consumption, in the form of hydro power. This production exceeds domestic consumption in nine out of ten years and is therefore constantly traded with neighbouring countries through numerous agreements (Boasson & Jevnaker, 2019; Moe et al., 2021). The combination of domestic hydro power and exported fossil fuels make Norway's prospective energy transition and implementation of wind power unique.

In the majority of European countries renewable energy has the allure of establishing energy security *from* fossil-fuel-rich political-economic rivals such as Russia or Saudi Arabia, as well as inherent renewable energy/environmental benefits (Wicken et al., 2011). In Norway, however, many argue that there is more than enough renewable energy production, and therefore investments in the sector are unnecessary (Boasson & Jevnaker, 2019). Those in favour, conversely, can be roughly split in two groups: those who support further development in order to export excess electricity, and those who would like to sell the excess electricity at a low cost as an incentive for energy-intensive industries (Boasson & Jevnaker, 2019). The latter has been a selling point for cheap Norwegian hydro power for over a century and has in many ways shaped Norwegian energy development from the industrial revolution to the present day.

### 4.1.1 The Precedent Set by Hydro Power

Norway's myriad waterways in elevated mountainous regions (flowing rivers, waterfalls) and predictable water cycle made hydro power the natural choice for initial Norwegian electricity development. Efforts in the early 20<sup>th</sup> century to establish hydro power plants near and on large waterfalls, however, were met with intense conflict and protest. This was in large part due to the reliance on foreign private capital in the early phase of industrialization. Disagreements also focused on land-use laws and the alteration of natural landscapes (Brunborg, 2020). The political battle lasted until 1917, when the first concession laws were established (Wicken et al., 2011). These laws created concessions based on social and environmental factors such as access to electricity for local stakeholders and compensatory tax schemes. Notably, hydro power externalities were considered, and other major Norwegian industries were considered before concessions were granted. Moreover, efforts were made to establish hydro power in

topographically ideal locations, or where they would most benefit industrial needs. Initial hydro power developments allowed Norway to make major industrial strides, exporting energy intensive materials such as aluminium, silicon, fertilizers and paper (Wicken et al., 2011).

After the Second World War, there was a major political push to electrify Norwegian society. This push garnered hydro power political legitimacy and allowed for the modernization of Norwegian society. Due to seemingly abundant waterways Norwegian electricity was exceptionally cheap to both produce and consume. From 1950 to 2000 Norwegian electricity capacity increased eight-fold, from 17 TWh to 142 TWh (Wicken et al., 2011). In the 1970's, the advanced development of Norwegian hydro power was responsible for the country's rejection of nuclear power plants (Boasson & Jevnaker, 2019). This development was not without conflict, however, and resulted in one of Norway's most definitive environmental protest engagements.

Between 1978 and 1982 massive, organized protests took place against the development of a hydroelectric power plant in the Alta River in Finnmark, Norway. Dubbed The Alta Conflict, the protests are seen to have aligned several burgeoning environmental movements, as well as the Sámi indigenous rights movement. Civil disobedience in the form of hunger strikes outside the Norwegian parliamentary buildings and blocking construction vehicles from accessing construction zones resulted in massive police action. Police were brought in from across the country; massive arrests and forcible removal of protestors was ordered. Protesters garnered enough support, however, that the case against the government was sent to the Supreme Court, and a ruling was subsequently made in favour of the government. Despite the dam's completion in 1987, the protests are seen as an event which galvanized the Norwegian environmental movement and set the precedent for the 2005 Finnmark Act, which saw 96% of the area of Finnmark County transferred to the people of Finnmark. Today the Finnmark Estate is managed by a board of directors wherein, by law, Sámi must hold three of six positions (Hjorthol, 2006).

A notable trait of the Norwegian government's involvement in the early development of hydro power was that of ownership. Up until 1930, most large hydro power plants were developed by foreign investors to support industry. In 1906, however, time-framed licenses had been introduced to guarantee future national ownership (NVE & Norad, 2015). From the 1930s until deregulation in 1991, public entities including the state, counties and municipalities owned 90% of the generation capacity through ownership in local hydro power companies (NVE & Norad, 2015). Before 1991, locally owned utilities companies ran as non-profits. Their purpose was to garner industrial and business development within their districts, as well as



benefits for the local population. This is in part due to the Norwegian Energy Law having been written at a time when the grids coverage, reliability/security, and a stable electricity price were central themes in the national political energy discourse (Brunborg, 2020). These policies have significance in comparison with today's renewable sector. As of May 2020, 88.7% of Norwegian hydro capacity is publicly owned, with the remaining 11.3% being an even split of foreign and Norwegian private ownership. In comparison Norwegian wind power capacity is 32.9% publicly owned, and 61.7% foreign owned (NVE, 2021c).

In the 1980s Norwegian electricity consumption plateaued, and growth slowed. Simultaneously, milder, and wetter winters resulted in unprecedented electricity surpluses in certain regions. As development had been decentralized, the security of supply at a regional level was prioritized over the national. This resulted in financial issues for certain regions, and in 1991 the government voted in favour of the marketisation of government services and state-owned enterprises (NVE & Norad, 2015). Public ownership was not removed, however, as hydro power was seen as a strategic sector in line with the financial and petroleum sectors. Instead, a national wholesale and retail market for electricity was established, which would eventually morph into a Northern European market (Boasson & Jevnaker, 2019). Deregulation is generally regarded as the point at which the grid went from expansion to optimization. An additional outcome for grid security around this time was the expansion and development of energy exchange systems. High-voltage direct current (HVDC) submarine power cables connecting Norway with neighbouring countries allowed for stability. Although helping to protect the Norwegian grid and hydro system in mild and wet winters, and to stabilize energy delivery in cold and dry years, the HVDC cables were, however, not constructed for the sale of surplus electricity (Brunborg, 2020). This influence is later explored in section [4.2.5](#).

As of June 2021, 90% (136.7 TWh) of the 153 TWh of the electric energy Norway produces annually is produced by hydro power. Wind power produces 13.1 TWh annually, and thermal power from waste or gas produces 3.4 TWh (NVE, 2021b). Despite the fact that new energy production facilities, including wind power, are being built at their highest rate since the 1970s, hydro power will continue to dominate the Norwegian energy system for the foreseeable future (NVE, 2021b).

#### *4.1.2 Fossil Fuel Discoveries, The Petroleum Industry, and the Sovereign Wealth Fund*

As discussed, Norwegian hydro power development allowed for energy-intensive industrial development, job creation, and technical know-how. It also set a precedent for publicly owned

and run energy projects. In the late 1950s and early 1960s fossil fuel discoveries in the North Sea along the Norwegian continental shelf paved the way for the modern Norwegian welfare state. In 1963, the state proclaimed sovereignty over the continental shelf, and therefore held exclusive rights to award concessions for both exploration and production (Thurber et al., 2011). Throughout the 1960s explorations came back largely empty handed and were mostly carried out by foreign companies, specifically from the UK and the USA. In 1969, the Ekofisk discovery was made, with several others following in 1971 and beyond. Ryggvik (2010) maintains that the Norwegian state was exceptionally lucky throughout this period, as it held relatively few state-owned shares of the initial concessions. However, the state was advantaged in its fossil fuel policy development, as it had a robust system of checks and balances, a well-functioning bureaucracy, democratic systems, and a robust industrially competent work force prior to and throughout the early stages (Ryggvik, 2010; Thurber et al., 2011). Moreover, the state was lucky in that subsequent discoveries were made north of the initial concession area. This provided the state with the time necessary to sufficiently reassess its framework and establish a more robust state-owned and driven system before subsequent concessions were granted (Ryggvik, 2010, pp. 19–21).

In 1972 Statoil and the Norwegian Petroleum Directorate were formed as the government's commercial branches in fossil fuels. These strong bureaucracies allowed for expert-led administration that furthered commercial abilities within the sector, allowing for Norway to develop a strong and experienced fossil-fuel services industry. As Statoil grew, the government's systems of checks and balances maintained its stately orientation. In 1974, White Paper no. 25 on "The role of petroleum activities in Norwegian Society" was presented by the Ministry of Finance (*Meld. St. 25 (1973-1974) Petroliumsvirksomhetes plass i det norske samfunn*, 1974). The report maintained that the wealth from petroleum extraction should be employed as a means to develop a "qualitatively better society" (Ryggvik, 2010, p. 34). It also insisted on the importance of democratically elected entities controlling the growing petroleum industry. To maintain this level of public control an insistence was placed on longevity, or "a moderate pace of extraction" to prevent a rapid and expensive industrial conversion (Ryggvik, 2010, p. 35).

Norway's reputation as the benchmark for successful petroleum industry management was established quickly. The narrative that dominates contemporary rhetoric in the sector was known in 1978; Norway's focus was to provide an egalitarian distribution of oil wealth, that would take place primarily through a state-run oil company that would be governed by a newly established Petroleum Directorate. The directorate was to maintain safety regulations and

socially responsible resource administration, as well as to emphasize “justifiable environmental interventions” (*Meld. St. 25 (1973-1974) Petroliumsvirksomhetes plass i det norske samfunn*, 1974, pp. 27–37; Ryggvik, 2010). Perhaps most prescient was the emphasis on moderate plans for extraction and investment. Norwegian oil discoveries arrived shortly after the boom-bust cycle that had plagued Dutch natural gas discoveries and resulting manufacturing sector turmoil throughout the 1960s, dubbed the Dutch Disease. The Dutch Disease set the precedent for the numerous mismanagements of fossil fuel discoveries throughout the second half of the 20<sup>th</sup> century (Corden, 1984). Norway was able to avoid the pitfalls of broader economic harm typically associated with the paradox by slowing the development process temporally through concessions, democratically run bureaucracy, adoption of protectionist policies of multi-level strategic ownership programs, and the gradual development of internal knowledge frameworks (Ryggvik, 2010; Thurber et al., 2011). In addition, worker-led strikes beginning at Ekofisk in 1978 led to the establishment of a robust unionized workforce with significant influence in safety protocols and management through a tripartite collaboration between unions, firms, and the state. The tripartite agreement is bolstered by an autonomous regulatory system through the Norwegian Petroleum Directorate (OD) (Ryggvik, 2010; Thurber et al., 2011).

Norway’s fossil fuel extraction has ramped up since the late 1970s, however. Beginning in the 1980s with the neoliberal political economy western nations were rapidly adopting, Norwegian “moderate” extraction policies began to test their initial boundaries. Extraction steadily increased well into the early 2000s, and the industry became what Ryggvik (2010) describes as an oil-industrial complex. Increased extraction provided the Norwegian Sovereign Wealth Fund with larger deposits and the industry with ample jobs but was an unsustainable system showing symptoms of the Dutch Disease (Ryggvik, 2010). Additionally, as the industry became arguably more independent of its egalitarian founding, and extraction continued to increase, issues of global climate change began to be recognized by governing bodies internationally.

For Norway, the journey from hydro-power attainments to fossil fuel discoveries-and-exports left the country with many experienced engineering, managerial, and economic assets. These assets have built Norwegian infrastructure and institutions, and supported a very successful socio-economic Nordic model. The steady neoliberal degradation of the founding socio-economic intentions for Norwegian oil, argues Ryggvik (2010), were remedially countered by the establishment and maintenance of the sovereign wealth fund. However, as questions of responsibility associated with carbon emissions on a global scale continue to evolve, and the Norwegian fossil fuels industry begins to transition—or reposition itself—

within the global energy market, the veil of Norwegian sustainable energy production is being called into question. Moreover, as the transition *has* lumbered forward, lessons that were learned throughout the oil experience with regard to state ownership and society's ability to position itself at the winner's table have been forgotten or ignored along the way.

As the number of Norwegian onshore wind power projects increased, so too has the level of conflict. I want to conclude this brief history of Norwegian energy with Ryggvik's concluding remarks: "The greater the degree of openness and general popular oversight of political priorities and decisive technological choices, the better a society will be able to manage a strategic energy resource in a way which benefits society as a whole" (Ryggvik, 2010, p. 113).

## 4.2 Wind Power in Norway

In a policy note for their project Windplan (see, Windplan, 2021), Vasstrøm and Lysgård (2021) provide an excellent three phase breakdown of the major political phases of Norwegian wind power development. In the following three subsections they are summarized and in certain places extended.

### 4.2.1 Phase 1

The first phase, 1998–2009, set a goal of installing three TWhs of wind power before 2010 (OED, 1999; Vasstrøm & Lysgård, 2021). It focused on technological development processes in the effectivization of wind turbine energy output, and the establishment of regulatory systems for a potential major energy production source. St. meld. nr. 29 (OED, 1999), the first to address wind power, noted that although wind power was not yet profitable, research and development on the technological side were fast moving and promising. This led to NVE and later ENOVA managing an investment scheme until 2010, promoting renewable energy projects (Enova, 2014). In 2003, a major rush for wind power concessions came in, concession processing at NVE surged and local conflicts arose as many concession applications were unqualified or half-baked. Vasstrøm and Lysgård note that this period is referred to by stakeholders and researchers as Norwegian wind power's "Klondike" period (Vasstrøm & Lysgård, 2021). In 2004, in response to points made in St. meld. 11 (2004-2005), a system for thematic conflict assessments was established, classifying applications on a grade scale of A (no conflict) to E (extremely high conflict) (Kommunal og moderniseringsdepartementet, 2005; Vasstrøm & Lysgård, 2021).

In 2007 the environmental department (MD) and OED proposed guidelines for the planning and location of wind power developments. The intention was to establish a system of holistic and long-term assessments to reduce conflict and establish acceptable levels of resistance and acceptance in wind power localities (Wiig et al., 2019). There was also a focus on increasing the predictability of the concession process, so that developers might have a more realistic idea of their commitments (Vasstrøm & Lysgård, 2021). The implementation of the new Planning and Building Act in 2008 saw the centralization of energy planning with the concession processor NVE. New concessions were now processed only through the Energy Act, with an emphasis placed on municipal and county planners. In certain counties this was experienced as an arduous exercise in bureaucratic responsibilities and might have led to mismanagement (Inderberg et al., 2019; Vasstrøm & Lysgård, 2021; Wiig et al., 2019)

#### *4.2.2 Phase 2*

The second phase 2009–2018, aimed to integrate Norwegian wind power developments with European Union (EU) renewable energy policies as well as with larger international climate agreements (Vasstrøm & Lysgård, 2021). Energy politics within Norway at the time (2006–2009) were focused on affordability, conflict reduction, and increasing security within the system in the interest of stakeholders both locally and financially. Bureaucratic decision makers were simultaneously lukewarm to the idea of increased investment in renewables (Leiren et al., 2020; Moe et al., 2021; Vasstrøm & Lysgård, 2021). Within Norway sentiments changed with the introduction of renewable energy certificates through the European Energy Certificate System (EECS), introduced in 2012 in partial response to the EU's renewable energy directive (2009), which required Norway to increase its renewable energy capacity to 67.5% by 2020. Norway and Sweden committed to finance 28.4 TWh of renewables by 2020. This goal was achieved in 2019, with Norway making up 8.4 TWh of the deal and over half of the developed energy coming from hydro power (Moe et al., 2021; Vasstrøm & Lysgård, 2021).

In 2012, a Norwegian Public Report (NOU) looked at Norwegian energy politics and made strong cases for future Norwegian renewable energy developments. It noted that a changing international dialogue surrounding renewables, increasing demand within the EU coupled with Norway's renewable potential, made wind power an attractive investment. Additional calls were made for local benefit programs, effectivization of the concession process, and procedural predictability for local stakeholders and investors alike (NOU, 2012; Vasstrøm & Lysgård, 2021).

St. meld. 25 (2015–2016) in 2016 was the first Energy report since the 1998 report. The report was focused on furthering the development of renewable energy sources, as well as increasing energy security within Norway. It also elaborated on Norway’s huge potential for renewable energy generation, as well as the political incentives a focus on renewables affords domestic climate politics. Regarding wind power, the report acknowledged the conflicts associated with several concessions and maintained that many were unnecessary. In order to combat future conflict, the report outlined the governments desires to increase the role local, municipal, and county governments play in the concession process (OED, 2016; Vasstrøm & Lysgård, 2021). Notably, the report also upheld the government’s desire to veto municipal vetoes with concern for regional or national interests (OED, 2016). In response to the report, OED commissioned NVE to create a National Framework for Wind power.

#### 4.2.3 Phase 3

The third phase from 2018–present represents the public’s attitude shift regarding wind power politics within the Norwegian context (Vasstrøm & Lysgård, 2021). Up until this point, most municipalities were seen as “generally positive” to the idea of larger (10MW +) wind power installations (Gulbrandsen et al., 2021; Inderberg, 2020). This shift was partially responsible for a report (2019) from NVE, pre-National Framework hearings, wherein three scenarios are presented. The scenarios describe expected Norwegian wind power developments towards 2040 dependent on shifting public sentiments and politics. The scenarios are ranked: low, medium, and high.

- “Low Wind Power Scenario” expects completion of all *licensed* projects by 2023, with 2 TWh available for further concession. Expired wind turbines will be replaced, but output will not increase. In total 19 TWh will be installed by 2025, with no intentions of increasing this until 2040 (NVE, 2019a).
- “Medium Wind Power Scenario” is like the low scenario, but as active turbines reach the end of their lifespan, they will be replaced with higher output modern turbines with increased capacity. It is also expected that offshore capacity will see a slight increase from the late 2020s until 2040. In total 26 TWh will be installed by 2040 (NVE, 2019a).
- “High Wind Power Scenario” is like the medium scenario but expects developments to increase as new concessions for onshore are approved. Expired turbines will be replaced with higher output turbines, and offshore is expected to double in comparison to the medium scenario. This is in part due to expected technological developments as

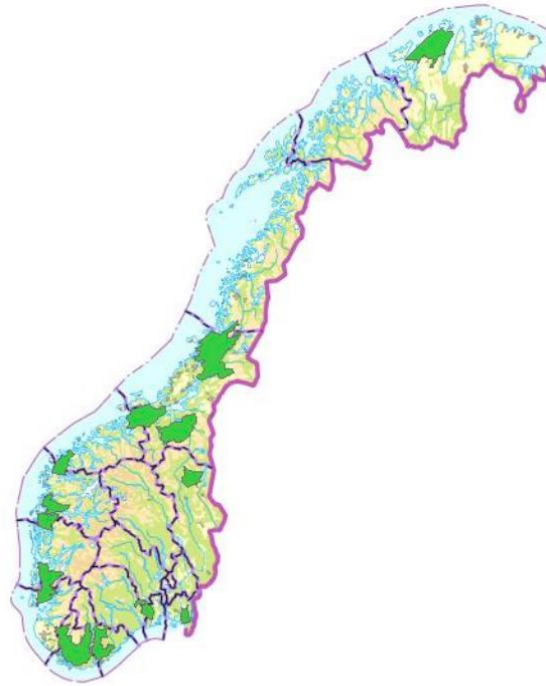
well as potential state-sponsored incentivization packages. In total 38 TWh will be installed by 2040 (NVE, 2019a).

In April of 2019, a “National Framework for Onshore Wind Power” (NVE, 2019b) from NVE was sent to hearing in Parliament. The framework’s goals were to establish an overview of areas with the highest potential for wind power development. Here it designated 13 possible sites for future development. The framework’s other goals included streamlining the efficacy of the concession process to reduce conflicts in an egalitarian manner. This is to say, the framework’s intentions were to increase predictability while reducing conflict. The hearing process, surprisingly perhaps, drew widespread attention, receiving upwards of 5000 responses from major NGO’s, environmental groups, municipalities, and counties. Of the 56 municipalities that submitted responses to the framework, 49 expressed ardent disinterest in future wind power installations (Solberg et al., 2019; Valberg, 2021; Vasstrøm & Lysgård, 2021). This was in surprising contrast to the expressed sentiments of municipalities prior to the framework’s hearing.

Research from Dugstad et al. (2020), Fauchald (2018, 2021), Inderberg (2020), Inderberg et al. (2019, 2020), Saglie et al. (2020), and Gulbrandsen et al. (2021) indicates that conflict has arisen in municipalities after concessions have been granted. In several cases, municipalities have lost their ability to formally protest or veto decisions made by consultants and wind power developers *after* the concession has been legally granted. This loss of formal objection rights has been contested in cases where building plans, especially wind turbine sizes, are changed or increased without what municipalities would consider *adequate* consultation with local communities or new impact assessments being carried out (Dugstad et al., 2020; Gulbrandsen et al., 2021; Inderberg et al., 2019; Saglie et al., 2020). The contestation sustained at the hearing resulted in OED withdrawing the framework, leaving the concession process in limbo. OED has indicated that the Norwegian concession process as it pertains to wind power developments will be re-evaluated and that local stakeholders’ sentiments from county municipalities will be included in future policy considerations, to what degree is not yet specified. At time of writing, no new concessions have been granted, and no applications for concessions are being received by NVE (Fauchald, 2021; Gulbrandsen et al., 2021; NVE, 2019a; Valberg, 2021).

Notably, there was widespread misunderstanding of a map published together with the National Framework (see Figure 1). The map was intended as an outline for the areas deemed most suitable for wind power development in Norway. It was interpreted, however, as *the planned* future siting of wind power concessions and sparked off widespread backlash from

affected communities and protest groups (Solberg et al., 2019). Backlash occurred even though the framework had specifically stated that it was not intended as a plan for future project developments in the specified areas. It was instead intended as a professional, data-driven analysis and recommendation (Fauchald, 2021; NVE, 2019b, p. VII).



*Figur 1: Grønne områder er NVEs forslag til områder som bør pekes ut som de mest egnede for ny vindkraftutbygging.*

*Figure 1: NVE's outline of the 13 areas deemed "most suitable" for wind power development (NVE, 2019b, p. VII).*

In 2020, in response to the hearings on the National Framework NVE delivered a report to OED outlining 25 distinct recommended measures for changes to the onshore concession process. These recommended measures are intended to increase trust in the concession process and governmental agencies, further develop the best regions for onshore wind power, increase predictability and procedural efficiency, stakeholder involvement and benefit plans, and reduce conflicts (NVE et al., 2020). This document is analyzed and used as a benchmark for the future direction of the concession process in later chapters. In a white paper published 11.06.2021, OED followed up an earlier call for an update to the concession process, and stated that the government plans to re-open the assessment of concession applications by the end of 2022 (OED, 2021). Few of the recommended measures are mentioned in the white paper besides a more complete compensation system for effected municipalities.



#### 4.2.4 A Growing Protest Movement and the Politics of Wind Power in Norway

As previously addressed in [Phase 1](#) initial political discussions surrounding wind power were generally positive. Political parties were in favour of renewables in principle, and wind power was the most viable option for further renewable developments, apart from hydro power, within Norway. Wind power was framed as a stabilizing energy supply that would work in combination with hydro power and prevent energy deficits in dry years. As [Phase 1](#) merged with [Phase 2](#), the introduction of the European Energy Certificate System (EECS) in 2012 saw increased concession applications, installations, and the onslaught of significant opposition. As certain local sentiments shifted ([Phase 3](#)), so too did those of politicians. In response, various political parties have taken on more nuanced critiques of wind power, empathizing with affected communities and demanding procedural change to differing degrees. Additionally, as the concession process is currently under re-evaluation, the end of the EECS system in 2021 has caused a reduction in expected applications, concessions, and building. The combination of these factors will likely lead to a drop in installed wind output until the mid-2020s (Moe et al., 2021).

The political rhetoric surrounding Norwegian wind power can, in its most simple form, be divided into *for* and *against* and *onshore* or *offshore*. Those in favour generally concern themselves with global climate change, a reduction of GHGs, green growth, domestic energy security, international climate deals, cheaper energy production for industry, compensation and tax incentives for local stakeholders. Those against maintain that further developments will only lead to further natural ecosystem and cultural landscape destruction, impacts on Sámi culture and the tourism industry, issues of foreign ownership and procedural justice, and local backlash (Moe et al., 2021; Normann, 2021; Skeie et al., 2020; Vasstrøm & Lysgård, 2021).

As previously mentioned in section [4.1.1](#), approximately two thirds of Norwegian wind power concessions are foreign owned. In an article written for NRK, Skeie et al. (2020) address the stances of the major parties on foreign-owned energy producers. Most of the parties have in principle no issue with foreign ownership, citing the Norwegian Sovereign Wealth Fund's investments as an example of Norwegian-backed projects in foreign countries. The Red Party (Rødt), the most left wing of the major Norwegian parties, is the only party against foreign ownership. They cite the success of Norwegian hydro power policies and ownership as inseparable from those that should be pursued for wind power. The remaining parties express a more global understanding of the Norwegian energy market and note that foreign ownership is generally an issue in cases where local stakeholders feel betrayed, ignored, or uncompensated for their sacrifice. In these cases the political parties make arguments for

reforms to the concession process, higher levels of local ownership, re-investment in local communities, and a tighter working relationship between developers and local municipalities (Moe et al., 2021; Otte et al., 2018; Skeie et al., 2020).

In addition to foreign ownership, there are several vested interest and lobbyist groups operating within the political, consultancy, and developer realms of Norwegian wind power. Moe et al. (2021) note that vested interest groups had little to do with the exceptional drop in turbine pricing. Norsk Hydro, LO, NHO, the Labour Party, the Socialist Left Party, and the Center Party, however, were all heavily in favour of the introduction of the EECS program. Initially this program was not seen as a win for wind power developments, as they were expected to vastly favour the hydro power industry with wind power not yet being cost effective (Moe et al., 2021). As the EECS program is currently phasing out, it is not yet clear which direction political parties will lean regarding further development. Climate accords are likely to continue to pressure governments to expand renewable energy capacity, yet onshore wind developments in Norway have been placed on the political backburner.

In addition to political parties, unions, and lobby groups, large protest groups and a diverse group of nature and conservation associations have emerged to prevent further onshore wind power developments and to contest those in production. Among these are: Motvind, The Norwegian Trekking Association, Norges Miljøvernforbund, La Naturen Leve, Naturvernforbundet, Norges Jeger og Fiskerforbund, The Norwegian Ornithological Association, Norsk Friluftsliv, Sabima, The Norwegian Information Center for Bats (Motvind Norge, 2021). Moreover, at the local level, contestation and protests at local wind farm building sites are organized in separate local/regional anti-wind power Facebook groups. On the 15<sup>th</sup> of October of 2020, 134 mayors sent a call for municipal authority in wind power developments to the government via the Minister for Petroleum and Energy, Tina Bru. The appeal represents a multi-party demand for municipal planning and governance of wind power developments through the Planning and Building Act. The call is most strongly represented in Western and Southern Norway, with significantly lower numbers in Rogaland, Northern municipalities, and the Oslo/Viken region (Motvind Norge, 2020).

For the sake of relevance, one month prior to the 2021 parliamentary election, the Labour Party (AP), the Christian Peoples' Party (KrF), and the Conservative Party (Høyre) support future offshore and onshore development. The Socialist Left Party (SV), the Green Party (MDG), The Centre Party (SP), and the Left Party (Venstre) only support further onshore developments in industrial areas that are already affected; they also support offshore development. The Progress Party (FrP) supports offshore and is only willing to support onshore

if individual local referendums approve developments. The Red Party (Rødt) favours hydro power and rejects all forms of wind power in Norway. Moreover, it rejects further expansion of subsea cables to the EU (NRK, 2021).

#### *4.2.5 EU Energy Development, Green Certificates, and Norway as the “Green Battery”*

Norwegian energy collaboration with the EU and within Scandinavia is a complex socio-political-environmental web. Renewable energy development processes within Norway are often framed as they pertain and interact within the EU and Scandinavia. One of the standout ideas in this regard is that of Norway as Europe’s “green battery”. This idea that places Norway’s established and potential renewable energy capacity at the forefront of the EU’s energy market, essentially Norwegian energy production as Europe’s major energy provider and storage system.

The notion of Norway as Europe’s green battery dates to 2010, at which point discussions of the benefits of newly enacted German environmental policies were seen to have massive potential for future Norwegian renewable energy exports to the continent (Moe et al., 2021; Otte et al., 2018). In her article, Gullberg (2013) is the first to academically address the political practicalities of Norway as Europe’s “green battery”. Gullberg (2013) argues that the Norwegian energy system is incremental in its progression towards major shifts, choosing to avoid sweeping overhauls of industries in favour of gradual political, institutional, and technological development. Therefore, an exchange system that can be framed by opposition parties as a “sacrifice of Norwegian resources” in the name of powering the EU is politically unfeasible as a long-term strategy (Gullberg, 2013; Moe et al., 2021). Gullberg does note that the idea of the green battery (in 2010), could spark interest in compromise and increased capacity within Norwegian/European interconnectors e.g., increasing cable capacity. She notes, however, cost efficiency and *potential* energy storage as major future hindrances to the idea of Norway as a green battery. Moreover, Gullberg predicted that due to the aforementioned hindrances, Norwegian energy potential through the lens of the EU’s green battery is massively under capacity and therefore inconsequential for the EU’s overall energy requirements (Gullberg, 2013; Moe et al., 2021).

Under the EU’s 2009 Renewable Energy Directive, Norway is committed to provide 67.5% renewable energy of total energy consumption (Gulbrandsen et al., 2021). This process, as it pertains to wind power developments, has in large part been driven by two factors. The first is the increasing affordability of wind power technology; which dropped by 70% over just

a decade (Moe et al., 2021). The second is the common green electricity certificate market between Norway and Sweden as well as the EU at large, agreed upon in December 2010 and implemented from the start of 2012. The program was seen as the driving force behind the development of renewable energy within the two countries, with a target of 28.4 TWh by 2020. NVE have referred to this timeframe as Norwegian wind power's "Klondike period" (Gulbrandsen et al., 2021; Moe et al., 2021; Ydersbond, 2014).

Payment for the green electricity certificates and crediting of Sweden and Norway under the EU's directive is divided equally between the countries. Under the scheme, renewable energy producers receive certificates for each MW they produce. Valid for 15 years, the certificates can be traded to energy suppliers, who are then obliged by law to fulfil a certain quota of renewable energy (Gulbrandsen et al., 2021; Ydersbond, 2014). The scheme was extended by the Norwegian Parliament (Storting) in 2016, until the end of 2021. The scheme has not been renewed past 2021. However, both Moe et al. (2021) and Gulbrandsen et al. (2021) cite this as yet another contributing factor towards a lull in future sustainable energy developments in Norway, regardless of public sentiments.

In their chapter *Why Norway as a Green Battery for Europe Is Still to Happen, and Probably Will Not* Moe et al. (2021) revisit Gullberg's discussion of the green battery. This renewed consideration is driven in part because global wind power capacity has more than doubled since 2013. But also, because two Norwegian subsea cables are set to be completed in 2020 and 2021 respectively, NordLink to Germany and North Sea Link to Great Britain (Moe et al., 2021). They argue that these create new conditions for greater renewable energy integration between Norway and Europe, justifying revisitation of the notion of Norway as a green battery.

Norway exports nearly eight times more energy than it consumes, producing 153 TWh electric energy in a normal year; with 90% of this electricity being produced by hydro power (Moe et al., 2021; NVE, 2021b). Moe et al. (2021) argue that Norway is unlikely to become a green battery for Europe at any point soon, though arguing that the political and social desires of the population reflect a wish to hold and use Norwegian energy assets to maximize social profits within Norway. Norwegian constituents view EU policies as cumbersome, and its energy needs as too great for Norwegian energy potential. In essence they set Norwegian interests over international or EU energy interests. As wind power technology costs continue to fall (dropping by an average of 70% over a decade, and 45% since 2012), however, Moe et al. maintain there is still major growth potential for wind power within Norway. They predict a temporary dip in investments and concessions as European regulated and distributed "green

certificates” are set to run out in 2021. Ultimately though, predictions lean towards long-term increases and adaptations as wind turbine prices continue to drop and certain green development policies gain ground both domestically and abroad (Gulbrandsen et al., 2021; Moe et al., 2021; Valberg, 2021; Ydersbond, 2014). Additionally, a Norwegian parliamentary election is scheduled to be held in September of 2021, and wind power has the potential to be a vote splitting issue in certain counties.

#### 4.2.6 Wind Power Externalities

In his book *The Economics of Welfare* (1920) Arthur Pigou developed the concept of *externalities*, “external costs imposed, or benefits conferred on others that are not taken into account by the person taking the action” (Pigou, 1920). The concept has had broad influence over tax and welfare schemes and been used to describe myriad economic phenomena. In the century since its inception, *externalities* have been used to refer to any number of external factors that may or may not affect decision making processes but remain relevant for the people or institutions experiencing them. Within fields of ecological economics, for example, arguments surrounding the claims of “sustainability” reflect “systems thinking” in their approach to the externalities of sustainability. This is to say, both spatial and temporal factors affect the ways in which systems and societies interpret sustainability. “No externalities” is an unrealistic, near paradoxical goal, and sustainability does require zero externalities. The mitigation and *thorough* understanding of these externalities differentiates the unsustainable from the sustainable (van den Bergh, 2010).

Within the context of wind power, *externalities* refer at their most basic to “non-market effects of wind power” (Mattmann et al., 2016). These effects are generally categorized as either positive, or negative, direct or indirect (Krekel & Zerrahn, 2017; Mattmann et al., 2016; van den Bergh, 2010).

According to a meta-analysis conducted by Mattman et al. (2016), externalities related to wind power development are most often related to the following:

- Air pollution and climate change debates—most often coupled with effects on human health and wellbeing.
- Green policy—in the form of local community funds or conservation funds, established to both pay for social acceptance and maintain policy consistency.
- Effects on biodiversity—most often associated with bird impacts and negative effects on local ecosystems.

- Aesthetic, or visual, effects on local landscapes—associated with massive infrastructure intrusions on what are typically described as “pristine” landscapes.
- Noise pollution—within a 500M radius modern wind turbines produce pressure levels of approximately 40dB. (Mattmann et al., 2016, p. 28)

As wind turbines have grown and output efficiency has increased over the past two decades, so too has their visual impact. This has made wind power a viable energy source as costs have reduced, the economic/investment viability of wind power has increased. However, the size of modern wind turbines has increased from between 40–60m to over 200m in recent years (Ek & Persson, 2014; Gulbrandsen et al., 2021). This drastic increase in height has occurred simultaneously with long concession processes that have taken 10–15 years through application, approval, and the start of construction (see [The Concession Process in Practice](#), below). Whether intentionally or unintentionally, within the Norwegian context, turbine height increases post-concession and pre-construction has represented a significant negative externality (Gulbrandsen et al., 2021; Krekel & Zerrahn, 2017; Otte et al., 2018).

In addition to Mattman et al.’s (2016) summary of externalities, I want to introduce two similar yet siloed externalities that are underrepresented in the literature. In several countries conflict arises from perceptions and experiences of resource exploitation and extraction. These experiences are of note in indigenous populations and in the Global South. Within the Norwegian context, the negative impacts wind turbines have on the Sámi peoples are hotly contested and a significant part of the protest movement against wind power. The different ways in which land is traditionally used and valued within Sámi culture conflicts substantially with the growth-oriented views of the state and developers. It affects reindeer herding, traditional land use practices, and Sámi society in what is often described critically as externalities that perpetuate neo-colonialist practices deeply rooted within state policy. These experiences are echoed by indigenous peoples throughout the developed world in “post-colonial” states and remain a significant externality of development (Kipperberg et al., 2019; Leiren et al., 2020; Mattmann et al., 2016; Norgga Girku, 2020; Normann, 2021).

Furthermore, regarding the Global South and extraction, authors such as Dunlap and Verweijen (2018, 2021) critique the inherent “delusions” of industrial-scale renewable energy. They argue that the capitalist economies and governments of the Global North’s inability to recognize the resource extraction required to transition to an industrial-scale renewable energy grid is a perpetuation of the present capitalist order (Feola, 2020; Verweijen & Dunlap, 2021). As buzzwords such as “green growth”, “green economy”, and “green new deal” inundate contemporary political rhetoric, the plethora of externalities associated with realizing these

claims is often ignored (Harangozo et al., 2018; van den Bergh, 2011; Verweijen & Dunlap, 2021). In this sense, a transition from extractive practices in the fossil fuel industry to extractive mining used to build up the wind power industry can be described as a “paradigm facelift, instead of a fundamental paradigm shift” (Harangozo et al., 2018, p. 175).

Wind power, consequently, on the scale typical of modern developments, requires copious amounts of iron ore, copper, oil, and rare earth metals to be manufactured. Mining in general, but especially rare-earth-mineral mining, produces large tailing pools which contain heavy metals, and radioactive materials. Mining tailings can leach into water supplies, evaporate into the air, and contaminate soil, plant, and animal life (Dunlap, 2018; Kirsch, 2014). These externalities are often immeasurable and unaccounted for in green policy legislation (D’Amato et al., 2021; Hillerbrand, 2018). Additionally, in vulnerable regions with lacking state mandate, violence is pervasive as dangerous resource extraction can provide a marginal income, but is often controlled by gangs in violent conflict (McKie, 2021; Verweijen & Dunlap, 2021).

Wind power externalities make up a significant part of an increasingly complex socio-environmental framework within the renewable energy development literature (Carley & Konisky, 2020; D’Amato et al., 2021; Krekel & Zerrahn, 2017; Mattmann et al., 2016; Pellegrini-Masini et al., 2020; B. Sovacool et al., 2019c; van Bommel & Höffken, 2021; van den Bergh, 2010; Verweijen & Dunlap, 2021). Green adaptation policies reflect a recognition of socio-environmental vulnerabilities and externalities inherent to the modern world. Policies seeking to resolve these vulnerabilities, while creating a resilient and sustainable alternative, are certainly the most necessary, albeit difficult, direction for global energy development and policy.

Efforts to implement these policies are not without fault or resistance. Globally they receive critical opposition at several levels, from economic systems fundamentally at odds with their core tenets (Capitalism vs. ideas of *negative growth*, *degrowth*, or *zero growth*, for example), or critiques of privilege, which address *voluntary reduction* as a reaction predicated on the wealth of a nation and its citizens’ previously satisfied basic needs (Harangozo et al., 2018). A critique typical of the Norwegian context is that Norwegians are notoriously fond of their country’s nature, often referring to it as “pristine”, or “untouched”. This is often used as an argument against further “destruction” of the landscape through the installation of wind turbines. The Sámi people, alternatively, have a particularly strong sense of self-identity and place attachment with their landscape. They have been cultivating and utilising the land for centuries without leaving a significant trace, i.e., “pristine” and “untouched”. Notably, land-

use techniques such as reindeer herding leave the landscape “appearing” untouched, despite utilizing it to what can be inferred as its full potential (Leiren et al., 2020; Norgga Girku, 2020; Normann, 2021).

It is perhaps not surprising then that of the numerous externalities introduced here, the one that is most often the source of conflict in Norway is that of landscape interference and destruction. Notably, objections to wind power installations typically frame negative externalities as a destruction of pristine landscape by an energy source that is not considered necessary for the domestic energy needs of Norway (Boasson & Jevnaker, 2019; Thunold et al., 2021). Krekel and Zerrahn (2017) find that the construction process and presence of wind turbines within 4km of households has a significant external effect on the wellbeing of residents. They note that this impact is both temporal and spatial. Distances further than 4km are significantly less contested, and contestations decay (at the latest) after five years (Krekel & Zerrahn, 2017).

Mattman et al. (2016), Krekel & Zerrahn (2017), Kipperberg et al. (2019), Carley & Konisky (2020), Leiren et al. (2020), and van Bommel & Höffken (2021) all note that the externalities of green policy in and of itself, i.e., the idea of reducing GHG emissions, and transitioning energy production to renewables, is of little significance to local communities experiencing wind power development. Instead, their lived experience with technological developments negatively effects their views on the sustainability research which led to the technological development in the first place. This finding was reflected perhaps most succinctly by the leader of Norway’s Red Party, Bjørnar Moxnes, who remarked: “we cannot save nature, by destroying it” (Mattmann et al., 2016; Moe et al., 2021).

### 4.3 Regulation and Concession

According to NVE “Concession is the same as permission, license or grant. Concessions are given where societal gain is positive and where other environmental and societal interest have been taken into account.” (NVE, 2021a). This section will cover the Norwegian concession process for onshore wind power projects and issues that have arisen as a result of the process and conclude with a brief comparison to a similar yet distinct system of concession in Scotland.

#### *4.3.1 The Norwegian Concession Process for Onshore Wind Power Projects*

The Norwegian concession process, thus far, has been primarily dictated by the Energy Act (1990, with updated regulations over the past three decades) and the Planning and Building



Act (2008). Additionally, the Eminent Domain Act, Cultural Heritage Act, Pollution Act, and the Nature and Biodiversity Act have all played roles in the decision-making processes for wind power developments (Fauchald, 2018; NVE et al., 2020).

According to the Energy Act, to build and run electrical systems over 1000V, concessions must be given. A concession gives a developer the right to build and run a wind power system over a given period, usually 25 years (NVE, 2021a). Concessions for wind power are granted by the NVE, which is directed by the OED. Historically, the concession process is seen to be lawfully comprehensive and is a laborious process with applications taking 5–7 years for approval (Inderberg et al., 2020). Developers must front the money for the duration of the application process. Notification and hearing stages include formal building plans and meetings between local populations, local stakeholders, governmental officials, energy companies, and developers, and are intended to notify the myriad parties of the developers' findings. All Norwegian wind power developments over 10MW require an EIA (Fauchald, 2018; NVE et al., 2020).

For developments over 10MW, developers formally deliver a proposal for an EIA to the NVE, at which point the hearing process begins. Hearings are arranged for local stakeholders and governmental authorities. Hearings are intended to establish a specific plan for the EIA, with local stakeholder input, legal input, and the NVE's own specialized input. EIAs are intended to consider the various positive and negative impacts of the development with regard to local stakeholders, biodiversity, and the environment. EIAs are carried out by hired external parties, most often consultancy firms. This is an effort to reduce the inherent conflict of interest developers face in carrying out their own EIA. EIAs follow the Norwegian Planning and Building Act's EIA guidelines (Fauchald, 2018, 2021; Inderberg et al., 2020; NVE et al., 2020). EIAs are expensive and time consuming, however, and can be carried out too quickly and without taking into account holistic factors specific to the local environment or population (Nykvist & Nilsson, 2009; Roel, 2011; Thygesen & Agarwal, 2014).

The EIA typically results in changes made to the original developers plans, as affected stakeholder opinions, wind measurements, and biodiversity concerns are accounted for. At this point, an official application is sent to NVE. NVE then arranges a second round of hearings with local stakeholders and governmental authorities (NVE et al., 2020). At the hearing, a *detail plan* is proposed, the EIAs findings are discussed, and legal process is deliberated. If the hearing finds the EIA to be lacking, the process is repeated, with the affected concerns addressed (Fauchald, 2018).

When NVE recognizes a developer's application as sufficient they review it and decide. Most often, the decision to grant a concession is either 'yes' or 'no'. However, some consequent hearings have resulted in compromises being reached between local stakeholders, and developers, with alternative, smaller plans being granted concession (Fauchald, 2018).

Complaints or objections to a concession can be directed up the governmental structure to OED through NVE if local stakeholders, environmental protection agencies, etc. feel NVE has not adequately addressed their issues. In these cases, NVE sends the complaint to OED after attaching their explanation for the maintenance of their position on a given concession in the face of said complaints. The OED then conducts their own review of the case and makes a final decision on whether or not to grant a concession (Fauchald, 2018).

Recent developments within the Norwegian concession process seek to reinforce more stringent timeframes for developers, increase local acceptance and engagement, compensations processes, and effectivization of the application process.

#### *4.3.2 The Concession Process in Practice*

Inderberg et al. (2019) analyze the ways in which the organization of concession processes have occurred within the Norwegian context. Specifically, he considers how they have affected actor influence and consequences with regard to project outcomes as well as the "transparency and predictability" of the concession process (Inderberg et al., 2019). This includes consideration of each step in the concession process i.e., from the public notification that a project is planned to the application for a license, and to the approval of said licence by NVE to project approval by OED. Inderberg et al. (2019) maintain that the current lack of transparency and traceability within the current Norwegian top-down system allows for informal practices to benefit those most familiar with the current system. Similarly, Fauchald (2018) finds that a lack of straightforward guidelines has created legal uncertainties amongst developers and stakeholders, making it easier for those familiar with procedures to benefit. Moreover, despite legislation becoming more nuanced, too much discretion is still afforded to governmental management practices in a top-down legal framework (Fauchald, 2018). The lack of transparency within the system detracts from the public's ability to understand the myriad processes involved in the establishment of wind power projects.

Additionally, the lack of traceability provides advantages to those most familiar with the system, because hidden information benefits their ability to contain community benefit programs from project to project (Fauchald, 2018; Inderberg et al., 2019; Saglie et al., 2020).

The vertically integrated approach used by Norway is seen in some of the literature on wind power in Scandinavia and the EU as governmental attempts to streamline investment processes (Pettersson et al., 2010). However, by simplifying frameworks for developers, governments can do themselves and local communities a disservice by bypassing legitimacy issues, thus setting themselves up for both short and long-term negative outcomes for their projects (Liljenfeldt, 2015; Pettersson et al., 2010). Liljenfeldt (2015) suggests an alternative approach that instead provides a learning process for local officials and project developers and subsidizes local community planning. This would encourage the public to discuss and decide the specific location of wind power installations prior to applications being handed in. Not only does this approach provide ample community involvement and discourse, but it also provides ample opportunity for a more transparent and traceable impact assessment (Liljenfeldt, 2015).

In the article *What Shapes Municipalities' Perceptions of Fairness in Windpower Developments?* (2020) Saglie et al. build on the theoretical framework of energy justice, (un)fairness, and acceptance within Norwegian municipalities. Ideally, they argue, the concession process should seek to achieve a relatively fair distribution of “burdens and benefits” from energy production and consumption. The idea of making energy justice fair regarding the Norwegian municipalities’ role in this study, focuses on monetary compensations paid to the municipality by their conceded wind power project. Taxation schemes that include a general income tax are seen as most popular, as well as giving municipalities the opportunity, in several cases, to levy property tax on energy production facilities, in line with a more lucrative precedent set by Norwegian municipalities agreements with hydro power projects (Saglie et al., 2020). This last *option* is cited as a decisive factor not only in a local municipality’s decision to host large energy production facilities but affording local communities the ability to design systems that are mutually beneficial. This is as Saglie et al. put it “relative fairness”. Within the Norwegian context, wind power municipalities are looking more and more to the compensation systems allotted to hydro power municipalities and feeling slighted (Saglie et al., 2020).

Through a statistical analysis of wind power concessions in Norway from 2000 to 2019, Inderberg et al. (2020) investigated the formal and informal roles played by local municipalities in the final concession decision. They found that Norwegian municipalities possess what they refer to as “an informal veto right”. Nearly all *granted* concessions within their dataset were municipalities that were categorised as “positive to” and “in favour” of wind power. If a municipality was negative to the idea of wind power in their community prior to concession,

the application was typically dropped (Inderberg et al., 2020). This is what can be interpreted as their “informal veto right”. Although there were no formal legal processes involved, applications were dropped on account of overtly negative sentiments from municipalities. This is compounded by the fact that the cost of a full application is high, and it’s time consuming. Developers without concession have been hesitant to cause uproar, and generally see a negative municipality as a waste of time and money.

It is typically after concessions are granted that municipalities and developers begin to properly clash. Since 2009 wind power projects have been exempted from the municipal land-use plan facets of the Planning and Building Act (Fauchald, 2018, 2021; Gulbrandsen et al., 2021). This has resulted in municipalities being excluded from the planning of wind power projects they have agreed to, in that they are not the planning authority post-concession. Moreover, land-use plans e.g., the *definite* position of wind turbines based on wind measurements and other EIA processes, etc., does not occur until after concessions are granted. This is another means by which municipalities are held out of decision making (Fauchald, 2021; Gulbrandsen et al., 2021). Additionally, this part of the planning process can take a surprisingly long time. Some building plans have not been publicized or executed until 10–15 years after concession. Over this drawn-out process, wind power technologies change, wind turbines become larger, elections are held, Transport and Construction plans (MTA) are expanded by NVE, zoning plans are specificized, local sentiments change, and yet public participation is overlooked and municipalities are not able to veto these changes (Gulbrandsen et al., 2021; Inderberg et al., 2019, 2020; Saglie et al., 2020). In an overall assessment of the concession process, NVE favours reasonably priced expansion of renewable energy production with an arguably lenient list of guidelines regarding environmental considerations (Gulbrandsen et al., 2021). This has resulted in discrepancies across projects. Coupled with a lack of transparency, predictability of process and clarity over the weight afforded differing environmental concerns, NVE’s final concession decision becomes difficult to predict for future developments (Gulbrandsen, 2020; Gulbrandsen et al., 2021).

Between April 2019 and June 2020 multiple complaints were lodged against procedural issues with past concession processes and the National Framework for Wind Power was rejected. In response, the now former Minister of Petroleum and Energy, Kjell-Børge Freiberg promised an in-depth investigation and improvement to the concession process. This was interpreted as a procedure to be carried out by NVE and OED together, without the need to deliver a white paper to the Storting (Gulbrandsen, 2020; Gulbrandsen et al., 2021). In January

of 2020, however, Tina Bru became the new Minister of Petroleum and Energy. In June 2020, a government white paper was put forward, Meld. St. 28 (2019-2020) (OED, 2020). The white paper dealt with onshore wind, specifically the concession process, deciding on the following: The Norwegian parliament asked the government to set a deadline of up to 6–7 years from a project’s approval until the wind power plant must be operational; a maximum of 2–3 years from an approved *detail plan* until construction begins; that the concession states the number of, and maximum height of wind turbines; a proposal to incorporate the planning and construction of wind turbines in the Planning and Building Act; that the Swedish-Norwegian electricity certificate scheme and special depreciation schemes for wind power plants are phased out by December 31<sup>st</sup>, 2021; an alternative for how to guarantee clean-up after construction is complete; an alternative form of wind power taxation; an agglomeration of regional project applications; a central role for county governors in EIA procedures; broader stakeholder engagement and information dissemination and; consultation of municipalities throughout the entire concession, construction, and post-construction process. Finally, the Government will return to the revised national budget for 2021 with an assessment of how local compensation and predictable framework conditions can be ensured (Gulbrandsen et al., 2021; OED, 2020).

#### 4.4 Concluding Remarks

This literature review has covered the precedents and history of energy in Norway, the political attributes that govern onshore wind power’s development, the implications of a more integrated renewable energy sector with the EU, externalities and the protests that react to them, and the concession process that has worked to license these developments. This literature will be central in the discussion chapter. Benchmarking the direction onshore wind power will take in the coming years will require adaptation policies that address the myriad disputes that have come to light over the past few decades. I argue that renewable energy will require more justice-oriented policies in order to continue to be a viable option for development. Moreover, I explore the ideas of socio-technical imaginaries—the ways in which societies imagine their futures and the technologies that power them.

## 5. Results

In this chapter I provide results from the analysis of NVE et al.'s (2020) report, as well as a breakdown of themes extracted from six semi-structured interviews. The first section shows that NVE has flagged many relevant potential measures for the future of Norwegian onshore concessions, and that these measures address tenets of energy justice. The next section is divided into two emergent themes from the interview data: 1) issues of communication and framing, and 2) how to improve the system. The interview results are presented through a narrative structure comparing differing opinions and understandings of experiences. The results from the interviews provides a mosaic-like understandings of perceived justice, and understandings of the future of onshore Norwegian wind power.

### 5.1 Document Analysis Results

The results from the document analysis of NVE et al. (2020) have been summarized in four separate tables (see [Appendices 1.0-1.3](#)). The analysis of the measures shows that many of the recommended measures involve tenets of procedural justice, some recognition justice, and a few cases of distribution justice. Principles of good governance, due process, responsibility, and sustainability are also reflected throughout. These results indicate a recognition of problems and lodged complaints by NVE. They also demonstrate a function of the frameworks dictating Norwegian democracy.

The report provides elaborate solutions to complex problems within the concession process and broader Norwegian wind power debate. Nearly all the measures address issues of *particular justice* as they deal with municipal Norwegian problems regarding the Energy Act, the Planning and Building Act, and the response of local stakeholders. The report does not indicate any codes attributable to an interpretation of cosmopolitan justice or universal justice, per Sovacool et al. (2019b) or Labelle (2017). This can be expected, of course, as the report was created to address domestic Norwegian conflicts, and not international Norwegian energy or climate policy. Overall, the results from the document analysis indicate a recognition of complaints, and a list of structured solutions which address said complaints from the responsible government directorate. The report in and of itself signifies a move towards a more robust and procedurally just concession process that if implemented could reduce domestic procedural justice conflicts significantly.

## 5.2 Interview Results

This sub-chapter presents a selection of findings from six semi-structured interviews. In presenting these results I cite specific quotes from informants. This method has been selected as it most adequately represents the interview extracts, allowing for a richer discussion in the subsequent chapter. This chapter is comprised of two sub-chapters. Each sub-chapter represents a theme that was formulated after a focused coding of the interviews based on the theoretical orientation of the thesis (Bryman, 2016, pp. 584–587; Charmaz, 2014, p. 140). The structure of this chapter begins by describing the theme of *issues of communication and framing* within Norwegian wind power. I then explore various ways in which respondents hoped and expected the procedural side for wind power to improve in future.

### 5.2.1 Issues of Communication and Framing

This sub-chapter addresses the ways in which the communication and framing of wind power in Norway has failed to build robust support for its development. Several respondents address failures of communication, from local protestors lacking communication with developers, to representatives calling for clearer direction from national authorities.

Here R5 addresses these issues, noting the “failure” of national authorities to clarify their vision for Norway’s energy future.

*“National energy and climate politics is taking place in local municipalities. But nobody has told the people why we're doing this. The story telling about why we are doing it, didn't get out. So, people don't understand it. They just see, “here are some companies destroying our nature and somebody is getting rich.” They don't get the whole message. And that is a communication problem from the national authorities. They have failed on this, several times the last years.”* R5, 26.04.21

R2 presents an example of this lack of communication. R2 is a respondent from the island of Haramsøya in Ålesund Municipality, which is one of the most hotly contested wind power developments in Norway and has been for several years. Admittedly, it is an extreme case, wherein examples of mismanagement and social acceptance are most at odds with each other. It does, however, provide a good example of the effects cumulative mismanagement and a lack of communication can have on a community. Here R2 is referring to the surprise local stakeholders felt when building plans were suddenly set in motion in 2019, and the protest response the community established soon thereafter.

*“Few of us were aware of that there were still plans for it to be built. Everyone thought it was shelved because it took so long. Most people thought, “Okay, nothing will come of it, it's been 15 years.” There was very little of the information that there should have been, between the developer and the municipality and the few landowners with whom they have agreements. Since 2019 it's been all-hands-on-deck to try*

*to get information... It's been a lot to get acquainted with, and to try to find out how we can stop it. What was presented in 2019 was quite a lot bigger than what was first talked about in the early 2000s... several things came to light that were not considered at the time (of concession) such as how it was going to affect the nature and bird life out there. (Haramsøya)" R2, 08.06.21*

With specific regard to Haramsøya, decades have passed between concession and project planning and building. So, it is important to address the fact that significant improvements have been made since in several aspects of both the concession process, and the methodologies of EIAs. R4 notes the iterative progression of knowledge, emphasising NVE's focus on knowledge bases.

*"You do not start with complete knowledge; you must in a way build stone-upon-stone, and you learn in the process. To have a focus on both natural values and that there is sufficient professional competence among those who investigate and that you have enough time in the field, it is a topic that has in a way built up through NVE's concession process experience... you eventually come to a certain point (with the knowledge base you have) where you have to say this is sufficient for us to know enough in a project to be able to say yes or no. That's been the process we have. We've been a type of one stop shop in NVE since 2010. Before that they had a parallel process with the plan and the building law, and that's what it looks like, at least, they are introducing again." R4, 02.06.21*

R6, citing the need for a "clear-cut" directive on who benefits from wind power and how it is structured within society, however, reiterates the importance of clear communication above all else.

*"The disconnect between the ownership and who actually benefits from the power is something that should have been explained more clearly by national politicians. And it's very difficult at the current time for the industry itself to tell that story. So, I think for perceived fairness, there needs to be a clear-cut story about where the power goes and who benefits... also, the formalization of local government in the licensing process." R6, 17.06.21*

R3 elaborated on this perception of apparent struggles within the industry. Noting that the way developers have framed their projects clashes with local sentiments of "untouched" nature, and socio-technical imaginaries.

*"I think they (referring to NVE & OED) simply need to think completely differently and begin to work together with the protest movement. The debate's become so heated, and many are to blame for that. They should have a more empathetic attitude regarding the fact that they are changing large natural resources and to some extent destroying people's natural spaces. There are cases where you have developers and interest organisations approaching developments with a "knight in shining armour" attitude, coming to save the world from climate change, that are offended when people don't agree with their methods. I think the debate is still characteristically on the defensive. But I also think it's possible to develop projects that are much more sensible, and that people can live with. But then they must adjust societal processes if they want to continue to license large-scale wind power developments in these untouched natural areas." R3, 02.06.21*



Regarding these future developments of onshore wind, R1 addresses the “green shift”. Noting that sustainability as it has been promoted/framed until this point is due for a reckoning, and perhaps now is as good a time as any.

*“I believe the onshore scandal, will result in us aligning ourselves more with what is actually sustainable in this so-called "green shift". That we finally see the whole picture. We have myriad energy resources in this country completely independent of our oil; we should have no problems adjusting to what is sustainable when it comes to energy. On the contrary, we should still be able to contribute something internationally and still have plenty of fossil-free energy in this country.” R1, 24.06.21*

In a way rebutting R1’s point, R6 addresses the social conscience of Norwegians. Positing that despite poor communication and framing, wind power still plays a significant role in Norway’s energy future.

*“On a psychological level, I think there is a perception amongst many Norwegians that this power is not needed. That this power is produced for the benefit of those companies that own the power plants, whereas in fact, of course, you cannot magically transport the wind power from Norway to Switzerland, for example, when it's just a capital infusion... The same goes for hydro power, offshore wind, and solar as well. The fact that the competitiveness of Norwegian power needs hangs on the fact that we are able to construct more, we need power plants, renewable power plants at that, is hugely important, not just for the wind power industry per se.” R6, 17.06.21*

R5 reiterates this issue of communication when it concerns the social conscience of the Norwegian public.

*“It's just said, "we are building more energy, and this is how we're doing it". But not WHY they have to, and that's the problem with the storytelling. They haven't been able to tell us that.” R5, 26.04.21*

R5 describes three points that they argue should be addressed for the intentions of the government, developers, and local municipalities to more clearly communicate their intentions/expectations for onshore wind power to the public.

*“First, "we're building the energy that is cheapest and with least consequences. That's why we have a concession system" that should be the story. That's why somewhere we're building hydro power, and somewhere we're building wind power. The second is why we're doing it. We're doing it because we need more power. The third is that we are going to do this with as few negative consequences as possible. We're not going to build where the negative consequences are too high. And those who live there are the ones who are deciding this. Um, and we are making sure that you will also get a fair share of the values created by this production because the values are benefiting the whole nation and the negative sides of it are being experienced by you.” R5, 26.04.21*

### *5.2.2 How to Improve the System*

This sub-chapter addresses the various ways in which respondents felt that the concession process, perceived fairness, and procedural justice aspects of the wind power system could be

improved. Some respondents addressed the cumulative effects of wind power development and how these might be mitigated, while others focused on benefit plans and reforms to the taxation system.

Representing a large number of wind power municipalities R5 suggests that the response to the national framework (NVE, 2019b) was overblown, and that reaction is perhaps resulting in an overcorrection.

*“The suggestions from NVE, were actually good enough for the municipalities to agree on. They didn't have to change the whole process and put it over to the local planning law. That was political stuff, to say we were “putting the power back to the municipalities”. The municipalities, they had enough power, if the law limited the length of the concessions, and location and height of the turbines was clearly established. For most of the municipalities that was a good enough solution.” R5, 26.04.21*

R5 goes on to iterate the desires of many municipalities for the establishment of a robust, standardized, and predictable system.

*“It's not all about the money, but about how the money is being paid. It's almost better for a municipality to have a low safe secure income within the years the power plant is there instead of some one-time large payment. (Speaking as a municipality) “It's what we get, and we will get it every year. The 25-30 years this is going to be here. And if we want to rebuild it after that, we will also know what we will get then”. It must be predictable, that's very important.” R5, 26.04.21*

Elaborating on the need for a predictable and standardized system, R5 explains why this is a positive change that addresses issues municipalities have had in the past.

*“It's very important to put this through the tax system. That is fair, and that's also predictable. Because now actually most have negotiated private agreements with the power companies to get some compensation. And that is not a smart way to do it.” R5, 26.04.21*

R6 refers to models used in Denmark that have inspired a benefit sharing plan in one Norwegian case. R6 points out that the benefits were perceived as discordant with the amount of land conceded to developers, which led to further informal agreements.

*“The value sharing models that they have in Denmark, through direct ownership, is one model that has been used in one Norwegian example and could probably be expanded. The difficulty we've had with that... We've seen that local municipalities... were benefiting too little in an economic sense, for the area that they gave away or leased away for 25 years. And so informal agreements have been signed between developers and local communities. And we would prefer that to be a clear-cut case for where you put these local deals into a practice of law.” R6, 17.06.21*

R4, being an employee of NVE, could not express personal views of the issues that face the concession process nor the debate surrounding wind power as it currently stands. They did refer me to NVE's report (2020) which provides the directorates official suggestions for improvement. Here R4 echoes one of these points (see NVE et al., 2020, p. 70).

*“That a better financial system is put in place that benefits municipalities in a better way is one. Changing that is of course up to those that are responsible for those changes. If new onshore wind power projects are to be assessed, then that change is presupposed. Not least that the project provides better finances for locals and the municipality. Maybe the tax systems will be more comparable to hydro power... but that is for the politicians to discuss.” R4, 03.06.21*

The other side of the discussion of “who benefits?” revolves around issues of foreign ownership. Both R1 and R2 reiterated their frustrations with the level of foreign ownership, indicating a clear division between ownership through a failure of governance, and local stakeholders.

*“It’s an industrial complex that can be explained simply in that commercial law interests, financial interests and a bit of so-called environmental interests found each other and framed this as a green growth venture... What it really became, was international global ownership of over 60% of Norwegian wind power, where the whole gimmick lies in helping themselves to the community's funds and transporting them out through very well-known systems.” R1, 24.06.21*

Addressing their experience in the case of Haramsøya, R2 expressed ardent dissatisfaction with the permissions developers were granted throughout the process.

*“They can break what they want of laws. It’s marketed as “green energy” and so the developer can do anything! But you’re not saving the climate by creating an imbalance-in and destroying nature.” R2, 08.06.21*

When asked whether Norwegian ownership and tax benefits could improve this sentiment, R2 was reluctant as they are firmly against wind power in Norway. They did express, however, that it could benefit local communities *more* than what is currently experienced.

*“If I must answer, then it would be better. But I am generally against wind power. Of course, it would be better if it was Norwegian owned. That Norwegian society could reap the benefits, not simply companies and owners, among others.” R2, 08.06.21*

R3 offers a critique of NVE and OED, questioning whether they acted on behalf of their constituents or as overt promoters of wind power, suggesting that perhaps they gave concessions hastily without considering the environmental impacts to a great enough extent.

*“They’re supposed to be our (Norwegians) voice, while in practice it appears they’ve been quite influenced by the developers. That’s Naturvernforbundet’s opinion, we wish they had involved the Norwegian Environment Agency to a greater extent. Because we have both more expertise in, but also perhaps more interest in preserving nature.” R3, 02.06.21*

R3 then elaborates on a suggestion from Naturvernforbundet, that is intended to account for the environment at an earlier stage, as well as giving environmental departments and ministry’s a formal say in extractive/intrusive environmental developments.

*“It’s strange that wind power, which is now both a climate measure and has an impact on natural areas, is not in the Ministry of Climate and the Environment (KLD)... It would be nice to have developers apply*

*through the Norwegian Environment Agency and KLD for an intervention permit first, and then they could apply to NVE for a concession. This is the way they do it with pollution permits that can release waste into fjords, for example, there you must first apply for a pollution permit from the Norwegian Environment Agency and then you can apply for a license operating permit, and we think we could do the same with land use interventions like wind power, because it is a kind of pollution intervention as well. So that would make it a little easier, and that would formalize the voice of the environmental authorities.” R3, 02.06.21*

These types of procedural shifts are essentially intended to mitigate cumulative effects of wind power developments. Whether the cumulative effects are adequately addressed at the formal national/licensing level, or whether they should be expanded to a global scale is another point of contention. R6, for example, points out that the cumulative effects have always been formally acknowledged, but that the sudden profitability of wind power has brought these questions to the foreground.

*“The formal demand for the licensing authority to consider the net effects of wind power development is already and has always been part of the licensing process. However, for a period of time, more licences were given than what could reasonably be expected to get built. We have even had a system of regional assessment in place, and work was done for regional plans to act as a baseline for such considerations long before anyone talked of a national framework.” R6, 17.06.21*

R1 takes a more holistic approach in their approach to the cumulative effects of wind power. Addressing the Global North’s consumption levels, as well as what ecological sustainability really looks like.

*“The ecological perspective has gradually come in with full force. It shows that it (wind power) is not a climate mitigant and it is not ecologically sustainable, because the material and ecological footprint here is beyond compare with our level of consumption that is maybe 4-6 times what the globe can tolerate. If other people were to consume like us, the thought of global electrification has a material footprint incompatible with what the earth can supply. This is not the path to sustainability at all.” R1, 24.06.21*

### 5.3 Concluding Remarks on Results

The results from these interviews have provided a mosaic-like perspective on the state-of-opinions surrounding, the issues and potential solutions of onshore wind power in Norway. While all respondents recognize a need for improving the formal processes for concession and local benefits, opinions on re-framing the purpose of wind power vary greatly. Some expressed disdain for the process, framing it as a corrupt money grab with no benefit for Norwegian society. Others aimed to improve the process such that more wind power might be built. Regardless, for the latter to happen it is apparent that change is needed. NVE’s report provides

a list of concrete solutions to many of the temporal, procedural, and beneficiary-based grievances. Whether or not these solutions are implemented into future onshore concession processes remains to be seen, however. It is apparent regarding the interview results that change to the current system is overdue.

## 6. Discussion: Imagining Norwegian Onshore Wind Power, the Concession Process, and Energy Justice

In this chapter I explore how we can understand the interview results, and the summary of NVE's report, through the theoretical orientation and broader historical context of this thesis. I begin by covering the communication and framing of wind power development within Norway, how it effectively failed to establish perceived fairness and understanding in several cases, and how that might be improved through a re-imagining of a socio-technical relationship more in tune with the wishes of local stakeholders. I go on to discuss NVE's report and how its suggested measures reflect acknowledgement and a push towards several tenets of energy justice. I conclude by discussing unaddressed tenets of energy justice, and why these are perhaps the most important for future global development.

### 6.1 Communication, Framing, and Socio-Technical Imaginaries

As addressed in chapter [2](#), socio-technical imaginaries operate at the intersection of collective consciousness, technology, science, and culture. Eaton et al. (2014) discuss the ways in which state actors manifest and envision socio-technical futures, whether they be at the local, national, or international level. Skjøvold et al.'s (2020) study addresses the ways in which "islandness", and island experiences can be interpreted in order to scale-up tested solutions. They note the importance for developers and promoters of energy transitions to "anchor" initiatives in local issues and concerns (Skjøvold et al., 2020). As such, it is apparent from the interview results of this study that the "anchoring" of initiatives, contextual framing, and well communicated socio-technical imaginaries has been lackluster from the developer and state side of Norwegian wind power. Moreover, due to lacking temporal restrictions within the procedural governance of wind power, certain narratives and imaginaries have galvanized into a resilient protest movement. Thus, socio-technical imaginaries and how they are communicated is of particular interest for the future of onshore wind power in the Norwegian context.

From individuals to municipal representatives and developers, in section [5.2.1](#) we see agreement across these roles that there has been a failure and subsequent confusion in the communication of the role wind power is intended to play in Norwegian society. R5 placed significant emphasis on the question of "Why?" and "Why we have to" when it comes to wind power development. R5 argues that development should stem from the answer to that question. In doing so, R5 presented a critical approach to the social acceptance of wind power in the

Norwegian context (Aitken, 2010). Ways in which to answer the question of “Why?” are explored in the following sub-sections.

### *6.1.1 Local Level Communication and Framing*

The critical approach is particularly interesting in the experience of R2 and Haramsøya. There, communication between developers and local stakeholders was experienced as nearly non-existent for upwards of 15 years, despite the concession having been granted. When developers finally initiated the building process, local stakeholders scrambled to learn as much of the legal framework as they could in order to protest the development. R2 portrayed this scramble as “all-hands-on-deck to try to get information”. Aitken (2010) describes developer rhetoric as framing local protest as “deviant opposition” to development and “something to be overcome” through the process of regulation and benefit plans (Aitken, 2010, p. 1838). The argument that the stakeholders on Haramsøya were uninformed or deviant due to their protesting of the “development as planned” is unhelpful, it indicates a fundamental lack of communication and trust between developer and local stakeholder, as local stakeholders were clearly willing to immerse themselves in the relevant laws and regulation in order to most effectively protest. When protests failed, alternative imaginations allowed for answers to the question “why?”, by actors arguably less aware of the total knowledge base. If the goal of the Norwegian state is to develop enough wind energy that they might export it in a “[green battery](#)” scenario, however unlikely that scenario may be, then *that* imaginary must be framed and communicated in the clearest of terms such that the question “why?” is not answered by a different interpretation of that imaginary at the local level (Sareen, 2020; Sareen & Haarstad, 2018). Only then do community benefit plans and benefits for the broader Norwegian society become relevant.

Liljenfeldt (2015) noted “It seems that the Norwegian government is more focused on output efficiency than input legitimacy in the case of wind power development” (Liljenfeldt, 2015, p. 821). As cited by a number of studies, due to temporal issues within concession and planning procedures, the size of planned turbines has often more than doubled between concession and building (Gulbrandsen et al., 2021; Inderberg et al., 2019; Otte et al., 2018; Saglie et al., 2020). R5 described this experience as “wide and low, becoming small and high”. The development of larger and more efficient turbines is inherently neither good nor bad for local perceived justice, instead it represents an externality that respondents and the literature argue must be adequately addressed and communicated in both the concession process, and subsequent planning processes (Gulbrandsen et al., 2021; Inderberg et al., 2020; Liljenfeldt,

2015; Saglie et al., 2020). Interestingly, R5 points out that though the phenomenon of larger turbines is often cited as a flashpoint for conflict, the real suspect has been the temporal nature of these amendments. The delay from concession to building has created a trough in the wave of development that has diminished social acceptance levels to the point that changing the plans, without thorough communication with local stakeholders, renders an easy target for dissatisfied communities to critique within the process.

Therefore, it appears that if the benefits of larger turbines are not adequately communicated or framed from the state and developers' side, then their intentions can more readily be re-framed as "malicious" or "greedily operating with carte-blanche", by local stakeholders. Both respondents R1 and R2 described wind power developers as illegal actors, operating with impunity in a system that benefits very few other than themselves. This sentiment towards the state and developers, whether true or not, has not manifest itself in a vacuum, and is well represented within the protest movements against further development (see, Motvind Norge, 2021). Had the communication of turbine location and size been adequately communicated, transparent and compensatory, the perceived fairness in the affected municipalities might be higher (Eaton et al., 2014; Knight & Therivel, 2018; Skjølsvold et al., 2020).

From the protest perspective, respondents like R1 have questioned "how has the state allowed this to happen?", the state in turn has responded to these questions from protestors with offers of a more holistic plan, like the National Framework (NVE, 2019b). The framework, though robust, failed to communicate an imaginary sensitive to the negative responses they had already received, galvanizing the negative sentiments towards development. These galvanized negative sentiments coupled with communicable abuses of perceived justice, like turbine height, are reflected in protests against the establishment of larger wind projects in other localities as the movement has gained national impetus (Fauchald, 2021; Moe et al., 2021; Vasstrøm & Lysgård, 2021). Haramsøya reiterates the importance of on-the-ground communication from the earliest stages of concession. It also exemplifies Skjølsvold et al.'s (2020) argument for anchoring energy transition initiatives in local issues. When developments are not properly anchored, benefit programs and tax incentives can lose their bargaining power, as exemplified by respondents R1 and R2. In their comparative study of the Scottish and Norwegian concession processes, Thygesen and Agarwal (2014) cite early and open dialogue amongst all stakeholders at the earliest of stages as a key factor in the selection of good projects, and the factor that gives the Scottish system a more efficient use of both time and money. Conversely, Norwegian stakeholders saw the process of project approval



as a “political game”, tending to distrust what they saw as a process detached from environmental concern, and more or less a game of cost efficiency in an effort to establish returns on investments as soon as possible (Thygesen & Agarwal, 2014). These sentiments were also echoed in the responses of several respondents.

It seems then that R5’s version of how to tell the story succinctly addresses the issues of framing through direct communication. “First, we're building the energy that is cheapest and with least consequences... some places we're building hydro power, and some places we're building wind power... We're doing it because we need more power... We will do this with as few negative consequences as possible... And those who live there are the ones who are deciding this... You will also get a fair share of the values created by this production because the values are benefiting the whole nation and the negative sides of it are being experienced by you.”.

When read through micro to macro scale injustices, it could be argued that local Norwegian communities have experienced micro injustices, through adaptation processes that address macro scale injustices (B. K. Sovacool et al., 2019a). This reiterates the points made in [4.2.6](#), wherein local communities with spatial proximity to large renewable energy projects, experience installations in an entirely different way. The variance in proximal experience, appears to be responsible for the differing socio-technical imaginaries held within Norwegian wind power rhetoric.

### *6.1.2 Imagining the Role of Sustainable Energy in the Norwegian Context*

It is apparent from this study’s interview data that differing socio-technical imaginaries are present in Norwegian wind power rhetoric. Acknowledging them might aid in the development of a more robust sustainable energy plan for Norway. Socio-technical imaginaries are social by nature, however, and definably “imaginaries held within many minds” (Jasanoff, 2009; Jasanoff & Kim, 2015). This is important to note as extrapolating socio-technical imaginaries from interview data of individuals, if not rhetorically consistent with the organizations or movements they represent, can be understood as illegitimate.

R3, representing Naturvernforbundet, illustrated the pro-development push for more local and protest-perspective acknowledgement within the concession process. If developers continue to push onshore development, and state directorates continue to grant it, then the only justifiable way to do this is through co-operation which favours those that experience the direct effects of the installations. R3 maintained that NVE and OED must recognize “the fact that

they are changing large natural resources and to some extent destroying people's natural spaces". This perspective imagines a procedural system whereby knowledge and actions are co-produced through variant imaginations of local landscapes by developers and local stakeholders (Jasanoff & Kim, 2015). Understanding this variance might allow for more egalitarian developments, with broader collaboration and increased acceptance. These ideas are echoed in Gulbrandsen et al.'s analysis of OED's steering signals to NVE, and the apparent lack of environmental/nature protection concerns within them (Gulbrandsen et al., 2021, pp. 8–9).

In a deeper analysis of the meaning of the "green shift", R1 echoes emergent critiques of the Global North's push for green growth as an adaptation tactic in the face of climate change. "I believe the onshore scandal, will result in us aligning ourselves more with what is actually sustainable in this so-called "green shift". That we finally see the whole picture." This echoes a critical perspective socio-technical imaginary, questioning not only the "need" for growth as sustainability but re-imagining the need for developing these new energy sources at all, i.e., is the construction of renewable energy sources the real solution to global climate change, or does it reflect an expansion of the present capitalist paradigm (Dunlap, 2018; Feola, 2020; Harangozo et al., 2018; Shao, 2020; Verweijen & Dunlap, 2021; Zagonari, 2020). These sentiments, though not fully reflected in Motvind's protest against wind power in Norway, reflect a greenwashing socio-technical imaginary that seeks to more readily question the development of renewable energy sources and the externalities these processes create (see, Dunlap, 2018; Kirsch, 2014; McKie, 2021; Verweijen & Dunlap, 2021). In this sense, understanding the driving economic forces behind the development of sustainable energy sources bolsters more radical imaginations, questioning the inherent purpose of growth as an adaptation process entangled with sustainability.

Conversely, R5 and R6 drew attention to the role Norwegian energy will play in future export, and the ways in which developers imagine the future of Norway's role in a European energy context. R6 argued "The competitiveness of Norwegian power needs hangs on the fact that we are able to construct more, we need power plants, renewable power plants at that, are hugely important, not just for the wind power industry per se.". R5 echoed these sentiments in describing how to communicate further development "We're doing it because we need more power".

These sentiments are often reflected in holistic accounts of Norwegian industrial production and overall export economics. Norwegian industry is, and will become more, dependent on an abundance of cheap energy. To this end, socio-economic profitability weighs

more heavily than climate-consciousness, and is a much more tangible political concern (Gullberg, 2013; Moe et al., 2021). The two are often conflated, however, in a “green growth” imaginary that maintains that Norwegian energy exports are in fact secondary to the export of Norwegian energy-intensive manufactured goods. Producing these goods with renewable energy in the Norwegian market is often framed, therefore, as the most environmentally friendly externality when considered at the global scale. This argument adopts a realist perspective, arguing that energy-intensive goods produced in Norway are the most sustainably produced, and if they were not produced in Norway someone else would produce them less sustainably. This perspective articulates with ideas of sustainable development and further developing wind power in Norway (Moe et al., 2021, pp. 10–11). In this sense, the socio-technical imaginary of developers and advocates of onshore wind power, takes a global view towards manufacturing climate adaptation, through as sustainable a system as possible. They also note the political significance of keeping energy prices low, not only for industry but for voters too (Eriksen et al., 2015; Moe et al., 2021).

## 6.2 Energy Justice and the Concession Process

As addressed in chapters [2](#) and [4](#), several researchers have raised questions of energy justice in response to the conflicts surrounding Norwegian wind power concessions. As discussed in the previous sub-section, there are (and have been) several interpretations and imaginaries involved in the decision-making process, steering the development of onshore wind power towards the moratorium onshore development has been in. For onshore concession applications to begin to be accepted again, certain procedural and practical changes are required. The interview data from this study indicates rather homogenous wishes of increased attention in future concessions. Saglie et al. (2020), Inderberg et al. (2019, 2020), and Gulbrandsen et al. (2021) have noted several formal rules driven by informal practices, which have made the grounds for concession and the subsequent weighting of various benefit factors unclear. Respondents in this study have indicated that predictability and benefit stability are two of the most important factors in creating a more perceptibly just concession process. Moreover, in future, formalized recognitions of environmental impacts are required if tenets of energy justice are to be met.

### 6.2.1 Energy Justice and NVE's Report

It is clear from NVE et al.'s report (2020) that a holistic breakdown of the concession process for onshore wind power development in Norway has to some extent been addressed. The measures (see [Appendices 1.0-1.3](#)) can primarily be interpreted through tenets of energy justice. As such, it appears as though the concession process, and wind power developments in general, are moving in the direction of a more holistically robust framework for future development. Dealing primarily with tenets of procedural, recognition, and distributional justice, the report outlines measures to combat several of the complaints lodged in response to the National Framework (NVE, 2019b), issues of perceived fairness, and by respondents to this and other studies (see, Inderberg et al., 2019; Leiren et al., 2020; Normann, 2021; Otte et al., 2018; Saglie et al., 2020). Whether or not these measures are implemented in full, or in part remains to be seen. The report notes that the measures are grouped in siloed phases of implementation for the sake of depth, but that individual measures are designed to and can be implemented independently of other measures (NVE et al., 2020, p. 2). This is significant for procedural processes as a complete overhaul of the concession process is more complicated than updating existing frameworks.

It is important to consider that the suggested measures from NVE cover a wide breadth of micro, and meso level injustices through the lens of *particular justice*. They do not cover macro level injustices, nor do they address tenets of cosmopolitan justice through the lens of universal justice (LaBelle, 2017; B. K. Sovacool et al., 2019a, 2019b). Whether or not national level concession processes should acknowledge macro level injustices, however, is an interesting debate. On the one hand, acknowledging every global externality of Norwegian onshore wind power is too broad a burden for national level concession processes to bear and would surely disincentivize further development. These externalities need to be recognized through national level socio-technical imaginaries and addressed through policy that defines Norway's role in the global sustainable energy transition. On the other hand, arguments for holistic recognition of social and environmental impacts within national policy frameworks is certainly recognized in the literature (see, Dunlap, 2018; Eriksen et al., 2015; Leichenko & O'Brien, 2019b; Runhaar et al., 2014; B. K. Sovacool et al., 2020, 2019a; Verweijen & Dunlap, 2021). Holistic recognition could also help legitimize the business of renewable energy development, in a way that goes beyond normative interpretations of social acceptance.

Ultimately, the purpose of the concession process as a mitigating tool of governance, is not to address every perceptible inequality within a complex global socio-technical system. Although employing tenets of cosmopolitan justice would certainly more completely address

the plethora of externalities modern wind power developments cause, these are principles beyond the scope of a concession process. Generally, the suggested measures from NVE's report provide a level of recognition, and if implemented, policy action, which adequately address micro and meso level injustices (B. K. Sovacool et al., 2019a). Arguably, these measures might have come too late with regard to the level of national protest onshore wind power has received in Norway. However, the measures represent significant recognition of the problems that have plagued the process earlier and provide steps in the direction of energy justice. Ultimately, addressing the cumulative effects of wind power development on a global scale is not the intended role of a concession process, and is likely better suited to environmental policy integration at the level of international policy coalitions and agreements, like the SDG's (Runhaar et al., 2014). The recommended improvements to micro and meso level injustices NVE's report provides, reflects the results of a functioning democracy, despite its temporal shortcomings.

#### *6.2.2 Improving Benefits and Increasing Predictability*

NVE's report recommends a review of the taxation and benefit system for wind power by the relevant tax authorities. They suggest the adoption of a natural resource tax, or a property tax. The precedent for this suggestion is set by Norway's history of benefit plans for hydro power communities. NVE also suggests that inspiration might be drawn from Denmark's experience with social benefit plans linked to solar PV and wind power installations (*Bedre forhold for naboer til fremtidens vindmøller og solcelleparker*, 2019; NVE et al., 2020, p. 70).

This response was pushed heavily by both R5 and R6, both of whom recommended a formalized taxation system with predictable outcomes akin to the taxation regimes of hydro power. According to R5, these new and predictable tax redistributions were the most important factor for municipalities moving forward. Redistribution measures also feature in NVE's report (NVE et al., 2020, p. 70). Compensation packages are echoed in the literature surrounding both social acceptance of wind power, and specific investigations of the Norwegian wind power industry (Blindheim, 2015; García et al., 2016; Heløe & Galaaen, 2021; Inderberg et al., 2019; Krekel & Zerrahn, 2017; Lamy et al., 2020; Saglie et al., 2020). They are also one of the few defined measures regarding onshore wind power in OED's latest white paper (OED, 2021, p. 6). As such, this improvement from municipal government perspectives, will be improved.

Within the energy justice literature, however, monetary incentives are rarely mentioned. When mentioned they are advised against, and categorized as a developer driven

micro injustice in the form of “non-recognition, misrecognition, or disrespect” (K. Jenkins et al., 2016, p. 177). Notably, these critiques are addressing broader implications of energy justice in countries that are likely not nearly as bureaucratically integrated or justice oriented as Norway. They allude to situations in which local communities are paid off for land rights or silenced through one-time payment schemes. In this sense Norway is a special case for energy justice due to its massively sophisticated energy system, lack of institutional energy poverty, energy vulnerability, energy access, energy security, and relatively low levels of political corruption (Bredvold, 2020). Therefore, a well-integrated, predictable, and comprehensive tax regime *could* satisfy municipalities with wind power installations, rounding out or subduing the more controversial aspects of onshore wind power.

These suppositions are of course predicated on further onshore developments being considered or approved at all. OED’s most recent white paper (OED, 2021) indicates a significant pivot towards offshore wind power, floating offshore, and the potentials of offshore export to continental Europe in line with ideas discussed in sub-chapter [4.2.5](#) (OED, 2021, pp. 84–102). As a result of the widespread unpopularity of onshore within the Norwegian context, this pivot to offshore wind power is perhaps the most likely renewable energy adaptation outcome within the contemporary political climate.

To curb this widespread unpopularity, NVE’s report highlights one recommended measure above all others, namely, the “Regional processing of information, messages, and applications” (see [Appendix 1.3](#)). This measure is expected to increase local and regional acceptance and integration of future onshore projects. And will allow NVE and local governments to take a more holistic approach to developments at the regional rather than municipal level. It could also provide greater overall understanding for local stakeholders, and integration of projects within the electricity grid (NVE et al., 2020, p. 64). This measure is also arguably the most rooted within the tenets of energy justice as it addresses issues of distributional, procedural, and recognition justice in the most holistic way possible. Distributing the impacts at the regional level as democratically as possible, equally including all significant stakeholders in proceedings, and recognizing the most relevant and rounded environmental and social impacts in the broadest regional scope (K. Jenkins et al., 2016; LaBelle, 2017; B. K. Sovacool et al., 2019a). NVE also note that the implementation of this measure, in addition to temporal application restrictions, would increase predictability substantially (NVE et al., 2020, pp. 43, 64).

### 6.3 The Unaddressed Tenets of Energy Justice

Throughout this chapter I have addressed the complexities and problems present at different levels of energy justice implementation within Norway's development of onshore wind power. I have also discussed the socio-technical imaginaries that drive solutions to these problems. The concession process presents a way in which to implement socio-technical imaginaries, through a framework seeking to become increasingly energy just, at a micro to meso scale within the nation. Tenets of cosmopolitan (or universal) justice become convoluted at this level of governance. Should developers be required to address macro level injustices in order to be allowed to apply for concessions? Or government directorates be required to consider these tenets before licensing projects? I do not think they can or should.

I posit that the argument for the unaddressed tenets of energy justice lies at the feet of higher governmental decision-makers. The literature suggests that the restrictions that governments are willing to put on themselves now, will fundamentally alter the intergenerational equity of not only our energy systems, but our political economic structures, as well as the mitigating of the degradation of our planet (see, Cowell et al., 2011; D'Amato et al., 2021; Eriksen et al., 2015; Feola, 2020; Heinrichs, 2020; Hillerbrand, 2018; Pellegrini-Masini et al., 2020; Sareen & Haarstad, 2018; Schipper et al., 2020; Shao, 2020; B. K. Sovacool et al., 2021; B. K. Sovacool & Dworkin, 2015; van Bommel & Höffken, 2021; Veldhuizen, 2021; Verweijen & Dunlap, 2021). In this sense, policy that addresses cosmopolitan justice would represent the implementation of a socio-technical imaginary fundamentally at odds with our current relationship with technology and growth. Moreover, as we have seen with regard to the Norwegian concession process, policy lags behind technology, and technology behind imaginaries. If a truly just energy transition is to be implemented, policy's a priori prioritization of the tenets of energy justice is necessary for the avoidance of new or exacerbated negative externalities (Pellegrini-Masini et al., 2020).

## 7. Conclusion

The purpose of this thesis was to gain a deeper understanding of the implications theories of energy justice and socio-technical imaginaries have within the Norwegian onshore wind power context. In order to achieve a depth of knowledge to address that purpose this thesis draws on an extensive literature, six semi-structured interviews, and a report from NVE. When interview and document-analysis data have been filtered through tenets underlying theories of energy justice and socio-technical imaginaries I have shown their ability as concepts to reflect the broader implications of onshore wind power and possible future directions for its further development. This study reflects a small contribution to a vast and complex field of study. It attempts to illuminate the importance that theories of energy justice and socio-technical imaginaries can have when local communities, developers, and states decide to develop onshore wind power. In this concluding chapter, I summarize my findings and demonstrate how they are supported with my research questions.

### 7.1 Specific Research Questions

#### *7.1.1 Can the Norwegian concession process for onshore wind power be improved by tenets of energy justice?*

This study has shown that several of the issues that troubled the concession process for onshore wind power were procedural in nature. Through their report, NVE have outlined a way forward that effectively addresses these issues. Nearly all the suggested measures can be read through tenets implicit in the theory of energy justice as outlined by the literature (K. Jenkins et al., 2016; LaBelle, 2017; B. K. Sovacool et al., 2019a, 2019b; B. K. Sovacool & Dworkin, 2015). Although further developments of onshore wind power are unlikely in the near future, if the suggested measures are implemented, the process through which concessions will be granted will have been improved through application of the tenets of energy justice. Additionally, they will have more adequately addressed wind power externalities as they have been outlined by the literature (Dugstad et al., 2020; Kipperberg et al., 2019; Krekel & Zerrahn, 2017; Leiren et al., 2020; Mattmann et al., 2016).

#### *7.1.2 How do socio-technical imaginaries help frame the future of Norwegian onshore wind power?*

This study has explored some of the socio-technical imaginaries present within Norwegian wind power rhetoric. The significance of the resistance to further developments reflects a



strong protest movement, with protestors aware of how they want to experience technology within their broader socio-environmental lives. These sentiments were strongly voiced by some of the study's respondents. It is evident that as a result of the widespread protests to onshore wind power, the Norwegian state is pivoting to favouring offshore wind power instead (OED, 2021). This pivot might suggest socio-technical imaginaries such as that of the "green battery", or Norway as an energy exporter, upheld within the system (Moe et al., 2021). The literature indicates that for future procedures to more adequately take the broader impacts of development into account, national level socio-technical imaginaries will need to reflect a more holistic understanding of the technology's impacts locally and globally, on society as well as the environment (Batel & Devine-Wright, 2015; Devine-Wright & Howes, 2010; Dugstad et al., 2020; Sareen & Haarstad, 2018; Verweijen & Dunlap, 2021).

### *7.1.3 Can the broader implications of energy justice affect the ways in which Norway's overall energy transition takes place?*

The tenets of universal or cosmopolitan justice present a challenge for all future sustainable energy transitions (Sareen & Haarstad, 2018; Verweijen & Dunlap, 2021). Whether or not they are recognized within the policy measures of individual nations is a separate but similar challenge. In so far as this study was able to explore, the Norwegian wind power debate rarely considers the sourcing of materials for wind turbines as an externality that requires addressing. However, there are debates that promote further Norwegian wind power development as the cleanest way for certain industrial processes to continue (Moe et al., 2021; OED, 2021). These debates primarily address the post-production side of the cumulative effects of wind power and as such do not necessarily qualify under tenets of the theory of cosmopolitan justice (B. K. Sovacool et al., 2019b; B. K. Sovacool & Dworkin, 2015; Verweijen & Dunlap, 2021).

### *7.1.4 Are there other factors that could improve the perceived fairness of future wind power development in the Norwegian context?*

This study found two important factors which could lead to improving perceived fairness, namely: 1) communication and framing, and 2) predictability in the concession and benefit procedures.

Communication and framing were issues voiced by several respondents. A general lack of clear lines of communication, from local level disputes with developers, to national level framing and planning, has made it difficult for local stakeholders and developers alike to

understand their roles within the process. It will be important for future policy, therefore, to frame the future possible role of wind power within the Norwegian energy network. Convoluted or untenable goals are unlikely to be accepted, but the added attention wind power has received in recent years adds pressure to more adequately address issues holistically, which would include clear communication strategies, and comprehensible framing (Broderick et al., 2018, pp. 657–660).

Increasing predictability in the concession process and formalizing benefit measures were noted by respondents, as well as NVE's report (NVE et al., 2020). Several of NVE's suggested measures would, and are meant to, increase predictability within the concession process. These measures include tightening temporal restrictions throughout the procedural process, limiting developers to stricter building standards, as well as increasing knowledge bases and communication with local and national stakeholders (NVE et al., 2020). Additionally, respondents' desires for formalized taxation regimes, a measure suggested by both NVE's report, and called for in OED's most recent white paper (NVE et al., 2020, p. 70; OED, 2021, p. 6).

## 7.2 Main Research Question

### *7.2.1 How Can We Better Understand the Future of Norwegian Onshore Wind Power?*

Global climate change is taking place within a dynamic socio-political context, influenced by several ongoing systemic changes. Wind power development, in its various forms, is attracting higher levels of investment, as well as increasing societal and political attention. The process of developing justice-oriented national level adaptation is contentious, requiring robust political-economic procedures that seek to accommodate as many affected stakeholders as possible. Moreover, the transition requires innovative ways of imagining the role of technology within a society reliant on its real-world success. The theory of energy justice provides a framework through which adaptation processes might be better understood and implemented, and socio-technical imaginaries provide a way in which to envision their implementation.

Tenets of energy justice can be applied to nearly all suggested measures from both respondents and NVE's report. The future of Norwegian onshore wind power can be understood as an adaptation process contingent on significant procedural justice-oriented improvement and, perhaps, a re-imagining of the purpose it should play within the broader Norwegian energy production landscape. Despite their arguably late implementation, the suggested measures align Norwegian energy policy more closely with benchmarks provided in

the wider energy justice literature, offering a more robust system through which future developments might be implemented. Re-imagining these developments through a wider lens might also provide the opportunity for more vertically integrated systems to be implemented, allowing for Norwegians to more broadly understand and accept the purpose and impacts renewable technological innovations—such as wind power—have in their everyday lives.

### 7.3 Moving Forward and Suggestions for Future Research

There is little emphasis in the most recent white paper from OED (2021) on onshore wind power. The paper mentions onshore wind power briefly and qualifies its reinstatement on legal reassessments that will likely not occur before 2022 (OED, 2021, pp. 48–49). If these reassessments adequately instate the measures from NVE’s report (2020), then several of the questions of energy justice developed throughout this thesis will have been addressed. It would be of considerable interest to then retrospectively investigate their effects on social acceptance. It would also be of interest to explore the effectiveness of standardized taxation schemes within the Norwegian context.

For future problems to be sufficiently mitigated, new ways of imagining Norway’s relationship to wind power need to be developed. With the wider lens provided by tenets of cosmopolitan justice, probing the origins of raw materials and addressing the socio-environmental impacts of the entire adaptation process would inform such imagining. Several researchers propose paradigm shifts in the development of future energy systems, discussing whether capitalist systems are capable of dealing with the immensity of global climate change (see, Feola, 2020; Harangozo et al., 2018; Pellegrini-Masini et al., 2020; Shao, 2020; van den Bergh, 2010, 2011; Veldhuizen, 2021; Verweijen & Dunlap, 2021; Zagonari, 2020). It is proposed that future research into Norwegian onshore wind power should focus on smaller scale installments, the broader industrial implications of Norwegian sustainable energy, and how to optimize enviro-socio-technical trade-offs in a complex global economic system.

In conclusion. Regardless of the direction taken by the industry, it is imperative that clear ethical decisions be made about these many interactive factors (Zagonari, 2020). With these quid pro quos in mind, the results of this present study strongly suggest that future Norwegian energy policy be re-imagined within a holistic view that clearly implements tenets of cosmopolitan justice.

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## Appendix

### Appendix 1.0: Measures for Increased Knowledge, Info and Guidance

Measures for increased knowledge, information and guidance			
Recommended measure	Summary of measure	Applicable tenet(s) of energy justice	Applicable principle(s) from framework for decision makers
Government information platform about wind power	Work with sector officials to maintain a “state summary page” with all relevant information on wind power.	Procedural Justice	(4) Good Governance
NVE guide on planning and construction of wind power	A guide from NVE provides guidance throughout the process, from start to end. e.g., relevant information, laws, goals, etc.	Procedural Justice	(4) Good Governance
An updated knowledge base on the effects of wind power	The 21 themed reports from the national framework should be maintained and used as the knowledge basis for concessions and wind power generally.	Procedural Justice, Recognition Justice	(4) Good Governance, (8) Responsibility
Apply gained experience from existing wind power projects	Carry out studies of current wind power developments and build knowledge from there.	Procedural Justice, Recognition Justice	(4) Good Governance, (8) Responsibility
More systematic dialogue with other state authorities about concession process, investigation requirements, and concession terms for wind power	Yearly conferences with relevant sector officials. Increase dialogue with sector and develop a robust criterion for distribution of roles within the process.	Procedural Justice, Recognition Justice	(4) Good Governance, (5) Sustainability, (8) Responsibility

(NVE et al., 2020, pp. 32–39)

Appendix 1.1: Measures in Process from Notification to Concession Decision

Measures in the process from notification to concession decision			
Recommended measure	Summary of measure	Applicable tenet(s) of energy justice	Applicable principle(s) from framework for decision makers
Revision of investigation requirements in wind power developments	A revision of EIA protocol and standards such that knowledge bases are recognized and adequately applied in assessments.	Procedural Justice	(4) Good Governance, (8) Responsibility
Introduce deadline for EIA	Tighten the timeline on delivery of EIAs from developer to NVE. Recommended 2 years.	Procedural Justice	(3) Due Process, (4) Good Governance
Tightening of the formal case status of “on hold” (Norwegian, “stilt i bero”)	Develop internal policies regarding the duration, regulations, and claims which justify and control “on hold” projects.	Procedural Justice	(3) Due Process, (4) Good Governance
Introduce legal authority for early rejections in the Energy Act	Give NVE the authority to recognize projects with overtly negative externalities at an early stage and promptly reject them.	Procedural Justice	(3) Due Process, (4) Good Governance, (8) Responsibility
Notification of neighbours about concession application and MTA plan	Reduce conflict by including more local stakeholders and their interests at an earlier stage.	Procedural Justice, Distributional Justice	(4) Good Governance
Clarify requirements for plans for participation	Simplify methods of participation, thereby increasing levels and members participating. Increase predictability.	Recognition Justice	(4) Good Governance
Introduce clearer criteria in the Energy Act for when a concession / refusal should be granted	Establish clear delineations within the Energy Act which specify criteria that define just environmental interventions	Procedural Justice	(3) Due Process, (4) Good Governance, (8) Responsibility
Web-forms for submitting statements from hearings	Clear guidance which provides an arena for relevant grievances/concerns to be sent in at relevant times throughout hearing process.	Recognition Justice	(4) Good Governance

(NVE et al., 2020, pp. 40–52)

*Appendix 1.2: Measures in Process from Concession to Operation*

<b>Measures in the process from concession decision to operation</b>			
<b>Recommended measure</b>	<b>Summary of measure</b>	<b>Applicable tenet(s) of energy justice</b>	<b>Applicable principle(s) from framework for decision makers</b>
Revision of the terms of wind power concessions	A simplification of words and structure within the terms of concession such that standardization and understanding might increase.	Procedural Justice	(4) Good Governance
Introduction of maximum limit for turbine height in wind power concessions	Individual concessions receive a max. turbine height, which increases predictability and reduces conflict.	Distributional Justice	(3) Due Process, (4) Good Governance
Introduce legal authority for detail/MTA plans in the Energy Act	Increase transparency, predictability, and understanding of process by formalizing legal standards for detail and MTA plans.	Procedural Justice	(3) Due Process, (4) Good Governance
Introduce deadlines for submission of detail/MTA plans and production start	Introduction of deadlines within the concession process. Approved detail plans are delivered to NVE within 2 yrs of concession, and energy production begins within 3 yrs of delivered detail plan.	Procedural Justice	(3) Due Process, (4) Good Governance
Merge detail plan and MTA plan into one plan (“Detailplan”)	Increase predictability and reduce confusion in local hearings. Streamlines information channels, plans and guidance.	Procedural Justice	(4) Good Governance
Detail plan and MTA will be announced in connection with the hearing	Increased access to information and involvement for local stakeholders as they are better informed regarding building and transport plans.	Procedural Justice	(3) Due Process, (4) Good Governance
Provide detailed information about the processing of the detail and MTA plan	Increased available information should lead to more constructive hearings and discussions.	Procedural Justice	(4) Good Governance

(NVE et al., 2020, pp. 53–63)

*Appendix 1.3: Measures for Stronger Volume Control and Localization*

<b>Measures for stronger volume control and localization</b>			
<b>Recommended measure</b>	<b>Summary of measure</b>	<b>Applicable tenet(s) of energy justice</b>	<b>Applicable principle(s) from framework for decision makers</b>
Regional processing of information, messages, and applications	Gives regions and county's the option of handling/developing larger regional projects. Easier and more effective planning through a stronger local government. More energy efficient.	Distributional Justice, Procedural Justice, Recognition Justice	(4) Good Governance, (8) Responsibility
Agree on procedures with local and regional authorities with a regional treatment as an option	Gives regions and municipalities the option to group certain developments in order to increase efficiency, and governance.	Procedural Justice	(4) Good Governance, (8) Responsibility
Provide the analyses in the proposed national framework as a location locator	Provides an overview of the best-known areas for development and can aid in streamlining the process for developers, as well as reduce conflict and unnecessary strain on the environment.	NA	(4) Good Governance, (5) Sustainability, (8) Responsibility
Assess changes in the economic framework conditions for local communities	Create a taxation framework more like that of hydro power, that more readily benefits local affected communities.	Distributional Justice, Recognition Justice	(4) Good Governance
Update guidelines for location and planning of wind turbines	Current guidelines are outdated. Updating will increase predictability through political discourse.	NA	(4) Good Governance

(NVE et al., 2020, pp. 64–71)

## *Appendix 2.0: Interview Guide*

### **Interview Guide:**

#### **Introductory Questions:**

- Could you briefly describe your educational background and how you got involved with Norwegian wind power?
  - o If you have been involved with the concession process, could you briefly describe your role?

#### **Main Theme Questions:**

##### **Local Experiences:**

- Is local knowledge given adequate weight by wind power developers?
- Are there particular groups or environmental concerns that you feel are marginalised or unrecognized by the concession process?
- Do you feel Impact Assessments have adequately covered all relevant impacted areas?
  - o If not, why?
- Do you think municipalities have enough say in procedural matters?

##### **Questions of Justice:**

- Who would you say benefits most from Norwegian wind power developments?
- Would you describe wind power developments in Norway as justice oriented?
- Would standardized community benefit programs be a benefit or hindrance to future wind power developments?

##### **The Concession Process:**

- Is the concession process consistent?
- Do you think that shortening the procedural and building timelines will positively impact public perceptions of wind power in Norway?
- Is there enough transparency in the concession process?
- How can the concession process more effectively take into account the cumulative effects of wind power developments?
- What steps, if any, should be implemented into the concession process to increase its perceived fairness?
- How do you see the future of wind power in Norway?

#### **Wrapping up:**

- Is there anything we haven't covered that you would like to add?
- Is there someone else that you think that I should contact?

## *Appendix 2.1: Interview Guide for Norwegian respondents*

### **Intervjuguide Norsk:**

#### **Innledende spørsmål:**

- Kan du kort beskrive din faglige bakgrunn og hvordan du ble involvert i norsk vindkraft?
  - o Hvis du har vært involvert i konsesjonsprosessen, kan du kort beskrive din rolle?

#### **Hovedkategorispørsmål:**

##### **Lokale opplevelser:**

- Får lokal kunnskap tilstrekkelig vekt av vindkraftutviklere?
- Er det spesielle grupper eller miljøhensyn du føler er marginalisert eller ignorert av konsesjonsprosessen?
- Føler du at konsekvensutredninger har tilstrekkelig dekket alle relevante berørte områder?
  - o Hvis ikke, hvorfor?
- Tror du kommuner har nok å si i saksbehandlingen?

##### **Spørsmål om rettferdighet:**

- Hvem vil du si har størst nytte av norsk vindkraftutbygging?
- Vil du beskrive utviklingen av vindkraft i Norge som rettferdighetsorientert?
- Ville standardiserte samfunnsnytteprogrammer være en fordel eller hindring for fremtidig utvikling av vindkraft?

##### **Konsesjonsprosessen:**

- Er konsesjonsprosessen konsistent?
- Er det nok åpenhet i konsesjonsprosessen?
- Hvordan kan konsesjonsprosessen mer effektivt ta hensyn til de kumulative effektene av vindkraftutbygging?
- Hvilke begrep, hvis noen, bør implementeres i konsesjonsprosessen for å øke dens oppfattede rettferdighet?
- Hvordan ser du for deg fremtiden for vindkraft i Norge?

##### **Konklusjon:**

- Er det noe som ikke er blitt tatt opp i intervjuet som du mener bør tas opp?
- Er det noen andre du mener at jeg burde kontakte?

### *Appendix 2.3: Example of Recruitment Email*

Dear (insert name)

My name is Andreas Gilbert, and I am a masters student at the Norwegian University of Life Sciences (NMBU).

I would be grateful to have 20-40 minutes of your time to interview you about your perspective on the Norwegian wind power industry's concession process.

This interview will focus on your first-hand experience and opinion but remain anonymous if you wish. I've noted your involvement as (position or notable experience) and would greatly appreciate your perspectives on the matter.

In brief, I'm most interested in exploring your experiences with the concession process, perceptions of fairness in the process, and your thoughts on future directions for on-shore wind power in Norway.

If you have any time next week to speak over Zoom/Teams or over the phone, that would be greatly appreciated!

Please note that the interview can be conducted in either English OR Norwegian, whichever you are most comfortable with.

Hope to hear from you soon!

All the best,

Andreas Gilbert

**Are you interested in taking part in the research project:**

***“Benchmarking the Norwegian concession process for wind power, and its implications for energy justice”?***

This is an inquiry about participation in a research project where the main purpose is to understand engagement processes. In this letter we will give you information about the purpose of the project and what your participation will involve.

**Purpose of the project**

This research project is a master’s thesis. The objective of this research project is to benchmark the role of the Norwegian concession process in the development and mitigation of wind power installations, and the broader implications of its role as an integrator of stakeholder management within the parameters of energy justice.

***Objectives:***

- To discuss the role of the Norwegian municipality and/or local stakeholders in mitigation of wind power project installations.
- To explore the meaning of sustainable development in Norwegian municipalities directly affected by the Norwegian push for sustainable energy developments.
- To investigate the implications energy justice could have on local stakeholder interpretations of ‘fairness’ within concession processes.

***Research Questions:***

- How is the future of energy production in Norway interpreted by local stakeholders, and by those implementing the projects?
- What are the socio-environmental conflicts within the wind power sector and how does the concession process play a role in said conflict?
- How do Norwegian government departments like NVE and OED plan to address growing animosity towards large scale wind-power projects?

**Who is responsible for the research project?**

The Norwegian University of Life Sciences (NMBU) is the institution responsible for the project.

**Why are you being asked to participate?**

You are being asked to participate because you are considered a person who can inform about some of the issues related to the objectives and research questions. Your participation is completely voluntary, and you can withdraw from the research at any time.

The sample for this research project has been based on a combination of purposive and snowball sampling. You have been contacted/selected on account of your being indicated as an important player in official documents tied to this wind power project. You live within a certain radius of the planned wind power project and are thus likely affected by its presence. You are involved in the decision-making process for this wind power projects installation.



As this project uses snowball sampling methods, your contact information may have been acquired from a contact of yours.

### **What does participation involve for you?**

If you choose to take part in this project, it will involve that you participate in an online or in person (Covid-19 restrictions permitting) interview. It will take approx. 30-60 minutes. The interview includes questions on the topic of wind power projects in Norway your work experience, sustainable development, local stakeholder engagement, Norwegian Environmental Impact Assessment processes, and wind power project concession agreements. Your answers will be recorded electronically.

*Specific questions regarding personal information such as ethnicity, religion, political views or membership in labour unions etc. will not be asked. In case you choose to share that type of information, however, it could be included in the study.*

### **Participation is voluntary**

Participation in the project is voluntary. If you chose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you chose not to participate or later decide to withdraw.

### **Your personal privacy – how we will store and use your personal data**

We will only use your personal data for the purpose specified in this information letter. We will process your personal data confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act). Only the student responsible for the research and the supervisor will have access to the personal data. Your name and personal information will be stored separately from the rest of the collected data.

### **What will happen to your personal data at the end of the research project?**

This project is scheduled to end 15.05.2021. At the end of this project, digital recordings will be deleted, and other personal data anonymized. The data will be securely stored following NMBU guidelines and there will be no way for it to be traced back to you. The purpose of further storage is for verification and in case of further research of the topic.

If relevant, you may be recognizable in the research project under your job title in the case that you perform a certain role within stakeholder agreements in the specifically selected wind power installation. Your personal information, however, will remain unpublished and anonymous.

### **Your rights**

So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you
- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Data Protection Officer or The Norwegian Data Protection Authority regarding the processing of your personal data

### **What gives us the right to process your personal data?**

We will process your personal data based on your consent.

Based on an agreement with University of Life Sciences, NSD – The Norwegian Centre for Research Data AS has assessed that the processing of personal data in this project is in accordance with data protection legislation.

**Where can I find out more?**

If you have questions about the project, or want to exercise your rights, contact:

- University of Life Sciences via student Andreas Gilbert (by email [andreas.gilbert@nmbu.no](mailto:andreas.gilbert@nmbu.no) or by telephone: +47 47 63 44 03) or supervisor John Andrew McNeish (by email [john.mcneish@nmbu.no](mailto:john.mcneish@nmbu.no) ).
- NSD – The Norwegian Centre for Research Data AS, by email: ([personvertjenester@nsd.no](mailto:personvertjenester@nsd.no)) or by telephone: +47 55 58 21 17.
- Data Protection Officer for NMBU – Hanne Pernille Gulbrandsen | Tax & Legal at Deloitte Advokatfirma, by email: ([personvernombud@nmbu.no](mailto:personvernombud@nmbu.no)) or by telephone: +47 40 28 15 58.

Yours sincerely,

Project Leader: Andreas Gilbert

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*Consent form*

I have received and understood information about the project *Benchmarking the Norwegian process of local stakeholder engagement in wind power installations* and have been given the opportunity to ask questions. I give consent:

- to participate in an in-person or online interview. for information about me/myself to be published in a
- way that I can be recognised (described in more detail on page 2)

I give consent for my personal data to be processed until the end date of the project, approximately: 18/8/2021

----- (Signed by participant, date)



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