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Master Thesis

Paving the way for community acceptance of wind energy projects: A case study exploring opportunities of public participation

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Affidavit

I hereby declare that I have authored this master thesis independently, and that I have not used any assistance other than that which is permitted. The work contained herein is my own except where explicitly stated otherwise. All ideas taken in wording or in basic content from unpublished sources or from published literature are duly identified and cited, and the precise references included.

I further declare that this master thesis has not been submitted, in whole or in part, in the same or a similar form, to any other educational institution as part of the requirements for an academic degree.

I hereby confirm that I am familiar with the standards of Scientific Integrity and with the guidelines of Good Scientific Practice, and that this work fully complies with these standards and guidelines.

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Abstract

Decarbonising the energy system is crucial to limit global warming and to deter the worst effects of climate change. Renewable energy technologies such as wind turbines play an important role in the energy transition and achieving climate neutrality. However, wind turbines are often sited in close vicinity to settlement areas which can cause local opposition. The social acceptance framework is frequently used to analyse different acceptance patterns of a renewable energy technology. Research on social acceptance of wind energy suggests that citizens are more likely to accept a wind park when they have the possibility to participate in its planning process. Drawing on notions of public participation and energy democracy, this study analysed the planning process of a wind park project sited in Lower Austria from an ex-post perspective. This study conducted qualitative social research to understand the extent to which normative public participation criteria were considered in the planning process of the wind park. The perceptions on the planning process of three different stakeholder groups, namely those of the operating company, local politicians, and citizens were explored by means of semi-structured guided interviews. The key research findings were that citizen's lack of control over wind turbine siting decisions led to dissatisfaction and opposition to the wind park and that participation was only interpreted as an act of providing or receiving information about decisions already taken. Such level of citizen participation is neither sufficient from an energy democracy perspective nor does it foster community acceptance. To legitimise wind turbine siting decisions, the study suggests collaboratively developing regional climate and energy plans to ensure all citizens have a say in decision-making.

Keywords: Wind energy, Acceptance, Public participation, Energy democracy

Kurzfassung

Die Dekarbonisierung des Energiesystems ist entscheidend, um die globale Erwärmung zu begrenzen und die schlimmsten Auswirkungen des Klimawandels abzuwenden. Erneuerbare Energietechnologien wie Windturbinen sind wesentlicher Bestandteil der österreichischen Strategie, Klimaneutralität zu erreichen. Allerdings werden Windkraftanlagen oft in unmittelbarer Nähe zu Siedlungsgebieten errichtet, was zu lokalen Widerständen führen kann. Das Konzept der sozialen Akzeptanz wird häufig verwendet, um die unterschiedlichen Akzeptanzmuster von erneuerbaren Energietechnologien zu analysieren. Forschung über soziale Akzeptanz von Windenergie legt nahe, dass Bürger*innen einen Windpark eher akzeptieren, wenn sie die Möglichkeit haben, sich im Planungsprozess zu beteiligen. Ausgehend von den Begriffen Öffentlichkeitsbeteiligung und Energiedemokratie wurde in dieser Studie der Planungsprozess eines Windparkprojekts in Niederösterreich aus einer ex-post Perspektive analysiert. Mittels qualitativer Sozialforschung wurde untersucht, inwieweit normative Kriterien der Öffentlichkeitsbeteiligung im Planungsprozess des Windparks berücksichtigt wurden. Die Wahrnehmungen des Windpark Planungsprozesses wurden mittels halbstrukturierter Leitfadeninterviews von drei unterschiedlichen Stakeholdergruppen, nämlich der Betreibergesellschaft, Gemeindepolitiker*innen und Gemeindebürger*innen erforscht. Die wichtigsten Forschungsergebnisse waren, dass das fehlende Mitspracherecht der Bürger*innen über Standortentscheidungen von Windturbinen zu Unzufriedenheit und Widerstand gegen den Windpark führte und dass Partizipation nur als der Akt des Gebens oder Nehmens von Informationen über bereits getroffene Entscheidungen verstanden wurde. Ein solches Maß an Bürgerbeteiligung ist weder aus Sicht der Energiedemokratie noch zur Förderung der lokalen Akzeptanz eines Windparkprojekts ausreichend. Um Standortentscheidungen für Windkraftanlagen zu legitimieren und sicherzustellen, dass alle Bürger*innen ein Mitspracherecht in Entscheidungsfindungsprozessen haben, schlägt diese Studie vor, mithilfe eines partizipativen Prozesses, regionale Klima- und Energiepläne zu entwickeln.

Keywords: Windenergie, Akzeptanz, Öffentlichkeitsbeteiligung, Energiedemokratie

1. Introduction

The energy sector accounts for approximately three-quarters of global carbon emissions (IEA, 2021). Therefore, decarbonising the energy system is crucial to limit global warming to 1.5 degrees and deter the worst effects of climate change. Accordingly, European legislation requires member states to set national contributions to collectively meet the overall EU climate neutrality target by 2050 (European Parliament and European Council, 2018). Hence, one of Austria's targets, set in its national energy and climate plan, is to source 100% of the consumed electricity by renewable energy sources by 2030 (BMNT, 2019).

The utilisation of wind energy as a renewable energy source has a distinct place in the pathway to achieving this ambitious target (*EAG*, n.d.). Thus, approximately 120 wind turbines need to be installed on an annual basis (Austrian Wind Energy Association, 2020). However, besides technological constraints, social acceptance of wind power is increasingly limiting expansion (Frisch and Sokic, 2018; Gross, 2007; Knauf, 2022; Langer et al., 2017; Liebe et al., 2017; Raven et al., 2009; Scherhaufer, 2021; Scherhaufer et al., 2017; Spiess et al., 2015; Wolsink, 2013). While wind energy generally enjoys broad public approval, local exposure to wind parks regularly encounters resistance (Frisch and Sokic, 2018; Wolsink, 2007).

The so-called Not In My Backyard (NIMBY) effect is frequently used to explain the gap between acceptance of renewable energies and wind energy in general and the opposition on a local level (Busse and Siebert, 2018; Fournis and Fortin, 2017; Wolsink, 2007). However, recent literature suggests that the NIMBY effect neither captures the issue of non-acceptance in its whole complexity nor is it based on sound empirical ground (Busse and Siebert, 2018; Fournis and Fortin, 2017; Wolsink, 2007). Moreover, Frisch and Sokic (2018) argue that the NIMBY approach cannot deliver a constructive contribution to improving the situation.

The concept of social acceptance as articulated by Wüstenhagen et al. (2007) can act as a framework to analyse different patterns of acceptance more precisely. It differentiates between three dimensions of social acceptance, namely socio-political acceptance, market acceptance, and community acceptance. Given the current political and economic developments in the renewable energy sector in Europe, neither socio-political acceptance nor market acceptance are seen as major limiting factors for the further expansion of wind energy (Ellis and Ferraro, 2016). Additionally, Höltinger et al. (2016) assessed Austria's socio-political wind energy potential and concluded that further research on the community level is needed.

Community acceptance is characterized by principles of justice, namely procedural and distributional justice, and trust (Wüstenhagen et al., 2007). Procedural justice encompasses the possibility for citizens to participate in the decision-making process, whereas distributive justice refers to the manner in which costs and benefits are shared (Gross, 2007). Several studies showed that the extent to which procedural and distributional justice are taken into account during the planning process of a wind energy project or not has a significant effect on acceptance levels of the affected community (Frisch and Sokic, 2018; Gross, 2007; Scherhaufer, 2021; Skitka et al., 2003; Smith and McDonough, 2001). In that regard, involving the public in the decision-making process during the project development phase is highly important (Scherhaufer, 2021).

A framework to analyse and deal with participation in renewable energy projects is rooted in the concept of public participation as proposed and conceptualised by Daniel J. Fiorino (1990). He opposes the notion that risk decisions affecting the public should be solely left to technocratic orientations and emphasizes the need to achieve the participation of citizens based on democratic principles (ibid).

A similar notion can be found in different understandings of energy democracy. Beyond shifting to an energy system powered by 100% renewable energy sources, proponents of energy democracy

demand a democratisation of it as well (Angel, 2016; Burke and Stephens, 2017; Feldpausch-Parker et al., 2019; Szulecki and Overland, 2020; van Veelen and van der Horst, 2018). Thus, decisions about the way energy is produced and consumed should be taken in "[...] an equitable, fair, transparent and as broad as possible participatory process [...]" (Scherhaufer, 2021, p. 266).

Fiorino (1990) provides three arguments against scientific and technical elites' authority to make decisions on their own. The first one is the *substantive* argument that claims lay judgments about the risk to be at least as sound as those of experts due to their ability to see problems, issues, and solutions that experts are missing. Secondly, the *normative* argument states that "[...] a technocratic orientation is incompatible with democratic ideals" (Fiorino, 1990, p. 227) and asserts that citizens are the best judges of their interests and are able to participate in decisions that affect them. The third one is called the *instrumental* argument and states that effective participation of lays makes risk decisions more legitimate and leads to better results. These three arguments are the rationales for public participation. Furthermore, public participation in collaborative decision-making depends on the following four criteria that are based on normative grounds (Fiorino, 1990).

1. The extent to which citizens, in the role of amateurs, not in professional career roles, have the opportunity to participate in decision making directly
2. The extent to which citizens have the possibility to actively codetermine decisions rather than just receive information
3. The presence of structures that allow interaction like face-to-face discussions over some time
4. The extent to which citizens can acquire knowledge about the subject matter and discuss it with public authorities or experts on an equal basis

Moreover, it is recognised that different levels of involving the public in decision-making exist (Arnstein, 1969; IAP2, n.d.; Jami and Walsh, 2014). Sherry R Arnstein developed the often-cited ladder of citizens' participation, depicting the degrees of participation (Arnstein, 1969). The International Association of Public Participation developed this ladder even further (IAP2, n.d.).

To contribute to the scientific understanding of social acceptance and public participation in wind energy planning, this case study analyses an already commissioned wind park in Austria from an ex-post perspective within this briefly outlined theoretical context.

The objective is to contrast public participation criteria derived from literature with the actual planning process of the wind park. Accordingly, practices of the wind energy operator company and political representatives of the wind park municipalities that involve citizens of the affected municipalities in the decision-making process during the planning phase are assessed. A reflection of reality in the wind park planning processes is developed as the perceptions of the wind energy operating company's responsible project managers and communication manager, political representatives of the wind park municipalities, and affected citizens are investigated.

To break down these objectives, this study answers the following **research questions:**

Q1: How should citizens be able to participate in the planning process of a wind energy project based on normative criteria?

Q2: To what extent were public participation principles considered in the planning process of a wind energy project in Lower Austria?

... from the viewpoint of the wind energy planer/operator?

... from the viewpoint of the municipality representatives?

... from the viewpoint of the municipal citizens?

Q3: Which constraints hinder normative criteria from being implemented?

To answer the research questions, this thesis is structured as follows:

First, a comprehensive literature review was conducted (Chapter 2). The literature analysis can be categorised into three parts. The first analyses cover current international and national targets to decarbonise the energy system to understand better the necessity and importance of an expansion of wind energy. Additionally, the state of wind energy utilisation in Austria, the structure of a wind energy permitting procedure, and a brief overview of the wind energy project of interest (named "Project X" in this study) are laid down. Next, state-of-the-art research on the social acceptance of wind energy is reviewed. Key findings of corresponding case studies are investigated and compared to deepen the understanding of these concepts. Afterwards, principles of energy democracy (ED) and public participation are derived. Thereby, the focus lies especially on deriving normative criteria that are important to consider during the development process of a renewable energy technology (RET) plant.

Second, this study conducted qualitative empirical research by utilising semi-structured guided interviews. Fifteen interviews in total were held with the two responsible project managers (PMs) and the communication manager (CM) of the wind energy development agency, as well as with citizens and political representatives of municipalities in which the wind energy project has been realised. This approach allows the consideration of as many different perspectives as possible to draw a realistic picture of the planning and development process of the wind park project of interest. The qualitative content analysis framework developed by Kuckartz (2014) was used to evaluate the conducted interviews. Chapter 3 provides a detailed overview of the methodology.

Third, the results of the interviews are laid down according to the three different perspectives of interviewees (wind energy operating company, political representatives, and citizens of the wind park municipalities) in chapter 4.

Fourth, the four public participation criteria, demands of energy democracy proponents, and the ladder of citizen participation as described above serve as a framework to contextualise the interviewees' answers. Hence, this thesis discusses which normative criteria have been met in the planning and development process of the analysed wind park. Moreover, it discusses which constraints hindered a broader application of these criteria. Furthermore, chapter 5 also suggests a different approach to fostering public participation while exploiting RETs.

Finally, this study concludes by summarising the main findings, reflecting on them and providing suggestions for further research in this area.

2. Theoretical background

First and foremost, this chapter introduces the need to decarbonise the energy system and the role of renewable energy technologies. It analyses energy targets and pathways from global, European, and national-level perspectives.

Second, the focus shifts to the status quo of wind energy in Austria. It is shown that wind energy deployment is concentrated in only two federal states. Subsequently, the legal and organizational requirements to construct wind turbines in Austria are described. Moreover, a brief overview of the wind energy project of interest concerned ("Project X") is given.

Third, it is recognised that, next to technological or organisational constraints, social acceptance of wind energy can be a significant barrier to further expansion. Therefore, this chapter investigates the theoretical conceptualisation of social acceptance while focusing on one of the most influential frameworks in the literature introduced by Wüstenhagen et al. (2007). In line with the objectives of this thesis, particular emphasis is placed on the dimension of community acceptance and its relationship to the principles of justice and fairness. In this context, three case studies from the literature that analysed the dimension of community acceptance are presented and examined to deepen the understanding of this concept. It is recognised in the case studies that the opportunity of the local community to participate in the development process of a wind energy project has a decisive influence on acceptance levels.

Fourth, this chapter analyses the relevance of public participation. The influential study of Fiorino (1990) provides three arguments explaining why civic society should be involved in decision-making. Criteria to assess the implementation of mechanisms to facilitate public involvement developed by Fiorino (1990) and Rowe and Frewer (2000) are discussed. In this context, the literature on public participation emphasizes that different levels of participation exist. Therefore, the often-cited ladder of citizen participation developed by Arnstein (1969) which was further adapted by the International Association of Public Participation is introduced.

Fifth, this chapter recognizes participation as a key element of different notions of energy democracy. Proponents of energy democracy demand a shift to an energy system that is based solely on renewable energies and characterized by wide participation and ownership of citizens. It is shown that different notions of energy democracy exist among the North American and the European school of thought, but commonalities of both notions are derived.

To end this chapter, a brief synthesis of all mentioned concepts' relevance in the context of this study is provided.

2.1. National and international targets to decarbonize the energy system

In October 2021, the International Energy Agency (IEA) published a roadmap for the global energy sector (IEA, 2021). This roadmap shows a path to achieving global net-zero greenhouse gas (GHG) emissions by 2050. The described pathway is in line with limiting global warming to 1.5 degrees Celsius. However, the decarbonisation of the global economy in three decades requires nothing less than a complete global energy system transformation (ibid). According to the pathway, the key pillars of decarbonisation are renewables, energy efficiency, electrification, bioenergy, Carbon Capture Utilization and Storage (CCUS), hydrogen and hydrogen-based fuels, and behavioural changes (ibid). The IEA highlights that the pathway requires all governments to improve and further adapt their climate and energy policies (ibid).

Emissions in the energy sector are currently the largest source of CO_2 emissions, accounting for approximately 75% (IEA, 2021). Therefore, the energy sector is key to averting the worst effects of climate change (ibid). Renewable energy technologies (RET) play a crucial role in achieving net-zero greenhouse gas emissions (GHG) by 2050 (ibid). According to the IEA roadmap, RET will account for nearly 90% of global electricity generation, whereas wind and solar energy will make up the largest share, with almost 70% in 2050 (ibid). As of 2020, coal makes up the largest share of global electricity production, accounting for nearly 34%, followed by gas (almost 23%) and hydropower (nearly 17%) (Hannah Ritchie and Roser, 2020). Wind and solar energy shares in global electricity production have been steadily increasing since 2005 (wind) and 2010 (solar) (ibid). However, both accounted only for around 8% in 2020 (ibid). The pathway to global net-zero GHG emissions by 2050 requires "[...] immediate and massive deployment of all available clean and efficient energy technologies" (IEA, 2021, p. 15) and highlights that current available RET will account for the global reduction of CO_2 emissions by 2030. In contrast, in 2050, about half of the necessary deduction will come from technologies that are not fully developed yet (IEA, 2021). Figure 1 shows the share of renewables in the electricity sector in 2020, 2030, and 2050 and the required annual capacity additions. The installed capacity of renewables needs to increase at a larger share in the next ten years until 2030 than in the twenty years that lie beyond 2030 (relatively) (ibid).

Sector		2020	2030	2050
Electricity sector				
Renewables share in generation		29%	61%	88%
Annual capacity additions (GW):	Total solar PV	134	630	630
	Total wind	114	390	350
	– of which: Offshore wind	5	80	70
	Dispatchable renewables	31	120	90

Figure 1: Key deployment milestones for renewables (IEA, 2021, p. 75)

Notably, the roadmap authors highlight the need for making just and transparent decisions, whereas "Governments need to ensure that clean energy transitions are people-centred and inclusive" (IEA, 2021, p. 17). Moreover, they argue that people need to be treated as active participants.

The European Green Deal, presented in December 2019 by the European Commission, is a roadmap for the sustainable development of the European Union (European Commission, 2019). The new growth strategy "[...] aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use" (European Commission, 2019,

p. 2). The European Commission introduced the Green Deal as an integral part of its strategy to implement the UN 2030 agenda concerning the sustainable development goals (SDGs) (European Commission, 2019). The core target of the Green Deal is to become climate neutral (net-zero GHG emissions) by 2050 (ibid). One of the eight elements of the Green Deal is the supply of clean, affordable, and secure energy, which underlines that decarbonising the energy system is crucial for achieving set climate objectives by 2030 and 2050 (ibid).

Since 2009, the Renewable Energy Directive (RED) has been the basis for European renewable energy policies (European Parliament and European Council, 2009). In December 2018, the fully revised REDII took effect (European Parliament and European Council, 2018). The REDII targets a share of renewable energy of at least 32% in 2030; however, it contains a clause of possible upwards revisions by 2023 (ibid). In July 2021, the European Commission proposed an amendment to the REDII to deliver the targets of the Green Deal (European Commission, 2021a). This proposal emphasizes that the share of renewable energy needs to be increased by at least 38-40% instead of 32% by 2030 to become climate neutral in 2050 (ibid). As of April 2022, the revised Directive is being considered by the European Council and the European Parliament and is expected to be adopted by the end of 2022 (European Commission, 2021b).

The regulation on the governance of the energy union and climate action introduced the so-called National Energy and Climate Plans (NECPs) in 2018 (European Parliament and European Council, 2018). Member states shall set national contributions to meet the overall EU target collectively (ibid). The national plans shall contain the key areas of energy efficiency, renewables, GHG emissions reductions, interconnections, and research and development (ibid). Member states had to submit their draft NECPs for 2021-2030 to the European Commission until 2018 (ibid). The Commission analysed and assessed the drafts. It is noteworthy that country-specific recommendations were added and published in June 2019 (European Commission, n.d.). The final NCEPs had to be submitted by 2019 (ibid).

Accordingly, the Austrian Integrated NCEP was published in December 2019 (BMNT, 2019). One of the set targets for 2030 is to "Increase the share of renewable energy in gross final energy consumption of energy to 46-50%, and source 100% of electricity consumption from renewables (nationally/balanced)" (BMNT, 2019, p. 13).

The expansion of renewable energy shall be set under the Renewable Energy Expansion Act (EAG - German: *Erneuerbaren Ausbau Gesetz*) (BMNT, 2019). Accordingly, the EAG says that the new construction, expansion, and revitalisation of plants for the generation of electricity from renewable sources must be supported to such an extent that the nationwide total electricity consumption from 2030 onwards is 100% covered using renewable energy sources (balanced) (*EAG*, n.d.). To reach this target, 27 TWh of renewables shall be added to the energy mix by 2030, of which 10TWh shall be added through wind power (ibid). This accounts for 120 wind turbines (cumulative output power of 500MW or 1,2 TWh) that will have to be installed annually (Austrian Wind Energy Association, 2021).

Moreover, by 2040 the share of renewable energy sources in Austria's gross domestic energy consumption shall reach 100%. Therefore, Austria aims to become climate neutral by 2040 (BMK, 2021). In 2020, Austria’s gross domestic energy consumption was 374,4TWh, of which coal, oil, and gas accounted for nearly two-thirds (ibid). Therefore, the targeted climate neutrality requires a shift of approximately 225TWh from fossil to renewable energy sources by 2040. For a more detailed description of Austria’s gross domestic energy consumption see Figure 3 in the next chapter.

2.2. Wind energy in Austria

Austria generates more than one-third of its primary energy sources domestically; The rest is imported (BMK, 2021). Oil, gas, and coal make up the vast share of energy sources imported to Austria (ibid). The percentage of renewables in Austria's primary energy *production* is close to 85% (ibid). As shown in Figure 2, biogenic energy sources and hydropower make up most domestic primary energy production. The shares of wind, solar, and ambient heat are increasing, and oil and gas shares are decreasing steadily (ibid).

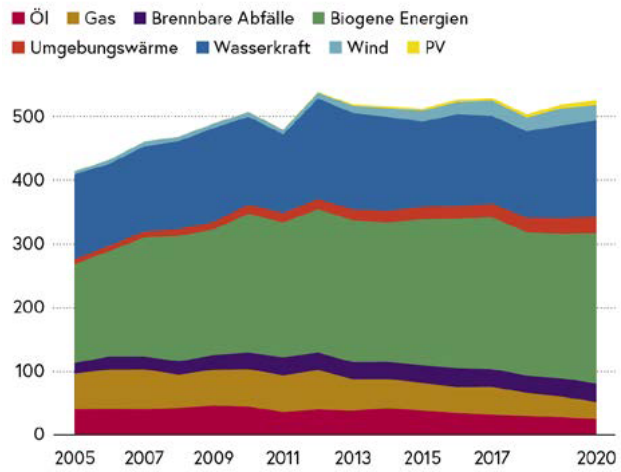

Figure 2 Domestic primary energy production for Austria according to energy source in PJ (2005- 2020) (BMK, 2021, p. 14)

Translation: *Öl - oil, Gas - gas, Brennbare Abfälle - combustible waste, Biogene Energien - biogenic energies, Umgebungswärme - ambient heat, Wasserkraft - hydropower, Wind - wind, PV - solar*

However, as shown in Figure 3, fossil energy sources account for most of Austria's gross domestic energy *consumption* (BMK, 2021). The target to become climate neutral by 2040 requires Austria's gross domestic energy *consumption* to be sourced from 100% renewables (ibid).

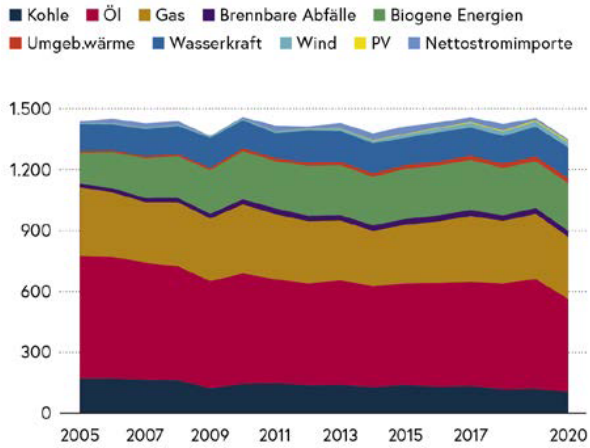

Figure 3 Gross domestic energy consumption by energy source in Austria (2005 - 2020) (BMK, 2021, p. 12)

Translation: *Kohle - coal, Öl - oil, Gas - gas, Brennbare Abfälle - combustible waste, Biogene Energien - biogenic energies, Umgebungswärme - ambient heat, Wasserkraft - hydropower, Wind - wind, PV - solar, Nettostromimporte - net electricity imports*

Regarding the generation of electricity, Austria committed to generating 100% of electricity from renewable sources by 2030 (BMK, 2021; *EAG*, n.d.). In 2019, the share of renewables in domestic electricity production was 77% (BMK, 2021). As shown in Figure 4, hydropower generates more than half of Austria's electricity (ibid). However, wind and solar energy share is increasing steadily (ibid).

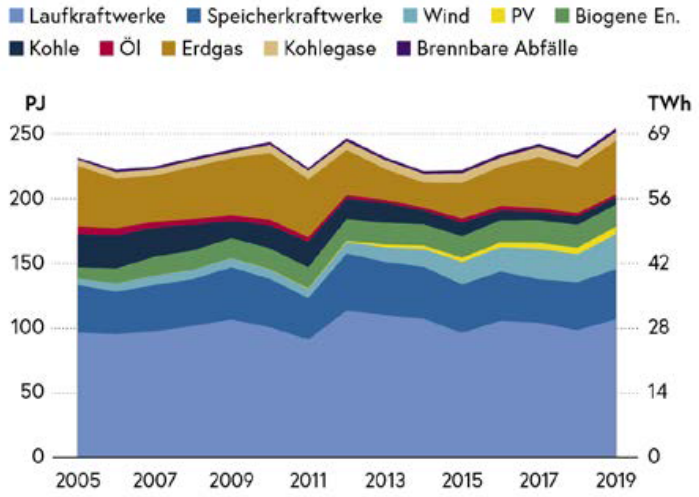

Figure 4 Gross domestic electricity production in Austria in PJ (left scale) and TWh (right scale) (2005 - 2020) (BMK, 2021, p. 16)

Translation: *Laufkraftwerke - run-of-river power station, Speicherkraftwerke - storage power stations, Wind - wind, PV - solar, Biogene Energien - biogenic energies, Kohle - coal, Öl - oil, Erdgas - natural gas, Kohlegas - coal gas, Brennbare Abfälle - combustible waste*

In 1994, the first wind turbine was connected to the grid in Austria (Austrian Wind Energy Association, 2021). In 2002 the expansion of wind power really took off as the first Green Electricity Act regulated electricity generation by wind turbines (ibid). Figure 5 shows that the first expansion phase was from 2002 to 2006. However, Austria missed out on international efforts to push electricity generation from wind energy from 2006 to 2009 (ibid). The expansion of wind turbines accelerated once again in the year 2012. The Green electricity act provides wind turbine subsidies by fixed feed-in tariffs for the first 13 years of operation (Austrian Wind Energy Association, 2021; *ÖSG 2012*, n.d.). These framework conditions made further expansion of wind power possible (Austrian Wind Energy Association, 2021). In this second expansion phase, wind power output doubled in four years (ibid). As a result, wind energy contributed to almost 10% of Austria’s electricity generation in 2019 (BMK, 2021).

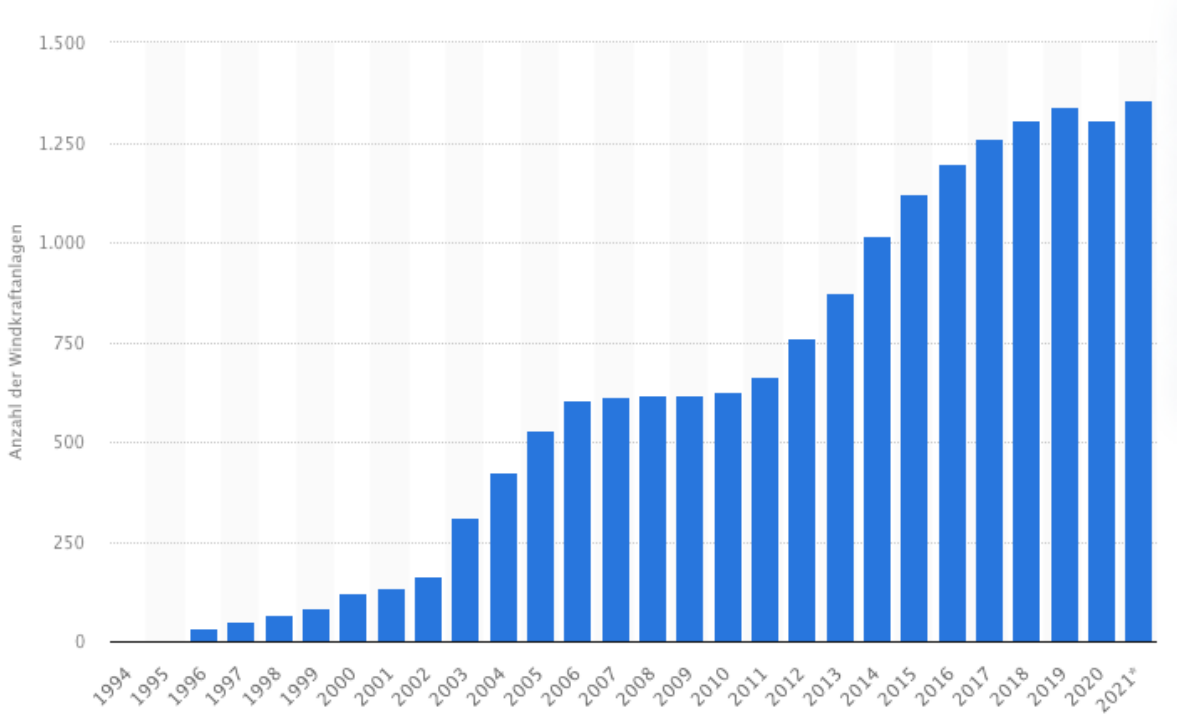

Figure 5 Numbers of wind turbines installed in Austria (1994 – 2020 and forecast for 2021) (Hezel, 2021)

Translation: *Anzahl der Windkraftanlagen – number of wind turbines*

However, the distribution of wind turbines across Austria's federal states is highly concentrated (Austrian Wind Energy Association, 2020). At the end of 2021, 1307 wind turbines were installed in Austria (Austrian Wind Energy Association, 2021). The largest shares are in the federal states of Lower Austria (55,4%) and Burgenland (33,4%) (ibid). Lower Austria housed 724 wind turbines with a cumulative power of 1.699,5 MW and Burgenland counts 437 wind turbines with a cumulative power of 1.103,7 MW (ibid). These two federal states are followed by Styria (8,0%) (105 turbines, 261,2 MW), Upper Austria (2,3%) (30 turbines, 47,3 MW), Vienna (0,7%) (9 turbines, 7,4 MW) and Carinthia (0,2%) (2 turbines, 1,3 MW) (ibid). As of April 2022, no wind turbines are installed in the remaining federal states of Salzburg, Tyrol, and Vorarlberg (ibid). The outlook to the year 2024 of the Austrian Wind Energy Association (2020) proposes a similar trend regarding the distribution of wind turbines across federal states: 85% of planned wind turbines will be erected in only two federal states, namely Lower Austria and Burgenland (ibid).

As depicted in this chapter, reducing CO_2 emissions from the energy sector is key to averting the worst effects of climate change (IEA, 2021). Accordingly, the European Green Deal aims to decouple resource use from economic growth and reach net-zero CO_2 emissions by 2050 (European Commission, 2019). To collectively meet this overall target, Austria committed in its NCEP to source 100% of its national electricity consumption from renewables by 2030 (BMNT, 2019). Moreover, Austria shall become climate neutral by 2040 by increasing the share of renewable energy sources in gross domestic energy consumption to 100% (BMNT, 2019). However, as of 2020, coal, oil, and gas account for nearly two-thirds of Austria's gross domestic energy consumption (BMK, 2021). Therefore, reducing this share to zero within two decades poses a significant challenge.

The percentage of renewables in the domestic energy production is 85%, whereas wind and solar are steadily increasing (BMK, 2021). Currently, the location of wind turbines across Austria is very concentrated in two federal states (Lower Austria and Burgenland).

2.3. The framework of the planning process for a wind power project in Austria

To be granted administrative authorization to install wind turbines, the wind park operator needs to execute a permitting procedure. This permitting procedure depends on the characteristics of the planned wind park. In principle, the distinction lies between the concentrated and the individual procedure (Land Oberösterreich, 2021). When at least one of the following criteria is met, a concentrated procedure according to the environmental impact assessment (EIA) UVP-G 2000 (*UVP-G 2000*, n.d.) needs to be executed:

- Wind park generates a total output of at least 30 MW
- Wind park consists of at least 20 turbines, with each turbine having a rated output of at least 0,5 MW
- Wind park is planned at an altitude higher than 1.000 meters above sea level with a total output of at least 15 MW or consisting of at least ten turbines with each turbine having a rated output of at least 0,5 MW
- Wind park is planned in Category A nature conservation area with a total output of at least 15 MW or consisting of at least ten turbines with each turbine having a rated output of at least 0,5 MW

Should none of these criteria apply, all wind parks need to acquire notice in an individual procedure. Therefore, a permit must be obtained individually in each subject area, whereas the EIA treats every subject area in one concentrated procedure (Ökobüro, 2021). The following subject areas are covered: Building law, regional planning law (zoning), electricity law, nature conservation law, aviation law, and environmental impact assessment law (ibid).

For the project of interest in this thesis ("Project X" see chapter 2.3.2), a concentrated procedure was executed as at least one of the above-described criteria was met. Therefore, the wind turbine operator of the wind energy project of interest needed to execute an EIA assessment. To better understand the planning and development process of Project X, the EIA assessment is elaborated on in the next chapter. Special emphasis is given to opportunities for public participation during the EIA procedure.

2.3.1. Wind park permitting procedure according to the Environmental Impact Assessment

An EIA aims to assess the project's effects on humans and biological diversity, land, soil, water, air, climate, the landscape, material and cultural assets, on a professional basis and with public participation. Moreover, EIAs are a tool to examine measures by which possible negative side-effects of the project can be prevented and present advantages and disadvantages of both carrying out and not carrying out the project (*UVP-G 2000*, n.d.).

According to the EIA law, a simplified EIA procedure must be applied for a wind park project that meets one of the above-mentioned criteria. In this simplified procedure, a decision is made using a notice on the approvability of the respective project. The responsible authority is the provincial government according to the project's location (*UVP-G 2000*, n.d.).

Subsequently, an overview of the simplified EIA procedure in Austria according to the environmental impact assessment law (*UVP-G 2000*, n.d.) and Ökobüro (2021) is presented:

First, the applicant can submit documents explaining the concept of the project voluntarily (preliminary process). The EIA procedure is initiated when the project applicant officially applies to the implementation of the EIA procedure. At this moment, all required documents and an environmental impact statement (EIS) need to be submitted. The EIS is the core of the EIA and needs

to be prepared by the project applicant. It contains a description of the project, its alternatives, its (expected) environmental impacts, and a statement of measures to avoid adverse environmental effects.

The project applicant's submitted documents must be available to the public at the local municipality and the EIA authority (provincial government) for at least six weeks. The public needs to be informed about the public disclosure of the project documents via the provincial government's website and local newspapers. The public disclosure must contain the main characteristics of the submitted project, information about the responsibility of the authorities and the obligation to carry out an EIA, the place and time of possible document inspection, information on the right to submit comments, and information on the party status of citizens' initiatives. This information must be accessible online until the process is closed by a legally binding notice. During the six weeks, any person may comment on the project, whereas the comments must be transmitted to the authority.

During the procedure, a summary of the assessment of environmental impacts building on the EIS is being compiled by experts of the different subject areas of which citizens' comments must be considered. This summary does not have to be disclosed publicly but only is distributed to authorities and the project applicant. This summary is the basis for the decision-making of the authority.

An oral hearing must explain the project and allow for the parties and their submissions to be heard. Experts responsible for assessing the subject areas can be questioned, and parties can submit statements. The oral hearing must be announced to all involved parties and made public at the local municipality.

The notice if or under which conditions the project is eligible for admission is issued by a single administrative notice. The notice is built on an integrative assessment of all subject areas and additional permit criteria such as the protection of neighbours or the avoidance of environmental pollution, the EIS, the summary of the assessment of environmental impacts, and the submitted comments. The notice shall contain the reasons for the decision and information on the public participation and the most important conditions and measures that make the project environmentally compatible. The notice shall be issued six months after the EIA procedure was initiated at the latest. The official statement must be made publicly available at the local municipality for eight weeks and the public must be informed.

When the project applicant receives a positive notice, the project can be realized, whereas an acceptance inspection needs to be undertaken before the commissioning of the project.

<u>Public participation during the EIA procedure:</u>

The EIA law differentiates between individuals and parties. Individuals are involved in the process by being informed about the project, being allowed to comment on the application documents and the environmental impact statement of the project applicant, having the right to participate in the public hearing and being informed about the notice.

Parties have additional rights to raise objections, be heard by the parties, inspect documents, take legal action (appeal possibly revision to the Federal Administrative Court (BVwG)) or appeal to the Constitutional Court. Neighbours, citizens' initiatives, and environmental organisations can be granted party status. However, neighbours can only bring up subjective rights (i.e. personal disadvantages due to the project), whereas citizens' initiatives and environmental organizations can claim compliance with all environmental regulations.

For a detailed overview of the requirements to be granted party status, see Ökobüro (2021), pages 29-32.

2.3.2. Project history of “Project X”

As explained in chapter 1, this thesis analyses the planning process of a specific wind energy project in Austria from an ex-post perspective. The focus lies on the opportunities for public involvement in the decision-making process during the project development phase.

This chapter gives a brief overview of critical events of the wind park of interest, which is named “Project X” within the course of this thesis. At this point, it is essential to mention that data that would allow identification of Project X or parties involved cannot be disclosed due to data protection reasons.

Project X is located in the federal state of Lower Austria. Project X has already been realised, i.e. the wind turbines were erected more than five years ago. Project X went through the EIA process in a simplified manner, as described in chapter 2.3.1. The wind turbines of Project X are located in two municipalities (called “M1” and “M2” within the course of this thesis).

Both municipalities organised information events with representatives of the respective wind energy operating company. The municipality representatives aimed to learn about the opinions and possible fears of the citizens. However, protest movements organised by citizens opposing the project occurred. A referendum was conducted in M2 and a narrow majority of the citizens entitled to vote spoke in favour of Project X. As the respective mayor announced the referendum’s result as binding, Project X was built afterwards.

The municipalities and affected landowners receive annual compensation payments from the wind energy operating company for the erected wind turbines.

The Lower Austrian regional planning law required that the wind turbine’s location is never closer than 1200 meters to settlement areas.

Chapter 4 provides more information on the project planning process of Project X according to the perspectives of three involved stakeholder groups.

2.4. Social acceptance as a barrier to further wind energy expansion

This chapter engages with the theoretical conceptualisation of social acceptance. It mainly focuses on the influential social acceptance framework by Wüstenhagen et al. (2007) and analyses the dimension of community acceptance within this framework. The associated terms procedural justice and distributional justice are particularly interesting for the context of this thesis.

2.4.1. Theoretical conceptualization of social acceptance

As shown in the last chapters, there is a strong need for a shift in the energy sector towards renewable energy sources. However, the rated output of RET power plants, especially in the case of wind turbines, tends to be much lower than those of fossil energy plants. Therefore, more individual RET power plants must be installed (Wüstenhagen et al., 2007). Hence, many individual siting decisions must be made (Scherhaufer, 2021). This makes RET and especially wind turbines more visible for everyday citizens than fossil energy resource extraction (Wüstenhagen et al., 2007). Moreover, RET power plants tend to be located closer to the residents of consumers (ibid). It is also important to consider that negative externalities arising in the energy sector tend to be more long-term than the short-term costs of installing RETs (ibid).

Research has shown that even though people may generally support the shift to RETs, they may disapprove of a specific RET project (Frisch and Sokic, 2018; Scherhaufer, 2021; Scherhaufer et al., 2017; Spiess et al., 2015). Therefore, in addition to technological issues, social acceptance of RET projects can become a significant challenge for further expansion (Carlman, 1982; Fournis and Fortin, 2017; Höltinger et al., 2016; Scherhaufer, 2021, p. 202; Scherhaufer et al., 2017; Wolsink, 2013; Wüstenhagen et al., 2007).

Historically, acceptance in terms of expanding wind energy was only considered from the perspective of public acceptance and dealt with by implementing effective communication strategies (Wolsink, 2013). Whereas social acceptance has primarily been neglected (Wüstenhagen et al., 2007), non-acceptance was framed negatively and seen purely as a matter of (non-)education (Wolsink, 2013). Moreover, public acceptance was negatively perceived as a "non-technical factor" (Carlman, 1982). In that way, pilot projects often failed to be implemented due to the inability to deal with local resistance (Wolsink, 2013). This is where the controversies of the NIMBY (Not In My BackYard) debate began (see also later on in this chapter) (ibid).

Carlman (1982) is considered the pioneer of social acceptance studies (Wolsink, 2013). She was the first to study the acceptance of wind power among decision-makers (ibid). Her results suggest that public acceptance is not the only constraint when building wind turbines, but political and regulatory acceptance need to be considered as well (Carlman, 1982). Many academics joined this debate, and the number of studies on social acceptance of wind energy accelerated during this century, especially since 2010 (Busse and Siebert, 2018).

However, Wolsink (2013) argues that the understanding of social acceptance is still limited. Accordingly, Busse and Siebert (2018), who conducted a systematic review on the conceptualization of acceptance, claim that even though many studies have been published, only a few conceptual and theoretical reflections exist. Moreover, they argue that there is no common understanding of acceptance.

One often-cited concept explaining the support for wind energy in general, contrasted by the non-acceptance of local projects, is the already mentioned NIMBY effect (Busse and Siebert, 2018; Devine-Wright, 2005; Wolsink, 2013). This concept suggests that the individual's motivation to resist a specific wind energy project "[...] suggests a degree of selfishness, conservatism, unwillingness to cooperate, or ignorance of environmental issues" (Wolsink, 2013, p. 16). Whereas most of the research done in

this regard does not show evidence for the NIMBY concept, Wolsink (2013) argues that any opposition is repeatedly interpreted in terms of the backyard, especially among developers and policy-makers. According to Busse and Siebert (2018), the NIMBY approach has lost its explanatory power within the scientific community due to its limitations in leaving aside the actual reasons for local opposition and its attribution of questionable human attitudes. Nevertheless, Langer et al. (2017), who conducted a study on which form of public participation citizens preferred concerning wind energy projects, conclude that their results confirm the NIMBY effect.

Busse and Siebert (2018) highlight the importance of differentiating between the often interchangeably used terms acceptance and acceptability by referring to Fournis and Fortins' (2017) considerations. Fournis and Fortin conducted a literature review on the social acceptance of wind energy. They state that social acceptance "[...] is one of the possible results (vs unacceptance) of a complex process of social acceptability." (Fournis and Fortin, 2017, p. 5). In that regard, acceptance can be seen as an everyday term and the outcome of a judgment process (Busse and Siebert, 2018; Fournis and Fortin, 2017).

Busse and Siebert (2018) revealed social acceptance, defined by Wüstenhagen et al. (2007), to be the most cited concept, especially in papers dealing with renewable energy issues. As shown in Figure 6, Wüstenhagen et al. (2007) conceptualise social acceptance by distinguishing three dimensions: socio-political, market, and community acceptance.

Figure 6 The triangle of social acceptance of renewable energy innovation (Wüstenhagen et al., 2007, p. 2684)

Socio-political acceptance takes place on the broadest, most general level. Policies and technologies can be subject to (a lack of) societal acceptance by the public, key stakeholders, and policymakers (Wüstenhagen et al., 2007). *Market acceptance* refers to whether market participants such as investors, consumers and companies in the energy or power technology business (intra-firm) adopt and support a renewable energy innovation (ibid). *Community acceptance* is characterized by local stakeholders' acceptance of specific siting decisions. "This is the arena where the debate around NIMBYism unfolds [...]" (Wüstenhagen et al., 2007, p. 2685). Given the current political and economic developments in the renewable energy sector in Europe, neither socio-political acceptance nor market acceptance are seen as major limiting factors for the further expansion of wind energy (Ellis and Ferraro, 2016). Thus, this study, as well as much other research (e.g. Ellis and Ferraro, 2016; Frisch and Sokic, 2018; Gross, 2007; Langer et al., 2017; Liebe et al., 2017; Spiess et al., 2015; Walker et al., 2010)

focuses on the dimension of community acceptance. According to Wüstenhagen et al. (2007), community acceptance is characterized by 1) procedural justice, 2) distributional justice, and 3) trust.

Procedural justice is characterized by whether all relevant stakeholders can participate in a fair decision-making process, i.e. it is concerned with the decision-making process itself (Gross, 2007). According to Maguire and Lind (2003), the primary principles of procedural justice are the possibility to express one's own thoughts freely and being heard, "[...] being treated with respect by authorities and other participants, perceived lack of bias on the part of authorities, fair treatment of all parties by authorities, and decisions that are responsive to information and that are correctable in the face of new information" (Maguire and Lind, 2003, p. 134). Scherhaufer (2021, p. 263) argues: "At the local levels, citizen participation in decision making, trust in the negotiation process, and transparency are increasingly important." The author further suggests recommendations to enhance procedural justice in decision-making processes regarding RETs. He underlines the importance of early, frequent, and comprehensive information about the RET project to citizens (ibid). He emphasizes transparent communication about the meaningfulness and the possible negative impacts of the RET project. Involving citizens through well-organized participatory processes is at the core of procedural justice (ibid). Further, Scherhaufer (2021) states that authorities should have different versions of the design of a RET project to have leeway for adapting to the interests of citizens and local decision-makers. A way to enhance the quality of such a discussion is to use appropriate visualization tools such as interactive 3D models (Scherhaufer, 2021; Scherhaufer et al., 2017). Scherhaufer (2021) also highlights that commonly facilitated referenda may reinforce polarisation within a community.

Distributional justice refers to how the costs and benefits are shared, i.e. the distribution of outcomes (Gross, 2007). In this context, the study of Skitka et al. (2003) underlines the importance of differentiating between outcome favourability and outcome fairness. The first describes whether the outcome of a decision process affects a person in a rather positive or negative way (ibid). The latter states whether the outcome is perceived as fair compared to individual normative standards (ibid). Compensation payments to the local community affected by a RET project are an essential aspect of distributional justice (Knauf, 2022; Langer et al., 2016; Scherhaufer, 2021). However, payment equity is crucial, as conflicts within a community may arise when some benefit whereas others do not (Langer et al., 2016; Scherhaufer, 2021). Scherhaufer (2017) argues that some impacts of a RET project, like disruptions to the landscape, cannot be compensated financially. Nevertheless, the author also draws attention to possible habituation effects and how the local community can perceive RET installations (e.g. as a symbol for sustainable energy generation) (ibid).

Trust is present when the local community trusts the information and intentions of actors, such as investors from outside the community (Wüstenhagen et al., 2007). Procedural and distributive justice also have a positive impact on the formation of mutual trust between decision-makers and those affected by the RET project (Frisch and Sokic, 2018; Gross, 2007). Walker et al.'s study (2010) on trust in community renewable energy projects found that individuals who trust the project organisers are more likely to support the project and its development process. According to Langer et al. (2017), not sharing all relevant information with citizens as a project organiser may result in a lack of trust. Scherhaufer (2021) emphasizes that the local government is responsible for responding to the fears and worries of citizens and should act as a leader in the planning process of the project.

Lind and Tyler (1988) stated that the extent to which people are satisfied with decisions and support authorities primarily depends on whether or not they perceive the decision-making process as fair (procedural justice) and/or the received outcomes as fair (distributional justice). Therefore, people who seem to be treated fairly will more likely accept decisions resulting from the process and will instead trust the institution responsible for making decisions (ibid). In that regard, the outcome of a decision-making process (the decision) *and* the process itself determine whether people will evaluate the decision to be fair or not (Gross, 2007; Smith and McDonough, 2001). Lind and Tyler (1988) even

argue that people are more interested in the design of the process than the outcomes of the process. In that regard, the so-called *fair process effect* states that "[...] people accept even negative outcomes if the procedure used to arrive at them is fair [...]" (Skitka et al., 2003, pp. 309–310). In contrast to Lind and Tyler (1988), Skitka et al. (2003) conclude that outcome fairness and procedural fairness need to be considered to the same extent. However, the study also shows that if people have a clear *a prioi* understanding of whether an outcome is right or wrong, procedural justice is less critical (Skitka et al., 2003). In contrast, when people do not have a clear moral mandate, they decide based on procedural justice whether they perceive the outcome as fair or unfair (value protection model) (ibid).

This chapter laid down that social (non-)acceptance of RET may limit their further expansion (Carlman, 1982; Fournis and Fortin, 2017; Höltinger et al., 2016; Knauf, 2022; Scherhaufer, 2021, p. 202; Scherhaufer et al., 2017; Wolsink, 2013; Wüstenhagen et al., 2007). Social acceptance issues have been widely neglected, and the debate unfolded primarily in terms of the NIMBY effect (Carlman, 1982; Wolsink, 2013; Wüstenhagen et al., 2007). However, the number of published studies recognising social acceptance, especially in the case of wind energy, accelerated within the past two decades (Busse and Siebert, 2018). Nevertheless, Busse and Siebert (2018) argue that few theoretical and conceptual reflections of the concept exist. The most-cited concept of social acceptance is defined by Wüstenhagen et al. (2007) (Busse and Siebert, 2018). It consists of three dimensions: socio-political, market, and community acceptance (Wüstenhagen et al., 2007). The first dimension considers the (lack of) societal acceptance by the public, key stakeholders, and policymakers and therefore takes place on the broadest level (ibid). The second dimension considers the (non-)support for renewable energy innovation technologies of market participants such as investors, consumers, or power technology businesses (ibid). The third dimension is characterized by the (non-)acceptance of local stakeholders regarding local siting decisions (ibid). Procedural and distributional justice and trust are key influential variables of community acceptance (ibid). As socio-political and market acceptance are not considered main limiting factors for further wind energy expansion in Europe (Ellis and Ferraro, 2016), this study analyses community acceptance by exploring local stakeholders' notions of acceptance of a specific wind energy project ("Project X"). Accordingly, the dimension of community acceptance in the social acceptance framework defined by Wüstenhagen et al. (2007) is used as a frame for analysis. The second framework for analysis used in this study, namely public participation, is laid down in chapter 2.5.

2.4.2. Identified case studies in current literature analysing community acceptance of wind energy projects

The following three case studies are selected to be presented as they contribute to the understanding of community acceptance of wind energy project planning processes as follows:

(1) The study of Gross (2007) used a qualitative research method to analyse procedural and distributional justice principles within a pilot wind park project in Australia. In that way, this study contributes to understanding justice within the dimension of community acceptance in the social acceptance framework by Wüstenhagen et al. (2007). Moreover, it serves as a representative for one of few studies utilising qualitative research on the issue of community acceptance of wind energy projects.

(2) The study of Liebe et al. (2017) used a quantitative research method to determine how citizens value different attributes in the planning process of a wind farm based on procedural and distributive justice criteria, ownership structures, exposure, and revenues. Moreover, it introduces attributes that are important to consider in the planning process of a wind energy project.

(3) Langer et al. (2017) used a quantitative research method to determine how citizens value different attributes in wind energy projects' planning process. Besides this factor, this study is especially interesting in the context of this thesis as it analyses how citizens value different levels of participation in the planning process of a wind energy project (see also chapter 2.5.1).

(1)

Catherine Gross (2007) conducted qualitative empirical research on a wind farm pilot study in Australia. She analysed community perceptions of a community consultation process aiming to evaluate fairness by using procedural and distributional justice principles. The author interviewed 12 local citizens on their perceptions of the consultation process based on a semi-structured interview guideline.

The study results suggest that interviewees perceived a lack of fairness in the consultation process to drive the conflict, ultimately dividing the local community. The interviewed citizens had different opinions about the causes of the lack of fairness. However, the fact that "winners" (e.g. landholders receiving annual income from the turbines being built on their land) and "losers" (e.g. neighbouring landholders having the turbines close to their land but receiving no payment from them) had been created was the main argument of many interviewees as to why the community had been divided. In this context, the "winners" and losers" perceive outcome favourability as more important than outcome fairness. In contrast, those not directly benefitting or losing regard perceive outcome fairness as more important than outcome favourability.

The division of the community is considered a secondary outcome of the consultation process in this study. In this regard, the author highlights the critical finding that procedural *and* distributional justice must be considered. Accordingly, the author developed a community fairness framework (see Figure 7). As shown in Figure 7 the community has been split into seven different categories (winners, losers, moral proponents, moral objectors, neutrals, the silent majority, and the whole community). The perception of fairness is primarily influenced by outcome favourability (distributive justice) for those with vital personal interests in the outcome (first four groups). In contrast, the fairness perceptions of the groups "Neutrals" and "Silent majority" are influenced by outcome fairness (distributive justice) to maintain social wellbeing within the community. Process fairness (procedural justice) is decisive for the whole community only, as a fair process is more likely to result in a fair outcome.

Group affected	Fairness perception influenced by	Primary reason
"Winners"	Outcome favourability (distributive justice)	Personal benefit from positive outcome/decision
"Losers"		Personal loss from positive outcome/decision
"Moral proponents"		Overriding belief in outcome
"Moral objectors"		Overriding belief in outcome
"Neutrals" no strong belief either way "Silent majority" who may or may not have an opinion	Outcome fairness (distributive justice)	Prefer outcome to be fair for everyone in community in order to maintain social well-being
Whole community where fair outcome desired for health of community	Process fairness (procedural justice)	A fair process is more likely to result in a fair outcome

Figure 7 Community fairness framework (Gross, 2007, p. 2735)

Moreover, the results of this study show that principles of procedural justice are essential to confer greater legitimacy on the outcome of the consultation process.

(2)

Liebe et al. (2017) analysed patterns of community acceptance of wind turbines in Poland and Germany. The authors conducted a factorial survey experiment by providing respondents with hypothetical situations in the planning process of wind farms. These hypothetical situations differed in terms of possibilities to participate in the planning process (participatory justice), how the turbines are distributed among different regions (distributional justice), the magnitude of exposure, ownership, and revenues. The five resulting attributes defining the hypothetical situations are the number of turbines, the investor (ownership structure), electricity use (whether generated electricity will be used in the region or being exported), opportunity to participate in planning, tax revenue (used for public or private purposes), and the number of turbines per region.

889 respondents took part in the survey in Germany and 912 respondents in Poland. The results show that (1) overall acceptance levels are higher when citizens have the opportunity to participate in the decision-making process (procedural justice). Moreover, (2) citizens value the possibility of a shared ownership structure among themselves. Also, (3) citizens prefer to use the generated electricity rather than export it. This is especially interesting, as the quality of an electricity supply does not differ according to where it is produced. However, it seems that respondents value "regionalism". Furthermore, (4) smaller wind farms (up to six turbines) are seen as more acceptable than larger ones (15-25 turbines).

Additionally, the study found that citizens living close to many wind farms tend to show lower acceptance levels of new wind turbines. It is noteworthy that the reverse effect, so having fewer wind farms in the vicinity, does not necessarily affect acceptance levels. Moreover, the study indicates that people who have already come in touch with RET plants generally show more positive attitudes towards RET than those not yet exposed to RET in their surroundings.

Considering the results of their study, Liebe et al. (2017, p. 306) emphasize the importance of not thinking "[...] in a dichotomy of 'accept' or 'object'. Rather, different factors seem to affect acceptance levels of wind turbines to a varying extent."

(3)

Langer et al. (2017) conducted a study on citizens' preference for different forms of participation in the development process of wind park projects in Germany. The authors utilised hypothetical choice experiments to let people decide on different projects characterized by different levels of attributes. The attributes were (1) participation, aligned on different degrees of participation based on theories of Arnstein (1969) and Wilcox (1994), (2) the political framework for wind energy and whether it is reliable or not, (3) the distance of the turbines to the place of residence, ranging from 0 to 10 kilometres, (4) the hub height of the turbines, ranging from 60m to >140m, (5) the number of wind turbines, ranging from 1 to >10 turbines, (6) the visibility from the place of residence, ranging from visible up to 1km to up 20km away, and (7) the sound level at the place of residence, ranging from not audible to conversation sound levels (Langer et al., 2017). According to the results of the study, citizens perceive the sound level at the place of residence as most important (27,06% average importance), followed by the distance of the turbines to the place of residents (18,50% average importance), and participation (15,77% average importance). The political framework (12,94% average importance), the number of wind turbines (10,06% average importance), the visibility (9,44% average importance), and hub height (6,23%) were valued less significantly by the 1363 participants of the study.

The participation attribute contained different levels of participation, namely no participation, alibi participation, information, consultation, cooperation, and financial involvement (ranked from lowest to the highest degree of participation according to the authors). The study results show that information was perceived as the most influencing factor for participants, followed by cooperation and consultation. No participation and alibi participation were perceived to be least important, and

financial participation "[...] had less impact on the preference for wind energy projects than we expected" (Langer et al., 2017, p. 68).

All three case studies conclude that the opportunity to participate in the development process of a wind park is important to increase citizen acceptance. However, Liebe et al.'s study (2017) did not investigate different levels of participation, and two attributes were valued as more important than participation in Langer et al.'s study (2017). The effect of numbers of turbines is differently weighted among participants of these two studies. This attribute is a dominating factor in Liebe et al.'s study (2017), in contrast, it ranked lower in terms of relative importance Langer et al.'s study (2017). Relative values of shared ownership structure respectively financial participation (distributional justice) differ among the studies. Whereas Liebe et al. (2017) conclude on the value of a shared-ownership structure among citizens, Langer et al. (2017) conclude that financial participation has less impact. However, it is essential to mention that both studies used different attributes as well as different quantitative methods and had a different research focus. Therefore, the different results are also due to a different methodological approach.

To sum up, the presented case studies highlight the importance of procedural and distributional justice in the planning process of a wind park. Additionally, Gross' study (2007) shows which motives influence fairness perceptions of different actors during the planning process of a wind park.

As already mentioned, the community acceptance dimension in the social acceptance framework developed by Wüstenhagen et al. (2007) serves as a framework for analysis of this study. The next chapter lays down the second theoretical framework on which this study's' analysis builds, namely public participation.

2.5. Public participation and its linkages to energy democracy

This chapter first analyses the concept of public participation by primarily focusing on Daniel J. Fiornio's (1990) considerations. He proposed arguments why taking decisions involving risks should not solely be left to a technical elite. Afterwards, criteria to assess the quality of a participatory approach are discussed. Subsequently, this chapter showcases varying degrees of public involvement by elaborating on the influential ladder of citizen participation introduced by Sherry R. Arnstein (1969). Finally, this chapter highlights the role of public participation in different notions of energy democracy (ED).

2.5.1. Public participation and why it matters

The concept of public participation denotes activities involving, consulting, and informing the public and aims to let citizens have a say in the decisions they are affected by (Smith, 1983). Participants being invited to discuss and co-shape planning decisions can integrate their knowledge and values, ensure democratic decisions, and ultimately lead to shared influence in decision-making processes as well as transforming power proportions in politics (Scherhaufer, 2021). Involving the public in decision-making processes contrasts centralised and hierarchical planning structures and draws on notions of participatory democracy (Scherhaufer, 2021). Involving the public in decision-making is necessary as value judgments have to be made at all stages of a risk management process (Rowe and Frewer, 2000).

Public participation is firmly anchored in the Aarhus *Convention on Access to Information, Public Participation and Access to Justice in Environmental Matter* (Armeni and Anker, 2020; Hartley and Wood, 2005; UNECE, 1998) which came into force in 2001 (European Commission, 2003). The parties of the Aarhus Convention explicitly recognise "[...] that, in the field of the environment, improved access to information and public participation in decision-making enhance the quality and the implementation of decisions, contribute to public awareness of environmental issues, give the public the opportunity to express its concerns and enable public authorities to take due account of such concerns" (UNECE, 1998, p. 2). Therefore, the Convention obliges member states to provide the right of the public to participate in environmental decision-making and links participatory rights to so-called access to justice rights (Armeni and Anker, 2020; UNECE, 1998). "Such access to justice rights are, in legal terms, a tool to enforce the rights of participation and access to information in environmental decision-making as stipulated in the Convention" (Armeni and Anker, 2020, p. 843).

Public participation builds upon democratic ideals such as empowerment, fairness, and democracy as a learning process, enhancing the self-determination and enlightenment of individuals (Scherhaufer, 2021). Citizens are perceived as able to acquire the political competencies needed to participate in decision-making, and participation supports building democratic skills and contributes to legitimising the political system (Fiorino 1990, after Pateman, 1970). In this way, it "[...] has a value and meaning independent from the output of decision making." (Scherhaufer, 2021, p. 259). The participation process depends on the willingness of regional decision-makers to let interested and affected stakeholders take part in the decision-making process (Scherhaufer, 2021). Therefore, there is a need for strong democratic institutions to ensure a shift of power for the benefit of the people (Scherhaufer, 2021) and to rethink our perception of "citizens" and institutions (Fiorino, 1990). In that regard, a lack of political engagement is attributed to failing institutions, not to limited capacities inherent in individuals (Fiorino, 1990)

Fiorino (1990) criticized that standard methods to take risk decisions are oriented in a more technocratic than democratic way. The author opposed the notion that elites (i.e. scientific experts and administrative officials) can make more rational decisions than laypeople by providing three

arguments against this technocratic notion. These three arguments compose the frame of public participation as a critical element of Energy Democracy (see next chapter) (Scherhaufer, 2021).

The first argument is the *substantive argument*. It claims that laypeople can judge risks as cogent as experts. This is due to the assumption that laypeople see problems, issues, and solutions experts may oversee. Moreover, social and political values are recognised by laypeople, whereas experts might miss them (Fiorino, 1990).

Secondly, the *normative argument* states "[...] that a technocratic orientation is incompatible with democratic ideals." (Fiorino, 1990). Therefore, citizens are considered to be the best judge for decisions affecting themselves and to be able to participate in the process of decision making.

The third, the *instrumental argument*, states that the participation of laypeople makes decisions more legitimate and leads to better outcomes. In that way, the broader participation of laypeople enhances a better decision-making process and can incorporate a more diverse range of values into decisions.

According to Fiorino (1990), participation depends on four democratic process criteria based on *normative* grounds. These four criteria should be seen as a continuum (ibid). They are used to assess participatory mechanisms (ibid).

First, the extent to which citizens are allowed to participate in decisions directly in their role as amateurs, not in their professional career roles. This means that not only (elected) representatives or technical experts should be involved in decision-making. In the context of participatory planning of RETs, Scherhaufer (2021, p. 260) adds that "[...] in the ideal case active and empowered citizens are able to raise ideas, beliefs, and attitudes in a trustful atmosphere.", whereas no hierarchy exists. Moreover, the best outcome should be discussed among experts, interested stakeholders, and laypeople. However, Scherhaufer (2021) also emphasized the practical restrictions of a participation process to let everyone take part. Therefore, he proposes to map stakeholders aiming to achieve a good level of representation and reduce social exclusion.

Second, mechanisms can be assessed by the extent to which they allow for codetermination of policies of citizens and authorities (Fiorino, 1990). Therefore, information alone is not sufficient, and participation entails the ability of active co-decision-making and self-determination (Scherhaufer, 2021). Besides that, policymakers need to commit to taking the results of the decision-making process seriously (ibid).

The *third* criterion describes how a mechanism provides the opportunity for direct interaction and exchange over a certain period of time (Fiorino, 1990). In that regard, Scherhaufer (2021) points out that the chance for citizens' involvement often comes only after strategic decisions have already been taken. Thus, the influence of citizens is structurally already limited. Besides timing, the setting of participation is decisive (ibid). Therefore, methods to engage citizens, stakeholders, and the public in the decision-making process differ according to their level of participation (ibid).

Fourth, a mechanism can be assessed by whether it allows citizens to discuss with technical experts and administrative officials on an equal basis allowing them to e.g. shape the agenda and define issues (Fiorino, 1990). Integration of knowledge, experience, and different perspectives can enhance the outcome (Scherhaufer, 2021). However, while experts are required to deliver technical input, participants should have the possibility to interpret and assess this specialist knowledge on an equal basis with experts (ibid). For this purpose, interactive visualization methods can help advance communication quality in the planning process, for instance (ibid).

Rowe and Frewer (2000) also developed criteria to assess public participation methods. Whereas Fiornio (1990) developed the four mentioned criteria within the frame of the normative argument (described above), Rowe and Frewer (2000) took a more pragmatic approach by focusing on the

potential of the method to be accepted by the public on the one hand, and its potential to be executed effectively on the other hand. Their framework is based on two categories for evaluation, namely, *acceptance* and *process* criteria. Acceptance criteria define whether the process of the public participation method is accepted by the public (ibid). Process criteria relate process features responsible for effectively executing the public participation method. Both can further be divided into sub-criteria aiming to address key elements of public acceptance and a well-functioning participation process (ibid). Acceptance criteria contain the representativeness of participants, independence of true participants, early involvement, influence on final policy, and transparency to the public. Process criteria contain resource accessibility, task definition, structured decision making, and cost-effectiveness (ibid).

Several studies in the context of wind energy project planning emphasize the necessity of involving the public in the planning process (Frisch and Sokic, 2018; Gross, 2007; Jami and Walsh, 2017; Janhunen et al., 2018; Langer et al., 2017; Liebe et al., 2017; Scherhaufer et al., 2017; Wolsink, 2007). However, it is recognised that different levels of public involvement exist (Arnstein, 1969; Jami and Walsh, 2014; Rowe and Frewer, 2000; Scherhaufer, 2021). Low levels of involvement are characterized by a one-way flow of information, i.e. top-down communication from scientists to the public (Arnstein, 1969; Jami and Walsh, 2014; Rowe and Frewer, 2000; Scherhaufer et al., 2017). Higher levels of involvement aim to gather input from the public and are characterized by dialogue and two-way information flow and may provide selected citizens with a degree of decision-making authority (Rowe and Frewer, 2000).

Arnstein (1969) proposed the often-cited ladder of citizen participation.

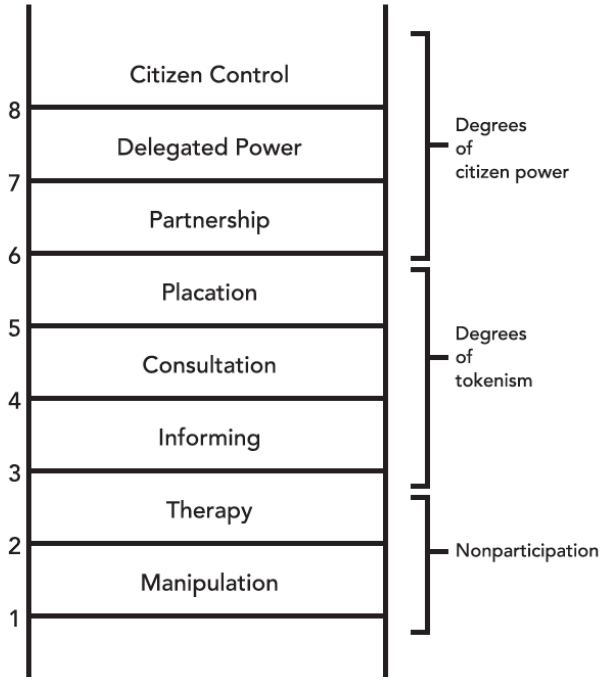

Figure 8 Ladder of citizens' participation (Arnstein, 1969, p. 218)

As shown in Figure 8 the lowest levels of citizen participation are called manipulation and therapy (ibid). According to Arnstein (1969), they are better described as non-participation since they serve powerholders to “educate” or “cure” participants instead of enabling them to engage in decision-making. Levels three and four are called informing and consultation. They are levels of tokenism, as they provide participants with the opportunity to be heard, whereas their voices might not be considered when it comes to decision-making (ibid). Level five, placation, is also considered a degree

of tokenism as the decision-making process is still not open for the codetermination of participants (ibid). Levels six, seven, and eight constitute towards increasing decision-making power, whereas at level six, partnership, citizens are enabled to negotiate and discuss with powerholders. At the utmost levels, delegated power, and citizens control, citizens are enabled to largely decide (level seven) or to have full decision authority (level 8) (Arnstein, 1969).

The International Association of Public Participation (IAP2) (Jami and Walsh, 2014) has further developed the ladder of citizen participation. Figure 9 shows the IAP2 Public Participation Spectrum.

	Inform	Consult	Involve	Collaborate	Empower
Public participation goal	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision, including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
Promise to the public	We will keep you informed	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision. We will seek your feedback on drafts and proposals.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
Example tools	Fact sheets Websites Open houses	Public comment Focus groups Surveys Community meetings	Workshops Deliberative polling	Citizen advisory committees Consensus-building Participatory decision-making	Citizens' Juries Ballots Delegated decisions

Figure 9 IAP2's Public Participation Spectrum (Davis and Andrew, 2017) (The row "example tools" has been added by the Government of South Australia (Australia GoS, 2016) as shown in Davis and Andrew (2017))

Different tools to facilitate the involvement of the public exhibit a varying degree of public participation, ranging from lower to higher levels (Fiorino, 1990; Jami and Walsh, 2014; Rowe and Frewer, 2000). Example tools accompanying each participation level are shown in Figure 9.

The spectrum suggests a path from lower to higher levels of participation and power distribution from the decision-making authority to the public. As Arnstein's ladder also proposes, the lowest level of participation, namely *informing*, is characterized by a one-way information flow. This level aims to provide information to the public, which helps to understand the issue. The *consultation* level seeks to attain comments and concerns from the public (IAP2, n.d.), whereas the power of decision-making lies within the authority (Jami and Walsh, 2014). The level of *involving* encompasses a direct exchange

between the public and the decision-making authority to make sure that the public's concerns are understood correctly (IAP2, n.d.). Nevertheless, the decision-making power is still in the hands of the authority (Jami and Walsh, 2014). *Collaborating* is defined by seeking for the public's advice and encompasses partnering with the public in formalizing solutions (IAP2, n.d.) The highest level, *empowering,* means that the decision-making authority is entirely shifted to the public (IAP2, n.d.).

Despite similarities between Arnsteins' ladder of citizens participation (1969) and the IAP2 spectrum (IAP2, n.d.), there is one significant difference between the two (Davis and Andrew, 2017). "The IAP2 approach is largely based on rationalism (planning and strategy), while Arnstein's Ladder supports a critically pragmatic approach based on reflection and assessment of actual outcomes." (Davis and Andrew, 2017, p. 1). In other words, the rationalist approach focuses mainly on minimizing risks by proposing strategies, assigning goals for a process, and suggesting how the process can be carried out (ibid). In contrast, the critically pragmatic approach focuses on a more holistic view based on desired outcomes in a broader socio-technical system (ibid). It assesses outcomes and categorises actual participation (ibid).

Further, critical pragmatism appreciates different forms of knowledge, ranging from scientific to local knowledge (Forester, 2013). It aims to encourage a learning process by identifying different interests and values by bringing new, unexpected issues into view (ibid). Thus, the critically pragmatic approach which underlies Arnstein's (1969) ladder of citizens participation (Davis and Andrew, 2017) can complement notions of ED (see next chapter) and public participation, which build upon empowerment (Feldpausch-Parker et al., 2019) and the normative commitment to active participation of citizens (Fiorino, 1990).

As laid down in chapter 1, the objective of this thesis is to analyse notions of community acceptance by the extent to which public participation principles were considered during the planning process of an already commissioned wind park in Lower Austria (Project X). The four public participation criteria proposed by Fiorino (1990) are a well suited framework for analysis as the underlying normative argument aims to preserve democratic ideals.

Citizens' participation in energy decision-making is also an integral part of varying notions of energy democracy. The next chapter provides an overview of this concept.

2.5.2. Energy democracy

The origins of the concept of Energy Democracy (ED) can be found in social movements addressing climate and economic crises, demanding a transition from fossil fuels to renewable energy (Burke and Stephens, 2017), and seeking to have a more significant say in energy-related decision making, ultimately striving for a democratisation of the energy system (Feldpausch-Parker et al., 2019; Szulecki and Overland, 2020). Climate change, market changes, and technological progress are considered the main drivers of the demand for ED (Szulecki and Overland, 2020). Rooted in activism, the concept only began to gain scholarly attention only in the most recent years (van Veelen and van der Horst, 2018; Williams and Sovacool, 2020), whereas the inter-and transdisciplinary network of ED aims to be at the nexus of social movements and academic research while continuously influencing each other (Feldpausch-Parker et al., 2019). Accordingly, research on ED aims to be responsive, proactive, and in exchange with activism (ibid).

The conception of ED differs among advocates and scholars of the North American and the European school of ED (Szulecki and Overland, 2020). Therefore, the concept of ED remains somewhat flexible, missing a clear demarcation and allowing for different interpretations among practitioners (Angel,

2016; Szulecki, 2018; Szulecki and Overland, 2020; van Veelen and van der Horst, 2018). The following describes main characteristics of both schools of thought. Afterwards commonalities are derived.

According to the North American understanding of ED, "Energy democracy goals include a shift to 100% renewable energy sources in ways that resist the dominant fossil-fuel energy agenda, reclaim social and public control over the energy sector, and restructure the energy sector to better support democratic processes, social justice and inclusion, and environmental sustainability" (Burke and Stephens, 2017, p. 37). While energy systems need to be addressed at the core of climate change adaptation and mitigation policy debates, ED advocates argue that a change of the energy system opens up "[...] an unprecedented opportunity to experiment with new forms of participation and governance" (Feldpausch-Parker et al., 2019, p. 1)

Feldpausch-Parker et al. (2019) propose ED to be at the juncture of 1) *justice*, 2) *participation* and 3) *power*, whereas they underlie an inherent tension between individualistic (e.g. local) and collective (e.g. national-level) action. The understanding of 1) *justice* is rooted in the social and environmental justice movement (Feldpausch-Parker et al., 2019). The fundamental question asked is who benefits from energy transitions (ibid). The aim is to use procedural and distributional justice principles (see also chapter 2.4.1) to propose solutions to tackle and adapt to climate change and foster the energy transition (ibid). Moreover, it is recognised that climate injustice disproportionally affects those populations that are already under-resourced and marginalised populations (ibid). ED recognises many different forms of 2) *participation*, whereas, at the core, they seek to provide workers, communities, and the public to be heard in decision making (ibid). Feldpausch-Parker et al. (2019, p. 4) highlight that "research on conventional forms of public participation in environmental decision-making focuses mainly on exposing the flaws of public hearings and public meetings, revealing them to be Decide-Announce-Defend (DAD) models that present only a guise of participation and deliberation." Therefore, ED seeks to go beyond these forms of participation and encourage an actual vote of affected communities early and continuously during energy decision-making processes (Feldpausch-Parker et al., 2019). Finally, 3) *power* is described by capacities to act or not act freely (Feldpausch-Parker et al., 2019). Feldpauscher et al. (2019) refer to two conceptions as especially relevant to thinking about ED. First, power as hierarchical power exercises over others (ibid). Secondly, power as the capacity to act. Using resources and rules to perform pressure on a system underlies both perspectives (ibid). Accordingly, Arnstein (1969, p. 24) states: "[...] participation without redistribution of power is an empty and frustrating process for the powerless. It allows the powerholders to claim that all sides were considered but makes it possible to benefit only some of those sides. It maintains the status quo."

Further, advocates of ED criticize conceptual frameworks for the energy transition that miss accounting for the socio-political context and aim to reposition it to the starting point for investigating sustainable energy transitions (Feldpausch-Parker et al., 2019). Technical knowledge and feasibility are seen as only part of a complex technological, social, ecological, political, and cultural system (ibid). Accordingly, Angel (2016), who argues within the European tradition of ED, highlights that the debate around a shift of the energy system mainly takes place within scientific questions, whereas its political content is left aside.

Following the European notion of ED, Szulecki (2018, p. 35) proposed to recognize ED "[...] as an ideal political goal, in which the citizens are the recipients, stakeholders (as consumers/producers) and account holders of the entire energy sector policy." Moreover, he states that "Governance in energy democracy should be characterized by wide participation of informed, aware, and responsible political subjects, in an inclusive and transparent decision-making process relating to energy choices, with the public good as its goal. To create and safeguard civic empowerment and autonomy, high levels of ownership of energy generation and transmission infrastructure through private, cooperative or

communal/public means are necessary" (2018, p. 35). According to this proposed definition, ED encompasses 1) democratic popular sovereignty, 2) participatory governance, and 3) civic ownership (Szulecki, 2018).

Kunze and Becker (2014) draw from German activist notions of ED as a basis for their academic understanding of ED. Thus, ED encompasses 1) democratisation and participation, 2) property, 3) surplus value production and employment and 4) ecology and sufficiency (ibid). 1) Democratization and participation imply that "[...] the greatest number of people directly affected by a project should hold as large a power of initiative and decision-making as is possible" (Kunze and Becker, 2014, p. 9). Within the area of 2) property, the authors emphasize the need for a new form of public and state ownership', whereas "[...] energy production, distribution, and consumption should therefore be regulated in a collective, political and public form [...]" (Kunze and Becker, 2014, p. 9). Within 3) surplus value production and employment, the authors argue that RET such as wind turbines and solar panels allow for local surplus-value production as they produce energy without incurring running costs. Moreover, they highlight the employment potential of RET. Finally, within the area of 4) ecology and sufficiency, the concept of post-growth is introduced. It "[...] prioritises people and the planet over capitalism" (Kunze and Becker, 2014, p. 10), involves a logic of meeting the needs, instead of profit maximization, and "[...] values self-sufficiency as a new form of the good life" (ibid). Additionally, the authors address the potential negative side-effects of renewable energy plants on biodiversity and highlight the importance of animal, plant species, landscape, and ecosystem conservation.

Szulecki and Overland (2020) identify three different understandings of ED in their conceptual review on ED. According to the authors, ED can be perceived as a process (and a movement), which is especially inherent in the North American notion of ED, an outcome (a rearrangement of social relations based on a changed energy system), and a goal, to which people can aspire (but which is unlikely to be reached quickly) (ibid).

As already mentioned, there is no single defined conception of ED. However, some characteristics are inherent in all different conceptions of ED, no matter how diverse they are. Proponents of ED demand a shift from the fossil-fuel-based system towards an energy system based solely on renewable energy technologies (RET) (van Veelen and van der Horst, 2018). The restructuring of the energy system shall offer the opportunity to restructure societal, political, and energy systems based on top-down decision-making processes, social injustice, and environmental damage. Accordingly, the electricity system, economy, and society should become more inclusive, equitable, and low in carbon (ibid). Within this transformation, local communities shall have a larger say in decision-making processes and obtain a larger share of political power and ownership of energy generation and transmission infrastructure (ibid).

Accordingly, a key normative criterion underlying ED claims is that people should be able to participate and have a say in the decisions they are directly affected by. Following this thought, it turns out that technical feasibility is not the only decisive part of decisions to be made to transform the energy system (Angel, 2016). To some extent, it also presupposes a different understanding of citizens. Members of local communities are seen as enlightened citizens who are interested and willing to participate in decision-making processes (Fiorino, 1990). This in turn implies a bias of members having resources to participate in such a process. When considering the aim of representative and just decision-making, all, or at least the largest possible share of potentially affected community members is required to take part. Thus, targeted mapping of a representative share of affected citizens is necessary (Scherhaufer, 2021). However, everyone and especially those under-resourced can take part in decision-making implies a restructuring of underlying social constraints. This obviously goes far beyond the siting process of a RET plant and showcases how far the claim of participation and justice reaches which is also the ultimate demand of ED proponents.

To conclude, according to Szulekci and Overland (2020, p. 10), "[...] it cannot be taken for granted that more energy democracy equates to better and faster decarbonisation, energy access or societal wellbeing." Instead, following it may have hard-to-predict and counterintuitive effects that do not follow the intentions of activists and planners. However, Scherhaufer (2021) emphasizes that a participatory process containing the normative commitment to a fair, just, and transparent process is reason enough from an ED perspective, irrespective of the outcome of the process.

As discussed earlier in this chapter, empirical studies on local acceptance of wind energy show that acceptance levels of citizens are likely to be influenced by the extent citizens had the opportunity to participate in the project development process (Gross, 2007; Langer et al., 2017; Liebe et al., 2017). However, participation cannot be seen as an easy cure for all opposition because public participation implies a range of different participation gradients. Using some of them might not even intend to consider deliberations of citizens (Arnstein, 1969). Therefore, the intentions of participation and choosing an appropriate method are decisive. Participation alone does not imply that citizens feel that their needs and opinions are appropriately taken into account (Scherhaufer, 2021; Smith and McDonough, 2001). Whether citizens are satisfied with and support decision outcomes or not relies on their perception of a fair decision-making process and a fair outcome (Gross, 2007; Skitka et al., 2003; Smith and McDonough, 2001). There is no guarantee that involving the public in decision-making necessarily leads to better results, nor does it necessarily lead to a consensus (Fiorino, 1990; Scherhaufer, 2021). However, participatory planning does not seek to convince people to accept something that counteracts their beliefs and preferences (Scherhaufer, 2021). As Wright (2012, p. 13) recognises: "Participatory mechanisms can increase acceptance for local wind projects, but the primary motivation for increasing participation must not be the removal of opposition. Instead, in democratic society participation of local host communities in environmental decision-making is morally justified in its own right."

3. Material and Methods

This thesis analyses the development process of a wind energy project (Project X) in terms of public participation criteria. The gaps and differences between the "ideal" wind park development process based on normative criteria and the actual planning process of an already commissioned wind park in Austria (Project X) are analysed. Accordingly, this study was conducted in a case study design. The research process of this thesis is characterized by five phases, as illustrated in Figure 10.

Phase 1 contains the literature review which is described in the previous chapters. It encompasses an exploration of the research field by reviewing the literature on 1) the need to decarbonise the energy system and the role of wind energy in achieving international and national renewable energy targets (chapter 2.1), 2) wind energy in Austria (chapter 2.2), 3) the structure of the wind turbine permitting process in Austria (chapter 2.3) and basic data about the project of interest (Project X) (2.3.2), 4) barriers of further wind energy expansion and the concept of social acceptance of RET (2.4) and 5) the role of participation and justice which are a decisive factor for the social acceptance of RET (2.5). Phase 1 delivers the frame to conduct the empirical research of this study. Moreover, it delivers the theoretical grounds for answering research question Q1 by describing normative criteria in the context of public participation (chapter 5.1).

Phases 2, 3, and *4* survey Project X's planning and development process from the viewpoint of different stakeholders. It is essential to account for their manifold opinions, attitudes, motives, behaviours, and expectations for a comprehensive analysis. As guided interviews allow for an open interview situation that brings forward the different viewpoints of interviewees (Flick, 2019), this method was applied. Accordingly, semi-structured guided interviews were held with two project managers (PMs) and the communication manager (CM) of the wind energy operating company (phase 2), four political representatives of both wind park municipalities (M1 and M2) (phase 3), and nine citizens of the wind park municipalities (phase 4). A qualitative content analysis was used to evaluate the interview transcripts. Chapter 4 describes the findings of the interviews. These findings were utilized to answer research question Q2 in chapter 5.2. More details of phases 2, 3, and 4 are provided below.

Phase 5 synthesises the findings of the previous phases to answer research question Q3. Thus, possible gaps and differences between the ideal planning process according to normative criteria identified in *Phase 1* and the actual planning process of Project X according to the three perspectives identified in *Phases 2*,*3* and *4* were assessed in chapter 5.3.

The following pages describe the empirical part (phases 2, 3, and 4) of this study.

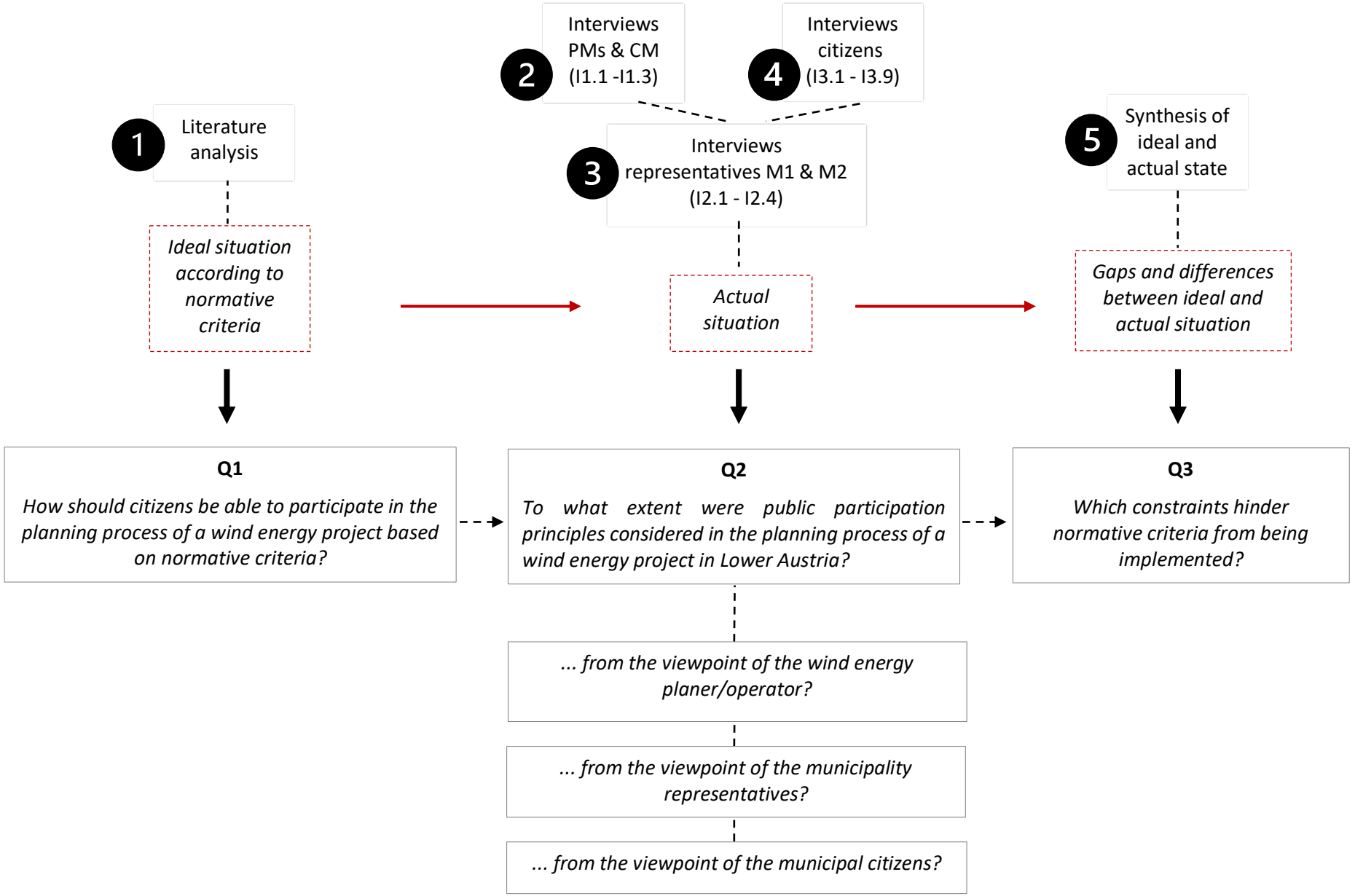

Figure 10 Research phases of this thesis (own illustration)

Phase 2: Interviews with PMs and CM of the wind energy operating company

The objective of phase 2 was to analyse and evaluate the practices of the wind energy operating company during the development process of Project X. Accordingly, the two project managers (PMs) (I1.1 and I1.2) and the communication manager (CM) (I1.3) of Project X were chosen to be interviewed for I1. These three interview partners were the only ones already determined at the beginning of the study. They were expected to meet the criteria of good informants according to Morse's understanding (1994) and are considered primary selection (Morse, 1994). The chosen interview type was a guideline supported expert interview according to Meuser and Nagel (2009).

The interview guideline used for the expert interviews contained open questions related to operational knowledge and contextual knowledge (Meuser and Nagel, 2009). The first, as the experts were the ones who developed and implemented the main aspects of the development process of Project X, the latter because the experts gained insights about the dynamics of citizens and representatives of the municipality.

The thematic main categories of the interview guideline were (1) Approach of the wind energy operating company to the project development process of Project X, (2) Perceived reactions of the community citizens to the project development process of Project X, (3) Limits of citizens' participation in the project development process of Project X, and (4) Ideal form of citizen participation of any wind park project development process.

To select interviewees for phases 3 and 4, the snowball sampling approach was applied. Accordingly, each interviewee of phase 2 was asked at the end of the interview to recall specific individuals from the municipalities who were particularly active during the planning phase. All three interview partners stated both mayors of M1 and M2 and the vice mayor of M2 as particularly important during the development process of Project X. Besides the political representatives, several citizens of M1 and M2 were also named.

Phase 3: Interviews with the municipality representatives

In *Phase, 3* the mayors of M1 and M2, the vice mayor of M2 and a municipal council member of M1 were interviewed by means of semi-structured guided interviews (I2).

The interview guideline used for the interviews with political representatives of M1 and M2 contained open questions related to the planning process of Project X and the interviewees' conception of a hypothetical wind park with ideal layout and planning conditions. The four resulting thematic main categories were (1) Approach of municipal representatives to the project development process of Project X, (2) Perceived reactions of the community citizens to the project development process of Project X, (3) Financial participation and dedication of the revenues generated by Project X, and (4) Ideal form of citizen participation of a hypothetical wind park project development process.

Similar to I1 as described previously, each interviewee was asked at the end of the interview to recall citizens who were particularly active during the wind park planning process. This undertaking partly laid the foundation for the sampling of interview partners for the next phase.

Phase 4: Interviews with citizens

In *Phase 4,* nine citizens were interviewed by means of semi-structured guided interviews (I3).

The interview guideline used for interviews with citizens of M1 and M2 contained open questions related to the planning process of Project X and the interviewees' conception of a hypothetical wind park with ideal layout and planning conditions. Therefore, the resulting main categories were (1) Approach of the community citizens to the planning process of Project X and (2) Ideal conception of a wind park planning process in the region from the point of view of the community citizens.

An overview of key data of the conducted interviews can be found in Annex A and all three interview guidelines are depicted in Annex C.

Transcription, coding, and evaluation

The transcription system used in this study is based on the transcription system developed by Kuckartz (2008), as it is particularly well suited for the qualitative content analysis. Accordingly, all interviews were transcribed word for word whereas strong dialects of the interviewees were translated into standard German. Where necessary, grammar and punctuation were changed to an extent that ensures readability. Significant, longer breaks during the answers of the interviewee were marked as '(...)'. Agreeing or confirming utterances of the interviewer (such as 'Mhm', 'Aha' etc.) were not transcribed, as long as they did not interrupt the flow of speech of the interviewee. A change in speaker was clarified by a paragraph. Significant vocalizations were described in brackets (for instance '(laughs)'). Phrases used as direct quotes have been translated directly into English

To evaluate the surveyed material this study implemented the content structuring qualitative content analysis (*German: inhaltlich strukturierende qualitative Inhaltsanalyse*) after Kuckartz (2014). Figure 11 provides an overview of the seven evaluation steps. The same procedure as illustrated and described below was applied to research phases 2,3, and 4.

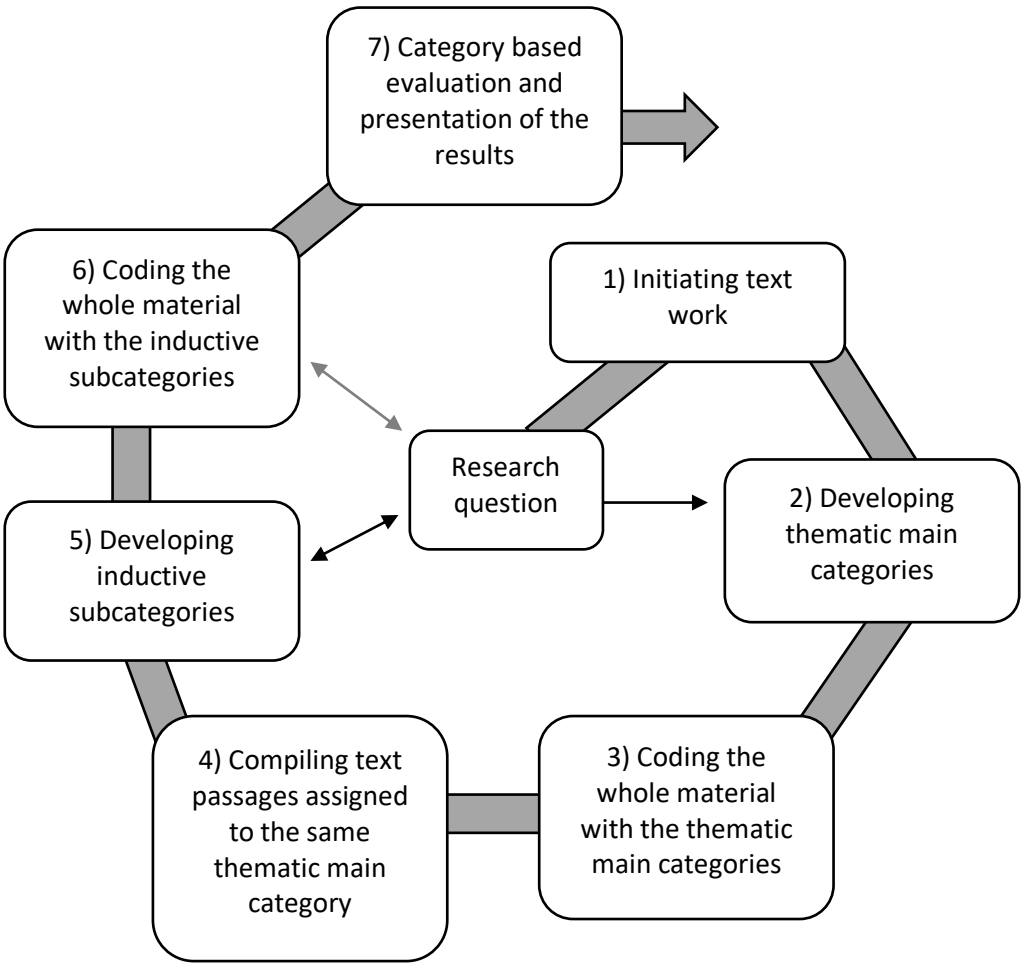

Figure 11 Overview of the evaluation process (own illustration after Kuckartz (2014))

After the interviews were transcribed, they were uploaded to the MAXQDA software. As a next step, the initiating text work started by reading the whole material, highlighting significant passages, and creating memos (1).

Subsequently, thematic main categories were developed (2). First, the main categories of the interview guidelines were used as thematic main categories for the evaluation. However, after coding approximately a quarter of the material, it became clear that the pre-defined main categories were not appropriate for the whole material. This was due to the flexible use of the interview guideline and an interview situation that allowed input of new considerations which were not touched upon in the guideline. Therefore, inductive thematic main categories were developed. After an intensive process of developing and testing categories, four thematic main categories were established for phase 2, and five thematic main categories for phases 3 and 4. As a result and in accordance with an explanatory research design, the material was coded with deductive categories resulting from the theoretical framework and categories derived from the interviews (Mayring, 2005). The categories were tested on approximately forty percent of the material and were subsequently applied to the whole material (3).

In the next step, all text passages coded with the same thematic main category were compiled (*text-retrieval*) (4). Based on the compiled main categories, subcategories were developed and tested once again on approximately forty percent of the material (5). Next, the developed subcategories were applied to the entire material. It is noteworthy that some subcategories were further developed and slightly adapted during the coding process. In certain cases, better wordings for a subcategory were identified and were applied accordingly (6). Finally, the main findings of each category were summarized and described in chapter 4.

Coding examples

The following examples provide an impression of the coding process. An overview of the thematic main categories of phases 2, 3, and 4 can be found in Annex B.

Phase 2 (I1):

One of the PMs of the wind energy operating company articulated the following phrase:

> "That's why it's very simple, you just ask citizens [in a referendum if they want the wind park or not] and we have not yet lost a survey with our company in that sense, because we prepare it accordingly. You just must talk to the people personally, there's no other way." (I1.2)

This text passage was coded with the thematic main category "Citizen participation" as it describes actions to involve citizens in the project development process of Project X. The subcategories of this main category illustrate different forms and levels of participation. Accordingly, the first sentence of the text passage was coded with the subcategory "Referendum", and the second sentence was coded with the subcategory "Information".

Phase 3 (I2):

The mayor of M2 stated the following when asked about compensation payments:

> "It is some money for the municipality. We do not have that many businesses and municipal taxes and everything, so that is good for us. That was always the issue. Then we said, we look at it [the wind park] together, and the income that comes goes into the community coffers and is used again for everything, school, kindergarten, roads and so on." (I2.3)

This text passage was coded with the thematic main category “Financial compensation payments” as it refers to money paid from the wind energy operating company to a stakeholder. The first two sentences were coded with the subcategory “Approach to compensation payments” as they indicate the importance and necessity of compensation payments for the municipality. The third sentence was coded with the subcategory “Use of compensation payments” as it describes how the municipality is investing the received revenues.

Phase 4 (I3):

The following text passage is part of an answer a landowner gave on his wishes for an ideal wind park:

> “Transparency in price and fairness. That's a concern for me because it's been weighing on my mind [...] So a fair payment is very important to me. I also wish, if the old wind farms come away, that one really makes one again, but then the large wind turbines and less of them.”

This statement was coded with the thematic main category “Ideal wind park” as it answers the raised question of what an ideal layout and planning process of a hypothetic wind park would look like. The first three sentences were coded with the subcategory “Planning approach” as they indicate one characteristic of an ideal planning process according to the interviewees’ perception. The last sentence was coded with the subcategory “Layout” as it describes the preference for a wind park layout with less but more powerful wind turbines.

4. Results

This chapter describes the results of the interviews conducted in phases 2, 3, and 4 according to the respective interviewee's perspective.

4.1. Operator's perspective on the development process of Project X

This chapter reports the results of the interviews with the two PMs and the CM of the wind energy operating company (phase 2). The results are described along with the four thematic main categories of the interviews. An overview of these can be found in Annex B.

Project planning approach of the operator

Usually, the first step is to identify especially well-suited areas according to the Lower Austrian wind energy zoning map. However, according to one interviewee, one municipality (M1) actively approached the operator company with the idea to install wind turbines in parts of the municipal area. However, the respective area well-suited for wind energy deployment covers an area belonging to two different municipalities (M1 and M2). Subsequently, the PMs and CM also spoke to representatives, especially the mayor of the other municipality (M2) about whether they were interested in a wind energy project. After a general interest was raised in M1 and M2, the affected landowners in M1 were asked whether they were willing to lease land plots for turbine installation to the operator. It is worth mentioning that affected properties in M1 belong to different citizens (mainly farmers), whereas in M2, the mayor decided to only use properties belonging to the municipality itself as turbine sites.

After the locations were secured, the issue was brought up to the local council and discussed in more detail. At this stage, the question arose about how and when the municipal population should be involved in the process. On the one hand, it seemed decisive to inform them as early as possible. On the other hand, several procedures needed to be taken before being able to start talking about the project. Thus, as described in the next paragraphs, the layout planning was already finished before citizens were informed about the project.

For the layout planning of Project X, several constraints needed to be considered. Thus, nature protection areas, especially those related to ornithology, specific hunting areas, sound and shadow emissions of the turbines, the minimum distance between turbines, to existing infrastructure, and to settlement areas, slope gradients, wind energy zoning of the federal state of Lower Austria, meteorological and economic feasibility studies, and specific landscape disruptions needed to be adhered to. Considering all these issues, the PMs developed a wind park layout for the site location of Project X.

Both municipalities, as well as affected landowners, receive annual compensation payments from the wind energy operating company. Accordingly, the compensation payment sum is split between landowners and the municipality in M1, whereas in M2 the full sum goes towards the municipal budget (as the turbines are located on municipal properties only).

The spatial distribution of wind turbines and the corresponding payments were a critical issue. According to one interviewee, debates emerged as a result of envy between landowners in M1. Only some landowners benefitted from compensation payments, whereas others were left empty-handed. One interviewee mentioned an example to illustrate this problem:

> "If the wind turbine were 50 meters further away, I would get the money, and now the neighbour I don't really like, with whom I've always been at odds anyway, gets it. Then a certain division begins." (I1.1 – [note: the interviewee representing the wind energy operating company described a hypothetical situation]

Moreover, competition between different wind energy operator companies put pressure on the amount of compensation payments necessary to receive lease agreements with landowners. Therefore, the amount operators pay continues to increase according to an interviewee representing the wind energy operating company.

Due to organizational constraints, the possibility of direct financial participation for individual citizens was not given. However, interviewees emphasized the opportunity of municipalities to transparently dedicate annual compensation payments to investments that benefit affected citizens.

Citizen participation

As already mentioned in chapter 2.3.2, information events took place in both municipalities. Additionally, information about the project was published in the local newspapers. The aim of these measures was to inform citizens about the characteristics of the planned project. One interviewee especially highlighted the importance of the setting of information events. According to him, small, market-like stands explaining the different aspects of wind energy in general, and the project specifically should be made. However, he judged a large presentation with a subsequent podium discussion as not well suited which he justified with the following words:

> "When I then have a question-and-answer time after the presentation, one of the opponents of wind power stands up, takes the microphone, and gives his own lecture against wind power" (I1.1).

Thus, small stands should reduce the likelihood of groups forming and their possible negative impacts on the proposed project resulting from this dynamic. However, the presence of actual discussion and debate among citizens and the operator representatives was of utmost importance for another interviewee. According to him, citizens are only able to form an opinion after an extensive discussion has taken place. In this regard, another interviewee highlighted the importance of transparently informing about possible negative side-effects of the wind energy project. Besides informing, two interviewees explicitly emphasized efforts to listen to the needs, ideas, and wishes of citizens.

> "And I think it's our job to try to have a real, honest conversation where I listen to what people's concerns are." (I1.3)

Nevertheless, a group of citizens who were actively opposing Project X formed in M2. To cater to this opposition, two interviewees offered one-to-one discussions to everybody interested. The main intents of the discussions, the information events, and the newspaper articles were to lay down the facts and to inform about Project X. One interviewee described the intentions of the information events this way:

> "[...] it is about communicating the planning principles and why this was done, it is no longer about changing the planning in any way. That must be said quite honestly now. There was no participatory approach to planning, but rather the aim was to provide as much information as possible about why this planning was done. After many discussions with municipalities, with landowners, with the installation situation, with ecology, and of course with the optimisation of the wind farm, a plan emerged, which we then tried to present." (I1.3)

When asked about citizens' opportunity to participate, all interviewees understand this as a process to inform citizens about decisions already taken. One interviewee stated that explicitly addressing citizens during the planning process of a wind energy project has become common only within the

past years. However, as of today, the operator company has a communication team dedicated to informing municipalities and citizens.

The group of citizens who were opposing the project had several claims (see also chapter 4.3). One of them was addressed by M2. The minimum distance of each turbine to the inhabited area was increased from the initial 1200 meters to 1600 meters. One interviewee commented on this decision as following:

> "We agreed to do something, but 1600 meters is a lot for the operator, from 1600 meters to 1200 meters, that's 400 meters. You could imagine a complete row of wind turbines there." (I1.2)

Another interviewee said the following about this compromise:

> "As a result, that was an incredibly big layout influence anyway. And yes, that is of course already an extreme consent to the population, which in my opinion should not really exist." (I1.1)

Nevertheless, due to loud opposition in M2, the respective mayor decided to hold a referendum on whether the wind turbines should be built in the municipal area of M2 or not. The mayor promised the result of the referendum to be binding. One interviewee commented on the referendum as following:

> "And I always say that's a fact, we are in a democracy and then the opponents must also be considered and respected. And if there is a referendum, whatever the outcome, yes, we have to say that it has to be respected by both sides. But it must be clearly clarified in advance under which conditions it will be done." (I1.2)

As described in chapter 2.3.2, approval of Project X received a narrow majority.

Limitations of participation

The main argument why increased participation of citizens during the planning process of Project X was not possible was practical restrictions of the wind park layout. Accordingly, all interviewees argued that lots of (technical) limitations did not make further layout adaptations of the wind park possible. They argued unanimously that these aspects were already considered in the planned layout in advance which made further layout adaptations demanded by opponents not possible. As an interviewee put it:

> "So, you're actually already taking all the points in the project planning into account anyway, but that's not obvious to a layperson." (I1.1)

Besides that, this interviewee, in particular, emphasized the (global) importance of a quick expansion of renewables energies like wind power:

> "In my opinion, wind power, renewable energies, and energy supply are of such great public interest that, unfortunately, we have to overrule regional interests." (I1.1)

Another limitation mentioned was the competitive environment for well-suited sites between different wind energy operator companies. A participatory planning process inherently implies an investment of time and money. However, these two variables were not available in a competitive situation of who gets the best sites. One interviewee voiced the problem this way:

> "The question is, what kind of security do I have? I go to a municipality and start a participatory process. What kind of security do I have that a nice participatory process will be developed, and then at the end, a wind power competitor comes and says, that's great, dear municipality, we'll do it exactly the same way, only you'll get 5.000 euros more per wind turbine." (I1.3)

Moreover, this interviewee recognized that he is not aware of any wind energy project in Austria developed by means of a real participatory process. He also criticized supposed opportunities for participation within the EIA assessment (see also chapter 2.3.1). According to him, this procedure is not geared toward dialogue but rather promotes the development of citizen initiatives that actively oppose projects. He states that the only chance to achieve more participation is to have political framework conditions that promote a participatory planning process and a higher-level institution facilitating such processes.

Patterns of (non)-acceptance

According to two interviewees, the general interest in Project X among citizens was quite low in both municipalities during the project's development phase. Accordingly, one interviewee stated:

> "My credo is always that in every community there are always 10 to 15 percent potential opponents of wind turbines, and 5 to 10 percent potential active supporters. And then there's a very broad remainder that says yes, it's okay anyway, they're not beautiful, I don't care. And the question is, to win such a referendum [as conducted in M2], how do you motivate the large remainder in the middle to go there, because they basically have no motivation to go there. And 10 to 15 percent of the opponents of the project have their own motivation and go there. And that is the big problem with referendums in my opinion." (I1.3)

This interviewee stated that those actively opposing the project were also the ones who were voicing their interests the loudest. What is more, two interviewees highlighted the danger that a few opponents might instrumentalize "silent" citizens to stop the project, which in turn favours polarization within a community. According to an interviewee, citizens who actively oppose wind energy projects continue to better organize themselves across different regions via social media platforms and combat projects more effectively than in the past.

All three interviewees stated that they experienced the NIMBY effect (see also chapter 2.4.1). One of them put it like this:

> "[...] my experience is that there is this big problem, the NIMBY problem. Not in my backyard. That is, the citizen is basically in favour of the expansion of the wind power project. But not in my backyard, let them do it somewhere else. [...] And that's why projects fail or are actually always locally and regionally claimed. That is my assessment." (I1.1)

Accordingly, another interviewee added:

> "[...] but I think that it is always different whether I talk about wind power being important in the abstract or whether I talk about it personally, that wind power is not only important but is also something that can be implemented in my vicinity." (I1.2)

In this context, one interviewee referred to media reporting on wind energy. He argued that despite most people being in favour of an expansion of renewable energies such as wind energy, media reporting is vastly characterized by conflict and opposition. He also mentioned the example of an information event held for a different wind energy project in Lower Austria. He perceived the atmosphere of the event as smooth and friendly, whereas the media reported huge conflicts the day after. Additionally, he stated:

> "But you have to say that the areas [without wind turbines] are getting smaller, the density [of wind turbines] is increasing and the perception in media is a bit different. There used to be a lot more support and feedback and coverage, and I think that's a problem." (I1.3)

The interviewees identified fear of landscape disruption, noise pollution, the regional amount of wind turbines, and nature protection issues as the main arguments brought forward by opponents. One

interviewee suggested opponents were in most cases retired citizens who had a lot of free time and who want to use the stage to express themselves “under the flag of doing something good” (I1.1). Another interviewee reported that he experienced citizens questioning the purpose of expanding renewables as Austria is such a small country and other larger countries are still investing in fossil and nuclear energy.

One interviewee particularly emphasized a general mistrust and dissatisfaction among several opponents. He stated that despite him trying to have an honest talk with opponents explaining why wind energy is important they were against the project “out of principle” (I1.2). Accordingly, he said:

> “Some of the opponents are not even against wind power. There are so many general issues and then there is also this [Project X]. Then it's all thrown into one package and then they’re already against it. Because they [public authorities] are going to run over us anyway and everyone does what they want.” (I1.2)

Additionally, he stated

> “[...] that people don't really know what it looks like outside their front door.” (1.2)

According to this interviewee’s argumentation, some people want to raise their voice and complain about something without necessarily knowing any details or being able to put forward a solid argumentation. In contrast, another interviewee had a different assessment of citizens’ awareness of their direct surroundings. He said

> “[...] that people know very well what their immediate environment is and that protecting the immediate environment is much easier to argue for than the abstract climate.“ (I1.3)

This interviewee’s argumentation claimed the fear of change and the emotional aspect of the immediate (personal) landscape to be the main drivers of opposition to wind energy projects. To combat these fears suggested the following:

> “I think it's a bit in the direction of improving our argumentation and improving our proof, that for things that really concern people, we prove to them really well and comprehensibly that there is no impact. [...] what people are concerned about is that something changes, we can't take that away from them. That if you're really in an area where there's nothing at the moment, where there are no wind farms and then there's a wind farm after that, that there's going to be a change. That something will change there, we simply can't take that away from them.” (I1.3)

4.2. Municipality representatives' perspective on the development process of Project X

Within this chapter, the results of the interviews with the representatives of M1 and M2 are laid down. The results are described in line with the five thematic main categories. An overview of them can be found in the Annex B.

General acceptance of wind power

The two interviewed municipality representatives of M1 emphasized their positive attitude towards wind energy in particular. This is also reflected in the fact that M1 actively approached the wind energy operator with the idea to install a wind park in the municipal area. This area had been used for industrial scale energy generation before. The mayor of this municipality argued that this resulted in a certain understanding of industrial plants within the region. Moreover, both highlighted the urgency for a transformation of the energy system and the need to adapt to new technologies. However, the turbines' effect on the landscape was an important issue for both. One interviewee explained his perceptions this way:

> "But of course, they are not beautiful. No one will argue that these wind turbines are a beautiful thing to look at. But what else can we do? So, if you want the transformation into these forms of energy, you must make concessions." (I2.2)

Therefore, both interviewees stated they had actively pushed the development of wind energy. At the same time, the interviews revealed that the municipal coffer is in urgent need of financial compensation payments stemming from the wind park.

M2 had a less active role in pushing forward the development of wind energy. When asked about his perception of wind energy in general the mayor of M2 immediately referred to the predominantly extrinsic push to install wind turbines in the municipal area. According to him, a wind park would have never been on the agenda if the neighbouring municipality would not have planned one on the municipal border between M1 and M2 (more information on the planning process is described in the next section). Unwanted confrontations with municipal citizens and negative effects on the landscape were the main reasons why the mayor did not want to plan a wind park in M2 previously. The interviewees also highlighted the importance of other forms of generating electricity, as "the wind is not always blowing" (I2.4) and that other regions are responsible for contributing towards generating electricity as well:

> "I think you have to consider the fact that we need electricity. And of course, you can't say that only a few [regions] are doing something, you must divide it up over the whole of Austria." (I2.3)

The interviews with political representatives of M1 and M2 revealed that M2 had a slightly less positive image of wind energy than M1.

Characteristics of the planning process

The mayor of M1 admitted that several concerns about wind turbines from different stakeholders within the municipality existed. The mayor reported that he had visited other municipalities with wind turbines and asked residents about how they were affected by the turbines. According to their feedback, he was expecting few negative side-effects for M1 citizens. After the municipal council politically agreed on a wind turbine operator, there was high engagement to regularly inform citizens about the planning process. Besides that, the mayor developed a twelve-step plan for the development of wind energy in the municipality. The aim of this plan was to provide an instrument by

which objective and inclusive decisions could be made. The following two aspects were included in this plan among others: Ideal locations of the turbines were evaluated together with farmers/landowners, persons authorized to hunt in this area, and neighbouring municipalities (1). An information event for all interested citizens was conducted (2). During this event, the PMs and CM of the operating company presented the project and answered questions raised by citizens.

The mayor especially highlighted his efforts to provide transparent information to citizens and to offer one-on-one discussions to everyone. It was important for him that every citizen had the opportunity to articulate concerns and that the operator provided reliable information to meet these concerns. The aim was to have the majority of the municipal citizens in favour of the project, "otherwise we would not have done it" (I2.1). Though, the main driver to pursuing the project was empty municipal coffins:

> "Of course, we did it for financial reasons, that is quite clear." (I2.1)

(More information on the financial aspects is described in the next section)

According to one interviewee, the planning process of Project X went quite smoothly in M1. The population was well informed and subsequently, the project was quickly pushed through. The only issue was that one landowner did not want to have turbines on his property, so the layout needed to be adapted accordingly. This interviewee also emphasized the importance of a consistently positive attitude of the governing party towards the project. According to him:

> "You have to find a positive environment within your own ranks [i.e. political party] that you can communicate to the outside world, regardless of whether it's in a restaurant, a wine tavern or on the street, where you say that we need this [Project X], that we stand by it and that's what we want." (I2.2)

As already mentioned, initially M2 did not plan to pursue wind energy in their municipal area because the municipal citizens were not in favour of wind turbines. However, as the neighbouring M1 announced the planning of wind turbines on the border to M2, the mayor of M2 decided to keep up and plan turbines in the respective municipal area. The mayor articulated his considerations like this:

> "If they [M1] put the wind turbines on our municipal border then we will of course also put ours there, because if there are already some [turbines], we also want to have a benefit from it. [...] That was our only hook, otherwise, we would never have built wind turbines." (I2.3)

In M2 no landowners had to be asked to rent their land to the operator, as the mayor decided that all turbines should be located on properties belonging to the municipality only. According to the mayor, the advantages of this decision were that no debates of inequality between landowners could unfold as the municipality receives all compensation payments (more information on the financial aspects is described in the next section). The interviewees also highlighted their efforts to inform citizens early, frequently, and transparently about the project. Nevertheless, a citizen's initiative actively opposing Project X formed in M2. Therefore, the mayor initiated a referendum and announced the result as binding. The options to vote for in the referendum were whether the wind park should be built or not under the condition that the minimum distance from each turbine to the settlement area was increased from the initial 1200 to 1600 metres. The interviewees reported that they went from house to house and had lots of talks and discussions with municipal citizens before the referendum trying to persuade them to vote in favour of the planned wind park. These efforts paid off as a narrow majority voted for the wind park. However, the planning process and especially the referendum also resulted in a division of the local community.

None of the two interviewees of M2 could imagine that a different approach to the planning process would have resulted in less opposition from citizens. According to them, they were very transparent and fair during the planning process.

> "To be fair, we always communicated the planning steps [...] And that was also important, that was very important, otherwise we would have suffered a failure anyway. [...] Those who don't want the wind park can't be persuaded. You can prepare 23 different layouts and get I don't know how many specialists to explain it, it won't work. [...] but all needs can't be met, which is why politicians are elected to make decisions." (I2.3)

Financial compensation payments

As already mentioned, both municipalities, as well as landowners in M1, receive annual compensation payments for the wind park. In M1, these payments are split between the municipality and landowners. The landowners receive one third and the municipality receives two-thirds of the total sum. As the wind turbines in M2 are located on properties belonging to the municipality only, the municipality also receives the whole sum of compensation payments.

The mayor of M1 reported that the payments were the main argument to build wind turbines, as the municipality urgently needed money to build a new kindergarten and an elementary school. Therefore, the money is wholly invested in projects that benefit citizens. He also claimed he had publicly announced where the money from the wind turbines would be invested. However, debates of inequality between landowners in M1 unfolded, as many landowners disputed getting turbines on their properties.

To avoid such debates and to benefit even more from payments the mayor of M2 decided that turbines should only be located on properties belonging to the municipality. The mayor of M2 stated several times that the financial income was the only incentive to build the wind park. A similar but slightly different incentive to build wind turbines was reported by all interviewees:

> "Other neighbouring municipalities put it [wind turbines] in front of me without my own municipality getting anything out of it."

Thus, the landscape is already "disrupted" by other turbines for which the own municipality is not financially compensated for.

Perceived feedback from citizens

According to the mayor of M1, the main concerns of citizens were those of noise pollution, landscape disruption, and potential disruption of flora and fauna. During the information event, several citizens raised specific questions about the turbines and specifically their height, the necessity of wind energy, and possible ecological impacts. According to the mayor, a general interest existed among municipal citizens, and open questions could have been resolved. Some questions raised by citizens were also discussed further in the municipal council. However, the disruption of the landscape seemed to be an issue for several citizens. Nevertheless, no group of citizens who actively opposed the project formed in M1. According to the mayor, eighty percent of citizens were in favour of the project, five were against it and fifteen percent were indifferent about it. In contrast, the other municipal representative interviewed reported that he had perceived the general interest of citizens as quite low. According to him, few discussions existed, and the majority of citizens did not care about the project. Moreover, he assumed that the public interest to actively engage in the planning process was not given.

In contrast, there were heated discussions in M2. The main points brought forward by the citizens' initiative were noise and shadow pollution. The mayor also stated that dubious arguments like health risks due to emitted radio waves came up in discussions. Even so, both municipal representatives of M2 highlighted their sound approach towards the wind park and its opposition:

> “We actually treated it sensibly and never said they [citizens initiative] were bad. It's a democracy, then we said let's just do the vote and they were then also very satisfied, only that it turned out like this, they were not satisfied.” (I2.4)

The initiative consisted of several citizens from different backgrounds and was very active, especially before the referendum. This led to a divide within the local community. The crucial question was whether someone was in favour of or against the wind park. According to both interviewees, as of today, noise pollution is still an issue for some citizens of the initiative.

Ideal wind park

This section lays down the responses of municipality representatives when asked about the ideal layout and planning process of a hypothetical wind park. The interviewees argued that an ideal wind park should not be visible in the landscape. Furthermore, one of them stated that citizens should be integrated in the planning process only after an existing, elaborated concept is there:

> “Then, of course, you should honestly go to the population and say to them, this is what we have in mind. But if you do that from the beginning, I think it's too early. You must have something on the table that is ready to go and say, this is our plan. [...] And that is also what politics are for, politics must take responsibility.” (I2.2)

According to him, an earlier involvement of citizens in the planning process is not possible, as the siting of the turbines does not leave many alternatives.

4.3. Citizens' perspective on the development process of Project X

Within this chapter, the results of the interviews with the citizens of M1 and M2 are laid down. The results are described along with the five thematic main categories. An overview of them can be found in the Annex B.

General acceptance of wind energy

Almost all interviewees reported a positive attitude towards wind energy as a good source of renewable energy in general. When asked about his perception of wind energy one interviewee answered:

> "Yes, relatively positive. We all need electricity, and nuclear power is not wanted, gas is not wanted, and coal is not wanted, so we need an alternative. The wind park is certainly a suitable means to this end." (I3.5)

Some mentioned that this form of energy production is best suited for the region as the wind is always blowing. Moreover, regional electricity production was seen as positive by some interviewees. However, without exception, all interviewees expressed concerns about certain negative side-effects wind energy may have locally. The most often used argument was the disruption of the local landscape.

> "At the moment, I would say it is still manageable, but if hundreds of wind turbines were to be added here, it would probably no longer be that ideal. So, I think the opposition in the population would also grow quite a bit." (I3.2)

Accordingly, almost all interviewees expressed concerns about the increasing density of wind turbines in their region. One interview highlighted the beauty and harmony of the landscape now being destroyed by wind turbines. Citizens in M2 especially underlined the noise and shadow impacts of wind turbines. This is not surprising, as most of the interviewed citizens of M2 live close by the turbines and are therefore directly affected by their impacts. The majority of them argued they were generally in favour of wind energy but impacts on residents should be as low as possible. One interviewee even stated that no more wind turbines should be built, and renewable electricity production should be entirely switched to photovoltaic systems. This interviewee expressed a general mistrust toward politicians and wind energy lobbies. Additionally, he argued that wind energy is overfunded and not profitable in itself. He admitted that if wind turbines were to be built, they should be located in sparsely populated areas. However, according to him, transforming the energy system will be an issue in thirty to forty years at the earliest. Another interviewee stated that other countries should also fulfil their responsibility concerning the expansion of renewables and that wind turbines should not be concentrated in one region to such a large extent. Another concern brought forward by one interviewee related to the dismantling of older wind turbines. He argued that the huge foundations of dismantled turbines stay in the ground forever which impacts the flora and fauna of the soil and agriculture on affected plots. A different interviewee questioned the positive energy balance of wind turbines. She emphasized that the great costs and emissions of manufacturing, transporting, commissioning, and dismantling a wind turbine would dwarf the saved costs and emissions of producing electricity.

Characteristics of the planning process

In M1, interviewed citizens expressed a largely positive attitude about the planning process of Project X. This was due to sufficient information measures (information event, articles in local newspaper,

individual discussions) and the possibility to comment and voice criticism. One interviewee remarked positively that specialists from the wind energy operator company answered technical questions during the information event. Nevertheless, some drawbacks of the planning process were identified. One interviewee stated that the planning was solely done by the municipality and the operator which did not make it possible for citizens to have a say. Another interviewee criticized the fact that no information on a larger-scale planning concept of wind energy in the region was provided. The interview with the landowner revealed disputes with other landowners at the beginning of the planning process. She firmly criticized the process in which every landowner held individual and opaque negotiations with the operator about the amount of compensation payments (more information on compensation payments is described in the next section). Moreover, she expressed her discontent about a slight change in the turbines' location which led to the occupation of a larger area of her plot than originally planned. In this regard, she complained about the lack of support from the municipality during the negotiations with the wind energy operator.

Besides that, the interviewees reported that the project planning process went smoothly. As one interviewee stated:

> "There has actually been no opposition on the community's part, so nothing worth mentioning. I can still remember at a discussion, a lady who lives close to the turbine site had concerns about noise pollution or something like that. But they could be dispelled and there were no complaints afterwards." (I3.2)

In contrast, there has been considerable opposition from citizens in M2. This opposition was most loudly expressed by a citizen's initiative which consisted of fifteen to twenty citizens. Among them were mainly residents living close to the wind park site. Three of them were interviewed for this thesis. According to one of them, they met each week to discuss and provide clear arguments against the planned wind park, especially its location. This interviewee argued it was of utmost importance for the initiative to come up with reliable and objective arguments to confront the mayor. The discussions should not be held based on emotions but rather based on facts. However, one interviewee who was active in the citizens' initiative reported that even though they had several discussions with the mayor and could express their concerns, they were not listened to adequately. Moreover, all interviewees stated there was no basis for discussion as all strategic decisions about which turbines should be built in which locations had already been made before they were revealed to the community. Moreover, as the mayor decided that turbines should only be located on properties belonging to the municipality, the layout could hardly be influenced since the municipality did not own many properties suitable for wind energy deployment. Thus, two interviewees of the citizens' initiative criticized this decision, for they were convinced that better locations would have been available if properties belonging to farmers would have been used.

One of the claims of the initiative related to the location of the wind turbines. The initiative demanded a larger distance to residential areas. As already explained in the previous chapter, this demand was partly met by expanding the legally required distance of 1200 meters to an increased 1600 meters. This increase was a compromise, as the initiative wanted to have at least 2000 meters distance.

After the mayor of M2 realized that there was still considerable opposition, he initiated a referendum. This was perceived as fair by all interviewees. One interviewee stated:

> "I thought that [initiating a referendum] was really fair because they could have said, OK we take note of your arguments, but our decision looks like this or that and that's the way it is." (I3.6)

Representatives of the municipality and of the citizens' initiative held lots of personal discussions with community members before the referendum to persuade them to vote in favour of their interests. In this context, two interviewees accused politicians of M2 of threatening community members to vote

in favour of the wind park. According to one interviewee, one person even lost his/her job as a result of his/her stance against the wind park. This could not be verified in the course of the interviews.

As already discussed, a narrow majority voted in favour of the planned wind park. One interviewee stated that she did not even expect such a large number of votes against the wind park as only a few have declared themselves before the referendum. Although the interviewees had obviously hoped for a different result, they claimed to have accepted the result, nevertheless. They met only one more time after the referendum. When asked whether a different planning process by the municipality could have enhanced her acceptance of the wind park, one interviewee clearly stated "yes"; but only because she still believes that better locations for the turbines exist and they could have been identified if citizens would have had a say in the decision-making process.

Two other citizens of M2 who did not engage in the citizens' initiative were also interviewed. Both claimed that decisions had already been made before they were presented to the community. One of them especially criticized the siting of turbines on municipal property only, as these sites are not the best in terms of wind yields. The other interviewee expressed a general mistrust about decisions and plans coming from the municipality, especially when related to changes in the landscape.

Financial compensation payments

As previously clarified, there are two annual monetary flows. The first is from the wind energy operator to both municipalities, and the second is from the operator to landowners in M1. When asked how the municipality uses the regular compensation payments, one interviewee of M1 answered:

> "That goes into the municipal budget. And the municipality processes this within the framework of its municipal budget. So, there are a hundred ways to use it. It has no special dedication" (I3.2)

The interviews revealed dissatisfaction with the share of money landowners and the municipality in M1 receive. Landowners, in particular, argued that those owning the affected plots should receive at least half of the payments (instead of one third):

> "Why does the municipality get two thirds? They dedicate the plot and that is their whole task. The landowner has the concrete block there, he has to drive in circles around the wind turbine [with the tractor while working on the land]. So, I think that the landowner actually deserves much more than the municipality." (I3.4)

Another interviewee stated that he would like the municipality to dedicate the money towards renewable energy and energy efficiency measures in the municipality.

One big issue in M1 was the financial compensation of the landowners. As the annual payments from the operator are much higher than the benefit of agricultural yields that could be produced on the land, several landowners haggled to get wind turbines on their plots. There was no transparency about the amount of payments to landowners, as every affected landowner was bargaining individual prices with the operator. The interviewed landowner strongly criticized this matter, since she still has a negative feelings about it. This is due to the fact that she does not know if her neighbour received a higher payment than her. When asked about the fairness of non-transparent and unequal compensation payments to landowners, another interviewee stated:

> "I believe that transparency will not be achieved, because if everyone sits together and negotiates with them [the operator company], nothing will come of it, I think." (I3.4)

Accordingly, he added that non-transparent payments are only bad for those who did not negotiate properly.

As M2 decided to locate the turbines on municipal properties only, discussions like these did not exist in this municipality. However, several interviewees were critical of their perception that the only reason the municipality came up with the wind energy project was money.

> "For me, it was obvious that they [municipality] really needed the money in advance and therefore they wanted to have that [wind park]." (I3.8)

After the referendum, several organizations such as local farmers and hunters' associations received one-time payments from the operator. One interviewee added that individual citizens did also receive payments from the municipality after the referendum:

> "Many were then rewarded, where you think they were responsible for the positive result [of the referendum]. That made me think a bit." (I3.8)

There were contrasting perceptions about the decision of locating turbines on municipal properties only. On the one hand, interviewees positively noticed that debates of inequality did not unfold due to this decision. On the other hand, more possibilities for locating the turbines on different, better-suited plots (in terms of distance to the settlement area and technical efficiency) would have existed if citizens' plots would have been considered. Moreover, several interviewees stated that they wished for more transparency concerning how the municipality uses the money. None of the interviewees of M2 could say if and for what purpose the municipality set the money aside for. Accordingly, some argued that the municipality should only use the money for projects that directly benefitted the municipal citizens. One interviewee proposed to use the money to hire energy efficiency consultants and invest in solar panels for individual households.

When asked about their interest in financial participation of the wind park, most interviewees expressed a positive attitude, if such a model promised a positive return on investment.

Feedback of citizens

According to the interviewees of M1, there was no opposition to the wind park from the community in M1. Citizens only articulated some concerns about landscape disruption and noise during the information event. These concerns could have been resolved based on facts provided by experts of the operating company. One interviewee stated that citizens were already used to industrial plants in the region. Therefore, concerns about wind turbines were not so significant. Moreover, the community was already indirectly exposed to wind turbines, as many surrounding municipalities had previously installed wind parks. Accordingly, all interviewees agreed that there were no conflicts within the community, besides the discussions and debates of inequalities between landowners (see previous section).

Most interviewees stated that they were sufficiently involved in the planning process of the wind park. Receiving sufficient information and having the opportunity to express concerns was considered as "being involved" or "participating" in the planning process. Besides that, no participation possibilities for citizens existed in M1. However, three out of four interviewees of M1 did not express interest or considered others would be interested in a higher level of participation:

> "Certain decisions have to be made in advance, because someone always gets upset, and too much transparency is not good either." (I3.3)

> "Everyone can't have a say, it [the wind park] has to be profitable, if everyone has a say it won't work." (I3.1)

> "I'm guessing that not a lot of people would be interested in it [taking part in a participatory planning process]. A few... They want to have a say in everything. But if they have some work with it, or would have to think about something more seriously, or would have to participate

> in planning, I think they are also gone. [...] Half of the people [living in M1] do not even know where our municipality begins and where it ends." (I3.4)

In contrast, another interviewee would have been interested in taking part in a participatory planning process. He also expressed the willingness to invest a considerable amount of time into respective meetings. However, he perceived a general disinterest in the planning of the wind park from other community members.

> "There is always a duty to bring and collect. So, the municipality or any operator can offer as much information as they want. If I am not interested, if I do not go to any meetings and do not read anything, then I will not be informed." (I3.2)

Interviewees of M2 expressed more manifold concerns and arguments against the planned wind park. Besides the main issues of landscape disruption and noise pollution, concerns about the location and the size of the wind turbines, impacts on wildlife, depreciation of properties in the vicinity of turbines, and dissatisfaction with the planning process per se were articulated. Among the interviewees of M2 was the regional hunting supervisor who is also the head of the local farming association. He was concerned about increased restlessness of the game due to the rotating blades of the wind turbines. He also stated that game damages in the forest had increased since the wind turbines were installed. This interviewee was not part of the citizens' initiative. Nevertheless, he prepared letters describing the expected impacts of the wind turbines on humans and wildlife and handed them out to all households. In contrast, another interviewee questioned the importance of wildlife protection compared to "residents protection".

> "Of course, the animals and the birds and all sorts of things are also important, but less consideration is given to us residents. With nature protection areas, the railroad passes over it, no wind turbine is allowed to stand there but they put the turbines in front of us." (I3.6)

The citizens' initiative did also take action to persuade others to vote against the planned wind park. Besides regularly holding meetings to gather and discuss facts, the involved citizens visited other wind park municipalities and asked residents about their experiences with wind turbines, prepared press releases, conducted calculations on the expected noise levels from different distances of the turbines to settlement areas, and held many discussions with other citizens and politicians of M2. Moreover, they strongly criticized the visualization drawings the operator company prepared. The aim of these visualizations was to demonstrate what the wind turbines would look like in the landscape scenery. However, according to two interviewees, the scale of the turbines was way smaller than the turbines were expected to look like in reality. Therefore, the citizens' initiative took a creative action:

> "We demonstrated to the people how big they [wind turbines] are and filled a gas balloon, stood in front of the church tower, and let the balloon fly as high as a wind turbine. People couldn't believe it. Never in life will the turbines be so big they said. But then they saw it." (I3.8)

One main criticism of the initiative towards the planning process facilitated by the mayor was the lack of co-determination. The main demand of the initiative was to increase the distance of the turbines to their settlements or to find completely different locations for the turbines. But as the municipality did not own lots of properties suitable for wind turbines, there were few possibilities to change the planned layout according to their claim.

The interviewees stated they had the possibility to bring forward their claims and be listened to by the mayor, but they felt like their claims were not considered sufficiently. Accordingly, one interviewee laid down how she felt after the information event:

> "It was a done deal. What was put in front of us by the operator was not open to discussion. Nothing was allowed. All the arguments we brought forward were immediately shot down.

> And we were told right away that we don't even need to start because we don't have a chance [to stop the project].” (I3.7)

Nevertheless, the fact that the minimum legally required distance of wind turbines to the settlement area was increased by 400 metres demonstrates that their claims were at least partly considered. Even if members of the citizens’ initiative were not happy with the result of the referendum, they expressed their consent of initiating one.

> “I have to say that what I found fair from the mayor was that he said, OK, if there is resistance, then he would like to have that clarified in a vote and depending on the outcome of the vote, the decision will be made, and he kept to that.” (I3.6)

When asked about the actual impacts the wind turbines have on the interviewees as of today mixed feelings were revealed. For some, the impacts are less severe than expected, for others, noise pollution is seen as a severe impact on their quality of life. One interviewee summarised it like this:

> “You have to understand the people. We built our family home there. We have invested all our money and our whole life there in the location. That is a life's work, I invest all my earned money there and that is then destroyed by such a wind turbine ... my quality of life there. You can never convince such a person that a wind turbine is a good thing. Never.” (I3.8)

Ideal Wind park

This section lays down the responses of citizens from both municipalities when asked about the ideal layout and planning process of a hypothetical wind park. All interviewees agreed that a wind park is not beautiful to look at. Therefore, the ideal wind park should not be visible. As this is rarely possible, most interviewees argued that wind turbines should be built in a concentrated way in sparsely populated areas. None of the interviewed citizens preferred a landscape with lots of wind turbines evenly sprawled across it. Opinions on the ideal type of turbine were divergent. Whereas most interviewees preferred fewer, bigger turbines with high power ratings, some interviewees expressed their discomfort when looking at huge “monster”-like turbines. Citizens of M2 additionally stated that the ideal wind turbine does not make any noise or is at least located in a way that does not affect residents. One interviewee of M2 added that the operator company should choose the (technically) best-suited site for the turbines instead of local politicians. The necessity of a just distribution of wind turbines nationally also came up during several interviews. It was also positively attributed that the federal state of Lower Austria issued a wind energy zoning map.

When asked about the ideal planning process of a wind park, the perceptions of interviewees diverged, especially between both municipalities. The tenor in M1 was that the municipality should make decisions with the consultation of experts during the planning process.

> “But not every janitor can have a say, these should be experts.” (I3.3)

Accordingly, citizens of M1 argued that the public should only be involved when a ready-made planning concept is already there. This is partly due to the limited capacity of laypeople to make technical decisions and the lack of interest of most citizens. However, receiving information and being asked about their own opinion about the planning was assessed positively.

In contrast, citizens of M2 demanded a larger say in the ideal planning process of a wind park.

> “Often the citizens know the localities best and can say, yes, it makes sense there and it doesn't make sense there. Therefore, involvement would be quite good, and, above all, the acceptance is of course then also given rather than if they simply say, we build a wind turbine here now, whether you are for or against it is indifferent to us. It is not good if one overrules the local population.” (I3.6)

Accordingly, another interviewee highlighted that the attitude of politicians and the willingness to compromise during the planning process are decisive for the ideal planning process.

Another interviewee emphasized the necessity of a supra-regional energy concept. Within such a concept, multiple forms of energy generation of which wind energy may be one, should be used. He also criticized large-structured energy systems and pleaded for more small-scale regional energy production and use.

5. Discussion

This study aims to identify normative criteria in RET planning and to contrast them with the planning process of a wind energy project in Lower Austria (Project X). This chapter answers the research questions and proposes practical implications.

To answer the first research question (*How should citizens be able to participate in the planning process of a wind energy project based on normative criteria?*) normative criteria have been identified in considerations of the public participation concept (chapter 5.1).

The planning and development process of the wind energy project (Project X) was analysed by facilitating qualitative interviews with stakeholders of three different groups: the wind energy operating company, political representatives of the two municipalities in which Project X was built, and citizens of both municipalities (chapter 4). This analysis is the basis to answer the second research question (*To what extent were public participation principles considered in the planning process of a wind energy project in Lower Austria?)* in chapter 5.2.

Subsequently, chapter 5.3 discusses the intersections and gaps of identified normative criteria and the actual planning process of Project X to answer the third research question (*Which constraints hinder normative criteria from being implemented?)*. First, identified normative criteria are recapped and interpreted in terms of their significance for a wind park planning process. Second, the main findings of the interviews are briefly summarised and discussed. Ultimately, the junctures and differences between the two preceding analyses are reviewed.

Finally, chapter 5.4 provides practical implications and envisions a different approach to fostering participation in RET planning processes.

5.1. Normative criteria in an ideal planning process of a wind park

This chapter briefly summarises main considerations of public participation (as described in chapter 2.5) and discusses their relevance in the context of the planning process of a wind park. This lays the foundation for the interpretation of the empirical part of this study in the next chapters.

Public participation comprises activities involving, consulting, and informing the public and aims to let citizens have a say in the decisions they are affected by (Smith, 1983). The concept contrasts centralized hierarchical planning structures and builds upon democratic ideals such as empowerment, fairness, and democracy as a learning process (Scherhaufer, 2021). Involving the public in decision-making is essential, as value judgements must be made at every stage of a risk management process (Rowe and Frewer, 2000). Considering citizens as able to acquire political competencies to take part in decision-making (Fiorino 1990, after Pateman, 1970) and the willingness of regional decision-makers to let interested and affected stakeholders take part in the decision-making process (Scherhaufer, 2021) are essential prerequisites of a public participation process. Thus, public participation is an essential element of the ED agenda.

According to Fiorino (1990), participatory mechanisms can be assessed based on four democratic process criteria. *First*, the extent to which citizens in their role as amateurs, not in their professional career roles, are allowed to participate in decisions directly (Participation of laypeople in decision-making). *Second*, the extent to which they allow for codetermination of policies by citizens and authorities (Codetermination of decisions). *Third,* how a mechanism provides the opportunity for direct interaction and exchange over a certain period of time (Opportunities for direct interaction). *Fourth*, whether it allows citizens to discuss matters with technical experts and administrative officers on an equal basis, allowing, e.g. to shape the agenda and define issues (Discussion on an equal basis).

Applied to the planning process of a wind park, the outlined criteria can be discussed as follows.

First, different layout options of the wind park are discussed among empowered and active citizens in their role as amateurs, political representatives, the wind energy operating/planning company, and experts (for instance regarding noise and shadow emissions), whereas no hierarchy exists, and each argument is valued equally. Ideally, all affected citizens can take part in this process, however, due to practical limitations, stakeholders are mapped, aiming to achieve a good level of representation and reduce social exclusion. Accordingly, a larger number of citizens can take part in the next round of this process to discuss the best jointly derived outcomes.

Second, decision-making concerning the characteristics of the wind park is not left to wind energy planning companies and political representatives only. Thus, citizens actively co-determine the outcome of the planning process. This outcome is respected and executed accordingly.

Third, workshops and planning sessions with all involved stakeholders are held before strategic decisions are made. Thus, affected citizens are involved in the planning process at an early stage. Meetings that provide an appropriate platform for exchange and discussion are held to ensure timely interaction and that all perspectives are listened to.

Fourth, such meetings are characterized by an open, respectful, and truthful atmosphere that values inputs irrespective of whether they stem from a technical expert or a layperson. Accordingly, every participant can lay down his or her perspective on the different characteristics of the planned wind park. Tools to demonstrate the characteristics of the wind park are used to enhance communication. For instance, Scherhaufer (2021) highlights the role of visualization methods. Whereas technical expertise on different aspects of the wind park is provided by experts, Scherhaufer (2021, p. 262) suggests that "[...] interpretation and assessment of this specialist knowledge should always remain the responsibility of the respective forum or group of participants."

5.2. Public participation criteria during the planning process of Project X

This chapter discusses the findings of the conducted qualitative interviews (chapter 4) based on the four public participation criteria as discussed previously in chapter 5.1. Table 1 provides an overview of the extent to which public participation criteria were considered in the planning process of Project X.

Two project managers (PMs) and the communication manager (CM) of the wind energy operator company were interviewed as a first step (Phase 2 according to the research process of this study, as illustrated in Figure 10). Second, interviews with four political representatives of both municipalities were conducted (Phase 3). Finally, interviews were held with nine citizens of both wind park municipalities (Phase 4). The aim of the interviews was to gather insight into the planning process of Project X from as many different perspectives as possible.

Participation of laypeople in decision-making and codetermination of decisions

Interviews with the PMs and CM revealed that the wind park layout was developed by the operator in consultation with municipalities and landowners only. Additionally, several constraints needed to be considered during the planning process of the wind park layout. Nature protection areas, related to ornithology, specific hunting areas, sound and shadow emissions of the turbines, the minimum distance between turbines, to existing infrastructure, and to settlement areas, slope gradients, wind energy zoning of the federal state of Lower Austria, meteorological and economic feasibility studies, and specific landscape disruptions needed to be adhered with in particular. By considering all these issues the PMs developed a wind park layout for the site location of Project X. Respective landowners were the only citizens involved in the planning process as they needed to sign a lease agreement with the operator. Others were informed about the project only when the layout planning was already finalized. When asked about citizen participation during the project development process, the PMs and CM understood the need to comprehensively inform and to present the completed planning. According to them, several (technical) limitations made an earlier involvement of citizens in the planning process impossible. The main reason was that existing infrastructure and nature protection areas did not allow for different siting options. Therefore, the layout could not have been changed in any case. Additionally, a PM stated quite clearly that renewable energies are of such great public interest that regional interests can be compromised.

Political representatives of M1 confirmed the planning approach of the PMs and CM. However, they additionally stated that persons authorized to hunt were also involved in the layout planning process. The situation in M2 was different, as the wind turbines are located on municipality properties only, which meant that no landowners were involved in the planning process. Therefore, political representatives of the municipality, in particular the mayor, were involved in the layout planning only. The interviewees also emphasized on practical restrictions particularly influencing the wind park layout. Additionally, the mayor of M2 stated that even if many more different layout options would have existed, a consensus among citizens would not have been reached, because “[...] all needs can’t be met [...]” and, “[...] politicians are elected to make decisions” (I2.3).

Accordingly, interviewed citizens of M2 stated that all strategic decisions about the wind park layout had already been taken before citizens learned about the wind park. Citizens of M2 also criticized the decision of siting wind turbines on municipal properties only, as this limited the choice of possibly better-suited sites. A citizen initiative that actively opposed Project X formed in M2. One of their main claims was an increase of the minimum distance of wind turbines to the settlement area. After the initiative gained much attention in M2 and the community seemed to be divided, the respective mayor decided to hold a referendum on whether the wind park should be built or not. In addition, he made

a compromise and stated that the wind park layout was adapted as such: The minimum distance of turbines to the settlement area was increased from 1200 meters to 1600 meters. This decision was announced right before the referendum. However, this layout adaptation was not deliberated on in an open planning process but was decided by the mayor to counter the pressure from the citizen initiative. As already mentioned, a narrow majority of citizens voted in favour of the wind park.

It appears that the referendum was conducted under the positively remarked flag of direct democracy when in reality, it was the result of a failed planning process after which the situation had already escalated. Moreover, the referendum marked the end of information and consultation events in M2. One interviewee who was a member of the citizen initiative clearly stated that her acceptance towards the planned wind park would have been much higher if citizens would have had a say in the decision-making process. This statement underlines the dissatisfaction of non-participation.

Interviewed citizens of M1 also stated that the planning was solely done by the municipality and the operator, which did not make it possible for them to have a say. However, much less opposition against to the planned wind park existed in M1. Interviewees perceived that they were sufficiently involved in the planning process as they received comprehensive information about the planned wind park.

One of the most noticeable aspects of the results is that almost all interviewees understand participation as an act of informing or being informed. Accordingly, most of interviewed citizens of M1 stated that certain decisions needed to be made by the municipality and that a planning process would not work if everyone had a say. Only few interviewed citizens demanded an actual codetermination of strategic decisions. Those who did were residents of M2 living close to the wind park site. Other interviewees did not seem to be interested in influencing the layout or taking part in a layout planning process.

It can be said that criterion one (Participation of laypeople in decision-making) was not considered in the planning process of Project X. Only one layout option was developed by the wind energy operator company in accordance with political representatives of the municipalities and respective landowners. A platform for a deliberative planning process in consultation with local citizens did not exist in neither of the municipalities. Decisions were made by political authorities and experts (i.e. PMs of the wind energy operating company) only.

However, citizens of M2 had the possibility to decide on the basic question whether Project X should be built or not. Therefore, citizens of M2 exhibited the final decision-making authority. The mayor kept his promise of executing the outcome of the referendum. Accordingly, criterion two (Codetermination of decisions) is met in one of both municipalities. Moreover, the wind park layout which was voted on was slightly adapted following one claim of the citizen initiative. However, as already mentioned, citizens were not involved in a decision-making process regarding the layout. The referendum only offered the possibility to choose from two options, namely whether the wind park should be built or not. As Scherhaufer (2021) also highlighted in his study, such an “all-or-nothing-approach” favoured polarization and division in the community.

Opportunities for direct interaction and discussion on an equal basis

In both municipalities, actions and events to inform citizens on the planned wind park were held. One interviewee of the wind energy operator’s side especially highlighted the necessity of providing a platform by which extensive discussions between citizens and experts (i.e. themselves) can take place. It also seemed important for the interviewees to provide transparent information on the planned project and to actively listen to citizens’ needs, ideas, and concerns. Accordingly, the PM and CM

offered one-on-one discussions with concerned and/or interested citizens several times after the information events.

Interviewed municipality representatives also emphasized their efforts to regularly and frequently inform citizens on matters of the planned wind park. It seemed especially important for the mayor of M1 to provide a platform on which citizens could raise their potential concerns and to have experts (i.e. PMs and CM) available who could refute concerns on a factual basis. Interviewees of M2 reported that they went from house to house to personally discuss the wind park with citizens right before the referendum took place. They also highlighted that they respected the individuals engaging in the citizen initiative and that they took a sensible democratic approach (i.e. a referendum) towards the opposition.

Interviewed citizens of M1 confirmed to having received sufficient information about the wind park. Further, an interviewee stated that the information event offered the opportunity to raise concerns and voice criticism. The presence of technical experts (i.e. PMs and CM) was perceived positively as they were able to withdraw concerns of some citizens. In M2, more discussions between political representatives and citizens existed besides the regular information event. Several interviewees of M2 criticized that they felt like not taken seriously by the mayor and that their claims were not considered adequately.

It can be said that criterion 3 (opportunities for direct interaction) was met. Platforms for exchange between interested citizens, political representatives, and experts (i.e. PMs and CM) existed in both municipalities. However, the aim of these events must be seen in a more differentiated manner. While it seemed decisive for one PM and the CM to actively listen to concerns of citizens, it was clear that these concerns could only be met by providing more information. The aim was clearly not to consider the concerns to such an extent that the planning would be adapted.

Criterion 4 (discussion on an equal basis) was partly met, depending on the municipality. Citizens of M1 seemed quite satisfied with the discussions held with politicians and experts. In contrast, some citizens of M2 did not feel like they were taken seriously by their political representatives. Because they were given the feeling that they could not change the planned wind park layout in any case, citizens did not perceive that the discussions were held on an equal basis.

As displayed in Table 1, the results of this study indicate low levels of participation of municipal citizens during the planning process of Project X. Decisions were taken by political authorities and experts only and citizens were confronted with the outcomes afterwards. Interestingly, significant differences between both municipalities existed. In M1, discussions and concerns mainly took place due to non-transparent and unequal compensation payments of landowners. Besides that, all interviewees reported that the planning process went smoothly and only few oppositions existed. In contrast, in M2 a citizen initiative actively opposing the project formed. When the mayor realized that the initiative was gaining attention and support from other citizens, he decided to hold a referendum to make a final decision. Thus, citizens had the final decision-making authority. Moreover, the planned layout was adapted by increasing the distance of wind turbines to the settlement area. Therefore, citizens indirectly co-determined decisions. Whereas political representatives and the PMs and CM claimed to have engaged in actively listening to concerns of citizens it was clear that these concerns would not lead to a change in the planned layout.

Single aspects of the planning process of Project X can be located on different levels of Arnsteins ladder of participation (1969). Information events and discussions with experts served to “educate” citizens and to “cure” a lack of information. Thus, these measures exhibit degrees of non-participation and are located on the lowest levels of the ladder of citizens participation. Claims of political representatives and of one PM and the CM to actively listen to the worries and needs of citizens can be seen as a

degree of tokenism, as they provide citizens with the opportunity to be heard, whereas their voices were not adequately considered when it came to decision-making. However, the layout was adapted following the claims of the initiative in M2. Nevertheless, this was done rather involuntarily and to offer a concession so that the opposition did not gain even more influence on the formation of opinion. However, since final decision-making power of whether the wind park should be built or not was given to citizens of M2, this measure is located on the highest level of the participation ladder.

Table 1 Public participation criteria according to three perspectives of the planning process of Project X (own illustration)

PERSPECTIVE	**PARTICIPATION OF LAYPEOPLE IN DECISION-MAKING**	**CODETERMINATION OF DECISIONS**	**OPPORTUNITIES FOR DIRECT INTERACTION**	**DISCUSSION ON AN EQUAL BASIS**
PMs AND CM	No: Decisions were taken by themselves and political representatives only	Yes, in M2: Minimum distance of turbines to settlement areas was increased and referendum was conducted due to citizen initiative No, in M1	Yes, but only after strategic decisions were already taken Information events offering platform for discussion, additionally offered one-on-one discussions to interested/concerned citizens	Partly: Emphasis on two-way information flow and to actively listen to concerns but no intent to change the planning according to concerns
POLITICAL REPRESENTATIVES	Not in initial planning process: Decisions were taken by themselves and PMs only	Yes, in M2: Minimum distance of turbines to settlement areas was increased and referendum was conducted due to citizen initiative No, in M1	Yes, but only after strategic decisions were already taken Information events offering platform for discussion, additionally offered one-on-one discussions to interested/concerned citizens	Partly: Emphasis on two-way information flow and to actively listen to concerns but no intent to change the planning according to concerns
CITIZENS	No: All strategic decisions have been taken before letting citizens know	No: Citizens in M1 were satisfied with receiving information only Citizens in M2 criticized lack of actual codetermination	Partly: Satisfied with opportunity to raise concerns in M1 Concerns were not adequately listened to in M2	Partly: Satisfied with discussions in M1 Concerns and those who raised them were not taken seriously in M2

5.3. Gaps and constraints between ideal planning process and planning process of Project X

Chapter 5.2 laid down to what extent public participation criteria were considered in the planning process of Project X. This chapter discusses limitations and opportunities of a higher level of participation throughout the planning process of the wind park.

Criterion 1 (participation of laypeople in decision-making) was clearly not met in the planning process of Project X. Everyone who was involved in decision making (i.e. PMs and political authorities) underlined several times that many constraining siting conditions only allowed for one layout that could not have been adapted according to claims of citizens. As already laid down, non-participation in decision-making had different effects in M1 and M2.

First, the question arises as to what extent the majority of citizens were interested in influencing the wind park layout. The results indicate that only those directly affected by the wind park (i.e. residents living close to the turbines) raised concerns and wished to influence the planned layout. Several interviewees perceived the general interest in the wind park project among citizens as quite low.

Second, it should be asked which determinants can realistically be influenced by citizens in their role as amateurs in the typical planning process of a wind park. If lots of siting restrictions (e.g. zoned wind park area of the federal state, nature protection areas, minimum distances to existing infrastructure etc.), as in the case of Project X, only allow for one certain layout, how should this be further adapted according to needs and interests of citizens? However, it is not said that every area zoned for wind energy deployment exhibits such constraining layout conditions. But still, if not the wind park layout, what other determinants can be influenced by citizens?

First and foremost, the basic question of whether wind turbines should be built or not needs to be made. However, raising this question only after all decisions about a wind park have already been taken (i.e. as happened in M2) puts a high pressure on the community and enhances the likelihood of polarization and a division based on a dichotomy of supporters and opponents. A proposal on a different approach is presented in the next chapter. Another decision that can be influenced by citizens refers to the use of financial compensation payments. This is discussed in more detail in chapter 5.4.

As described in chapter 2.5.2, opening planning processes and decision-making to a larger number of citizens presumes citizens who are also interested and willing to have a say. According to Fiorino (1990), a lack of political engagement is attributed to failing institutions, not to limited capacities inherent in individuals. Strengthening democratic institutions requests transparency and openness of political action and the willingness of decision-makers to let interested and affected stakeholders take part in the decision-making process (Scherhaufer, 2021). Such conditions may not emerge from one day after the other but demand a different understanding of living in an active democracy. However, acquiring the political competencies needed to participate in decision-making, and participation supports building democratic skills and contributes to legitimizing the political system (Fiorino 1990, after Pateman, 1970).

Criterion 2 (codetermination of decisions) was partly met. Interviewees also mentioned practical layout restrictions to be a main limiting factor. However, this must be seen in a more differentiated manner. As several interviewees, especially of M1, suggested low levels of engagement and interest towards the planning process of Project X, a considerable number of citizens might not have been interested to invest time and participate in a planning process. Citizens might not be used to co-

determining such decisions. This again leads to the necessity of strengthening democratic institutions as discussed previously. Another constraining factor of a more participatory planning process was raised by the CM. Time and money need to be invested in such a process but there is no guarantee that this investment also pays off for the operator. A competitor might approach the municipality and use the participatory derived layout and offer more money. Moreover, there is no guarantee that such a process also leads to an outcome. Even if it does, there is no security that the ones who facilitated such a process also are the ones entitled to build the wind park or own the turbines in the end. Chapter 5.4 discusses a different approach towards this issue.

Criterion 3 (opportunities for direct interaction) was partly met. Whereas events and several (one-on-one) discussions were offered by the PMs, CM, and political representatives, the one and only aim of these measures was to educate or cure potential opposition. The idea was clearly not to take considerations into account and change the planning accordingly. As already mentioned, reactions of citizens were quite different in both municipalities. A reason for that may be different levels of trust in intentions of political representatives and the wind energy operating company. Among others, Walker et al. (2010) found in their study that citizens who trust project organizers are more likely to support the project and its development process. During the interview, the mayor of M1 particularly stood out with his dedicated and passionate approach for the good of citizens. Even though more opportunities for participation of citizens did not exist in M1, general acceptance levels towards the wind park were higher. The well-structured planning approach (i.e. twelve step plan, as described in chapter 4.2) and the mayor's empathic manner of meeting concerns may have contributed to that. However, it must be said that wind turbines are located as such that several residents of M2 are exposed to noise and shadow emissions to a larger extent than residents of M1. But, as Scherhaufer (2021) also concludes, establishing a trustful atmosphere by providing early, frequent, and transparent information is essential.

Criterion 4 (discussion on an equal basis) was also partly met. The question arises to what extent the willingness to make concessions and adapt the planning following concerns is an indispensable predeterminant of discussions held on an equal basis. Even if all concerns can be brought forward and are actively listened to in a respectful atmosphere, citizens will not perceive such discussions are held on an equal basis if they are given the feeling that they cannot change anything anyway. Thereby, issues of procedural justice, distributional justice, trust, and fairness come into play. Procedural justice is characterized by the possibility to express concerns, to be heard and to be treated with respect by all involved parties (Maguire and Lind, 2003). Distributional justice refers to how the costs and benefits are shared, i.e. the distribution of outcomes (Gross, 2007). Literature shows that individuals who perceive to be treated fairly are more likely to accept results, eventually even irrespective of the outcome, i.e. fair process effect (Lind and Tyler, 1988; Skitka et al., 2003). The results of this study confirm the so-called fair process effect (Skitka et al., 2003) to some extent. One interviewee who belonged to the citizens' initiative in M2 did obviously hope for a different outcome of the referendum. He highlighted several times that he perceived the process to arrive at this outcome as fair and therefore accepts it (process fairness / procedural justice). This interviewee had vital personal interests against the wind park but still valued a fair process as more important than the outcome of this process. This finding contradicts some of the results Gross' study (2007). In contrast, another interviewee of the citizen initiative who also had a clear a priori understanding about what outcome is right or wrong was more concerned with the (unsatisfying) outcome than the (fair) process (outcome favourability / distributive justice). Accordingly, this finding is in line with the community fairness framework developed by Gross (2007). It also suggests that procedural justice is only relevant to the degree to which it allows to codetermine and to change the ultimate outcome.

As already mentioned, trust, procedural justice, and distributional justice are central components of community acceptance (Wüstenhagen et al., 2007) and therefore pivotal to consider during the planning process of a wind park.

Another interesting finding of this study relates to use of visualization tools. The PMs prepared a visualization showcasing how the wind turbines are expected to look like in the landscape. However, according to interviewed citizens of M2, the visualizations underrepresented the actual size of turbines. As members of the citizen initiative did research on the dimensions of wind turbines, they quickly became aware of this shortcoming. This led to compromised trust levels among citizens and did not favour discussions held on an equal basis.

5.4. Practical implications and outlook

First, this chapter discusses the importance of compensation payments from the wind energy operator for municipalities. Next, it discusses what factors were crucial for levels of (non-)acceptance of Project X. Finally, this chapter suggests a different approach towards regional deployment of RETs.

Interviews with political representatives of M1 and M2 revealed that financial considerations were the main driver to pursue the development of wind energy in both municipalities. The mayors explained that several different sources of income for the municipality decreased over time. Thus, the wind park offered a good chance to replenish the municipal budget. Whereas the importance of renewable energy sources was mentioned often, climate protection was not the one and only reason to pursue wind energy in the region.

The question arises as to what the compensation payments should be used for. Ideally, citizens should have a say in dedicating compensation payments. However, if municipalities depend on the payments for regular municipal costs, there is not much leeway for debate on how the money should ideally be used. The mayor of M1 stated that the compensation payments were dedicated to being used for building and renovating the municipal kindergarten and school. So, ultimately, the money benefits the population again. However, citizens of M1 were not aware about the dedication of payments and citizens of M2 especially criticized that the wind park was built for financial considerations only.

Gross (2007) found in her study that the fact that "winners" and "losers" were created as some landowners were receiving payments and some were not, ultimately led to a divide in the community. This can partly be confirmed in this study, as several interviewees reported that debates of envy unfolded between landowners in M1. This tension was compounded by the fact that there was no transparency on prices and landowners were left to negotiate on their own. However, a division in the community of M1 due to unequal payments cannot be affirmed.

Liebe et al. (2017) found in their study that citizens value the possibility of a shared ownership structure among themselves. The study at hand can only confirm this to a limited extent. For most interviewed citizens, a financial participation model is of general interest if it promises a positive return on investment. However, this issue was not brought forward by citizens themselves and was characterized by lower levels of interest in general.

Langer et al.'s study (2017) found that the wind turbines' noise level and distance to the settlement area, and participation interpreted as receiving information are the most decisive factors for citizens. The relevance of the first two attributes can be confirmed in this study only from the viewpoint of citizens who belonged to the citizen initiative. However, as already mentioned, participation was interpreted as giving or receiving information by all interviewees. As all interviewed citizens articulated their need to receive information on the one hand but were indifferent about different forms of participation, Langer et al.'s finding (2017) can be confirmed to a large extent.

The most commonly brought forward arguments against the wind park were landscape disruption, and noise emissions. Whereas wind energy was seen as positive in general, almost all interviewees expressed concerns about the increasing density of wind turbines in the region, which confirms what Liebe et al. (2017) also found in their study. Accordingly, interviewees imagined the ideal wind park to be not visible in the landscape. This finding undermines the importance of an even distribution of wind turbines across regions in Austria. However, as laid down in chapter 2.2, spatial distribution of wind turbines continues to put pressure on two federal states which already exhibit the highest number of turbines (Austrian Wind Energy Association, 2020).

Accepting wind energy in general but opposing a specific wind park project is often interpreted in terms of the NIMBY (Not In My BackYard) approach (Busse and Siebert, 2018; Devine-Wright, 2005; Wolsink, 2013). Whereas the NIMBY concept has lost its explanatory power within academia (Busse

and Siebert, 2018), Wolsink (2013) argues that any opposition is repeatedly interpreted in terms of the backyard, especially among developers and policy-makers. This finding can still be confirmed as the interviewed PMs and CM interpreted citizens' opposition in terms of NIMBY. This comes at the cost of omitting actual reasons of opposition (Busse and Siebert, 2018). Actual reasons for opposition vary according to who is asked. For residents living close to the wind park, wind turbines pose a threat to immediate quality of life due to expected sound and noise emissions. For some, the harmony and beauty of the landscape are compromised by wind turbines. For others, a flawed planning process favoured resentment against the wind park. It would fall short to group all these different needs under the mere NIMBY standpoint. It is therefore too short-sighted, as it excludes the responsibility of planers, operators, and local decision-makers.

Additionally, the results of this study suggest a general mistrust of citizens against authorities and decision-makers to some degree. However, labelling worried citizens as egoists pursuing only self-interests (NIMBY) and decision-makers as money-lovers, ruling over local demands, only favours a dichotomy of "us" versus "the others" in both directions. Such polarization is anything but a fertile ground for finding compromise and meeting each other on an equal footing. It seems that the development process of a wind park only showcases the tip of the iceberg of issues of trust and a mutual misunderstanding. The roots may be drawn back way earlier to a mislead understanding of democracy. Democracy seems to be understood to be casting a ballot once every few years. In contrast, seeing democracy as a learning process, "[...] characterized by wide participation of informed, aware, and responsible political subjects, in an inclusive and transparent decision-making process [...]" (Szulecki and Overland, 2020, p. 35) could enhance trust levels among each other and ultimately lead to a commitment towards the common good.

The results of this study show that generally valid statements about the level of participation desired by citizens cannot be made. The results also depicted that involving the public only after strategic decisions (i.e. local politicians decided to build a wind park in a certain area of their municipality) have already been made is only partly possible due to practical limitations (i.e. constraints in adapting the specific wind park layout) and does not favour trust levels towards political authorities (i.e. no discussion on an equal basis when decisions are already taken). This leads to the assumption that the involvement of citizens in the planning process of a specific wind park project is already too late. Therefore, the results suggest raising basic questions, for instance whether a wind park should be built or not *in advance*.

From an energy democracy perspective, the inevitable necessity of transforming energy systems offers the unprecedented chance to restructure them based on democratic ideals. From a policy perspective there is a need for legitimising RET siting decisions and undermining the inevitable importance of deploying RET.

A means to accomplish both may be the development of regional climate and energy plans. The idea of such is to break down to the local level how concretely each region can contribute to achieving national climate and energy targets. Within such a plan, wind energy is one of many possibilities to reduce CO_2 emissions. Energy efficiency and energy saving measures complement the deployment of different RETs. Besides reducing CO_2 emissions, maintaining, and enhancing biodiversity should be considered.

Such regional climate and energy plans should be developed in close collaboration of citizens, NGOs, local politicians, and experts. A participatory process should be facilitated and moderated by an independent higher-level institution, only having the public good as its goal. The normative commitment towards a just and fair decision-making process should be the main intent towards process facilitation. Citizens should not only be involved in the decision-making process (procedural

justice) but also in ownership structures of energy production and transmission infrastructure (distributional justice).

The aims of regional climate and energy plans are threefold. First, decision-making processes shall transparently develop concrete and binding actions for each municipality to decrease its CO_2 emissions. Second, such plans legitimize concrete RET siting decisions as anyone has the possibility to have an equal say in the decision-making process to arrive there which at the same time strengthens democratic institutions and behaviours. Third, as the development processes of regional climate and energy plans are not carried out in a vacuum, they raise awareness about the importance of RET and the responsibility of each community to make its contribution in the light of a bigger picture.

6. Conclusion

This research aimed to identify normative criteria that underly the ideal planning process of a RET plant and contrast them with the actual planning process of a wind park in Austria. Normative criteria were derived from literature based on public participation principles (phase 1 as illustrated in Figure 10). The planning and development process of a commissioned wind park in Lower Austria ("Project X") was analysed based on semi-structured guided qualitative interviews with three involved stakeholder groups. Interviews were held with the project managers (PMs) and the communication manager (CM) of the wind energy operating company (phase 2), political representatives (phase 3), and citizens (phase 4) of the two wind park municipalities. Fifteen interviews were conducted in total and analysed by means of a qualitative content analysis.

The interviews were conducted in an open and explorative manner to ensure that the interviewees had leeway to report on their individual experiences and needs. This expectation was met, and interviewees also described unexpected and relevant insights of the planning process of Project X. Therefore, the chosen methodology proved to be effective.

The literature review revealed four public participation criteria based on normative grounds, which are: (1) Participation of laypeople in decision-making, (2) Codetermination of decisions, (3) Opportunities for direct interaction, and (4) Discussion on an equal basis.

The main findings of the empirical part of the study are that citizens were informed about Project X only after strategic decisions had already been taken. Moreover, citizens did not have a say in decision-making, and by "participation", almost all interviewees understood the process of informing or being informed. However, citizens of one of the wind park municipalities exhibited final decision-making authority as a referendum on whether the wind park should be built or not was initiated by the mayor. It should be kept in mind that this referendum was initiated only after a failed planning process had already divided the local community to some extent.

The results of this case study show that the four normative criteria of public participation criteria were not sufficiently met in the planning process of Project X. Informing citizens only after all strategic decisions were taken by the wind energy operating company and political authorities is neither sufficient to fulfil public participation criteria nor to foster acceptance levels within both affected municipalities towards the planned wind park. However, being widely excluded from decision-making did not seem to be an issue for some citizens, whereas others were deeply concerned. Therefore, generally valid statements about the level of participation desired by citizens cannot be made.

Aside from practical limitations such as constraining wind park layout planning options or time and resource constraints to conduct a more participatory planning process, the results of this study indicate that a perceived lack of interest and competence of citizens are the main drivers as to why citizens did not have a larger say in the decision-making process of Project X. Interestingly, not only the PMs, the CM, and political representatives but also citizens themselves raised concerns about *other* citizens' interests and competence to participate in decision-making. This is especially noteworthy as public participation criteria undermine the importance of participation of citizens in terms of laypeople, not in professional career roles. This is justified by the argument that those affected by a decision should also have a say in that decision.

Additionally, the results of this study suggest that financial compensation payments were the main driver for political representatives to pursue wind energy in their municipality.

Another interesting finding is that while citizens of one municipality were mainly in favour, or at least not actively opposed to the wind park, considerable opposition existed in the other municipality. This

may be partly due to the location of individual turbines relative to residential area. However, it also highlights the importance of a trustworthy and benevolent approach to the planning process by political representatives. Citizens opposing the project outlined landscape disruption and noise emissions of wind turbines as the main arguments against the wind park. Moreover, the increasing density of wind turbines in the region was perceived as unfavourable by the majority of the interviewed citizens and political representatives.

Due to the qualitative setting, this study only covered the insights of a small number of citizens compared to all of those affected by the wind park.. A quantitative analysis could have complemented the results of the qualitative interviews. For instance, data on levels of interest among citizens for participation in the planning process of a wind park could have been collected to gather more representative insights on a factor that resulted in being a primary limitation. However, such a complementary methodology was beyond the scope of this thesis. Therefore, further researchers in this field could consider utilising a mixed-methods approach.

Furthermore, it is worth mentioning that almost all data on interviewed stakeholders and the wind park itself is strictly anonymised in this study. While this approach allows for data protection and more openness of all interviewees, some study results may be hard to trace. Additionally, some issues raised by interviewees could not be presented and discussed in this study as this would result in an identification of the respective wind park or individual stakeholders. Nevertheless, this compromise needed to be taken to ensure that no conflicts within the municipalities were promoted.

This case study succeeded in answering the raised research questions. It contributes to understanding public participation and community acceptance in wind energy planning by gathering insights on a wind park project from a wind energy operating company, municipal politicians', and affected citizens' perspectives. Researchers and practitioners can utilize this study to extend and deepen their understanding of the relations between different interests of affected stakeholder groups in a wind park planning process.

This study suggests conducting further research on the development of an appropriate participatory planning process of regional climate and energy plans. Ideally, such a pilot process is carried out and scientifically accompanied in a transdisciplinary setting.

This study indicates a tension between the necessity of a fast expansion of RET on the one hand and transparent, participatory, and just planning processes of individual RET plants on the other hand. Whereas participation of affected communities should be a moral standard as it is purposeful in itself in a democratic society, it is high time to transform energy systems. Thus, this study concludes that fostering the participation of citizens only when a specific wind park project is already decided on is too late. Involving citizens in decision-making way earlier by collaboratively developing regional climate and energy plans could be one step towards a fair, equitable, and just transformation of our energy systems.

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List of abbreviations

AWEA - Austrian Wind Energy Association

DAD - Decide Announce Defend

ED - Energy Democracy

EIA - Environmental Impact Assessment

EIS - Environmental Impact Statement

GHG - Greenhouse Gas

IAP2 - International Association of Public Participation

IEA - International Energy Agency

M1 - Municipality 1

M2 - Municipality 2

NECP - National Energy and Climate Plan

RED - Renewable Energy Directive

REDII - Renewable Energy Directive II

RET - Renewable Energy Technology

List of tables / figures

Appendix A: Interview Data

Characteristics of the interviews
○ All interviews were held in German to ensure all interview partners can express their thoughts freely without possible language barriers.
○ All interview partners were informed about the anonymization of their personal data in a way that no conclusion can be drawn about their names, places of residence, employer, age, or any other personal data.
○ All interviewees were asked to sign a declaration of consent to take part in the interview and a data protection agreement.
○ All interviewees received a *factsheet* of this study after they agreed to take part in an interview.
○ All interviewees were asked to take their time to elaborate on the questions in an open and explanatory manner. Accordingly, interview partners were allowed and encouraged to set different foci within their narrations.
○ To encourage the openness of the interviewee's elaborations, the interview guidelines were used in a very flexible manner and adapted accordingly. If perceived as appropriate during the interview, the interviewer decided to add sub questions on the one hand or skip few sub questions on the other hand. However, all main aspects covered in the interview guidelines were elaborated on during the interviews.
○ After each interview a memo containing main remarks of the interviewees and special characteristics of the interview was created by the interviewer.

Table 2 Key data of I1

Job title	Interview Code	Interview duration	Interview date	Interview location
Project Manager (PM) 1	I1.1	52 minutes	17.01.2022	Meeting room, office building of PM
Project Manager (PM) 2	I1.2	62 minutes	17.01.2022	Meeting room, office building of PM
Communication Manager (CM)	I1.3	67 minutes	18.01.2022	Online via Zoom

Table 3 Key data of I2

Job title	Interview Code	Interview duration	Interview date	Interview location
Mayor M1	I2.1	38 minutes	07.02.2022	Town hall M1
Municipal council member M1	I2.2	34 minutes	07.02.2022	Town hall M1
Mayor M2 and vice mayor M2*	I2.3 and I2.4	35 minutes	23.02.2022	Town hall M2

*Representatives of M2 only offered an interview appointment together. Therefore, the interview with the mayor and vice mayor of M2 was held as a dual interview. However, the transcript clearly states which statement belongs to which interview partner.

Table 4 Key data of I3

Background	**Interview Code**	**Interview duration**	**Interview date**	**Interview location**
Citizen M1, farmer	I3.1	20 minutes	21.02.2022	Town hall M1
Citizen M1	I3.2	30 minutes	17.02.2022	Town hall M1
Landowner M1	I3.3	35 minutes	17.02.2022	Private house
Citizen M1	I3.4	33 minutes	17.02.2022	Town hall M1
Citizen M2, farmer, hunter	I3.5	22 minutes	15.03.2022	Wine yard close to Project X site
Citizen M2, member of citizen initiative	I3.6	48 minutes	14.03.2022	Telephone
Citizen M2, member of citizen initiative	I3.7	55 minutes	15.03.2022	Private house
Citizen M2, member of citizen initiative	I3.8	43 minutes	15.03.2022	Telephone
Artist from the region	I3.9	26 minutes	07.03.2022	Café

Appendix B: Overview of the thematic main categories

Table 5 Description of the four thematic main categories developed for the evaluation procedure of I1 (own illustration) (Please note: This table only showcases the perspective of the wind energy operating company as surveyed in Phase 2)

Name of the category	Content description	Category application	Example
Project planning approach of the operator	Project-specific and general text passages dealing with practices of the operator during a wind energy developing process	Text passages describing how the operator plans and facilitates a wind energy project development process in general and in Project X specifically. Text passages describing how compensation payments for Project X are distributed.	"You need to install a wind measuring mast so that you know which wind turbines you can install." (I1.1)
Citizen's participation	Project-specific and general text passages dealing with different perspectives and forms of (non-)participation of citizens	Text passages describing actions taken from the operator to include citizens in the project development process, ranging from information measures to carrying out a referendum.	"In general, the information phase is there to inform the general public, and if someone has concerns, more detailed wishes or a need for more detailed information, then we make a note of that, yes, and then we have individual discussions with the people." (I1.2)
Limitations of participation	Project-specific text passages describing why (more) citizen's participation was not possible	Text passages describing all kinds of arguments preventing citizens from having a larger say in decision-making during the development process of Project X, ranging from layout restrictions to practical limitations of a participatory process.	"Of course, I have to make sure that the economic viability is given when we do something. With ideas you always have to look at, well, certain things are possible, certain things are not." (I1.2)
Patterns of (non-) acceptance	Project-specific text passages describing intentions and reasons for (non-) acceptance of citizens living in M1 and M2	Text passages describing characteristics of citizens who opposed Project X and text passages describing arguments of their opposition.	"I think that's my experience with all wind power projects, what's left, with all the discussions we have, is basically the change in the landscape and the feeling of losing something that you don't want to lose." (I1.3)

Table 6 Description of the five thematic main categories developed for the evaluation procedure of I2 (own illustration) (Please note: This table only showcases the perspective of the municipality representatives as surveyed in phase 3)

Name of the category	Content description	Category application	Example
General acceptance of wind power	Text passages describing the interviewees' perception of wind energy as a (non-)acceptable source of renewable energy	Answers of interviewees when asked about their opinion about the exploitation of wind energy in their region, not necessarily related to Project X	"I have a positive attitude towards the expansion of wind power." (I2.1)
Characteristics of the planning process	Text passages describing interviewees' perspective of the planning process of Project X	All text passages revealing different events as well as steps and measures taken during the planning process of Project X	"There have not been many compromises. The first plan I can remember the operator provided us, that was pretty much pulled through, in terms of locations for the turbines. We didn't have many options to juggle." (I2.2)
Financial compensation payments	Text passages describing all aspects of financial compensation payments	All text passages describing who receives what kind of compensation payments from the operator company and what the payments are used for.	"If it [wind turbine] is on private property, the landowner gets something [compensation payments] and we get something because we provide the paths." (I2.4)
Perceived feedback of citizens	Text passages on how the municipality representatives described reactions and demands of citizens towards all steps and aspects in the planning process	All text passages describing citizens' concerns from the perspective of municipality representatives	"Then we said we'd just do the referendum and they were also very satisfied with this decision, except that it turned out like this, they weren't satisfied about that." (I2.3)
Ideal wind park	Text passages dealing with considerations of the ideal layout and planning process of a hypothetical wind park	Answers of interviewees when asked what their ideal wind park in terms of its layout and planning process would look like	"The most important thing is actually ... that you don't see it, but you can't hide it. You don't have much influence." (I2.1)

Table 7 Description of the five thematic main categories developed for the evaluation procedure of I3 (own illustration) (Please note: This table only showcases the perspective of citizens as surveyed in phase 4)

Name of the category	Content description	Category application	Example
General acceptance of wind energy	Text passages revealing the interviewee's perception of wind energy as a (non-)acceptable source of renewable energy	Answers of interviewees when asked about their opinion about the exploitation of wind energy in their region.	"I have no problem at all with wind power, but as with other alternative energy sources, the question is always how much are the local residents are affected?" (I3.7)
Characteristics of the planning process	Text passages describing interviewees' perspective of the planning process of Project X	All text passages revealing different events as well as steps and measures taken during the planning process of Project X	"The planning was primarily agreed with the municipality. And when the concept was ready, they went to the population. We were never involved in the planning phase, the population, that was only done by the municipality and the wind turbine operator." (I3.1)
Financial compensation payments	Text passages describing all aspects of financial compensation payments	All text passages describing who receives what kind of compensation payments from the operator company and what the payments are used for.	"So you should really work it [amount of compensation payments] out beforehand and pay landowners equally." (I3.3)
Feedback of citizens	Text passages on how citizens described all steps and aspects in the planning process	All text passages describing in which citizens describe their perceptions of the planning process of Project X	"But it was, it [the planning of Project X] was not a proposal, it was not a basis for discussion, it was a done deal. That's my impression. And I think many others had the same [impression]." (I3.7)
Ideal wind park	Text passages dealing with considerations of the ideal layout and planning process of a hypothetical wind park	Answers of interviewees when asked what their ideal wind park in terms of its layout and planning process would look like	"It is still important to me that the citizens are involved to the extent that you say, okay, what do you think about putting up a wind turbine here and there and that the concerns that people have are taken seriously in a certain way." (I3.6)

Appendix C: Interview guidelines

Disclaimer: All aspects of the interview guidelines that would allow conclusions to be drawn about details of Project X were subsequently anonymized

Interview guideline I1

Objectives and function of the interviews:

- To identify the interviewees' assessments of the project development process for Project X
- Identify chances and limits of citizen participation as well as personal ideals from the interviewees' point of view.
- Preparation for the following interviews with community representatives and citizens
- Sensitize interview subjects on the topic of citizen participation in the planning process of a wind farm and thus:
- Create a basis for a second round of interviews with the same interviewees

Method: qualitative semi-standardized (guideline-based) personal expert interviews; duration approx. 45-60 minutes per interview; subsequent transcription and evaluation (qualitative content analysis according to Mayring)

Target group: project manager and communication manager of the wind energy operating company

Research questions:

- Which possibilities of citizen participation are conceivable from the point of view of a wind energy operating company?
- Which possibilities of citizen participation are desirable according to normative criteria and which limits stand in the way of their implementation?

Thematic blocks/subjects:

A) Approach of the wind energy developing agency to the project development process of Project X (procedural justice, citizen participation spectrum)

B) Perceived reactions of the community citizens to the project development process of Project X (social (non-)acceptance, knowledge, values)

C) Limits of citizens' participation in the project development process of Project X (feasibility, expansion plans/targets)

D) Ideal form of citizen participation of any wind park project development process (normative criteria, criteria of democratic process)

Introductory question:

The current climate crisis presents us with the need to transform our energy system. Wind power as a source of renewable energy plays a significant role in this process. While the vast majority of Austrians support a rapid expansion of wind power, wind power projects nevertheless regularly fail due to local protest movements. How do you explain this discrepancy?

A) Approach of the wind energy developing agency to the project development process of Project X

- In the 4th quarter of 20XX, in an issue of the M1 municipal newspaper, an article on Project X was published. It states the following:
  "During planning, the wind energy operating company placed particular emphasis on the needs of the population and the protection of the landscape, animals and plants."
  What is your opinion of this statement?
- How did you determine the needs of the population?
- What were the needs of the population?
- What measures did you take to meet the needs of the population?
- Why did you choose and apply these measures?
- During the project development process, how did you assess the overall community support for the WP project?
- In the context of the measures set, what do you think has been particularly successful?
- In the context of the measures set, what in your opinion succeeded less well?
- In retrospect, what would you do differently?

B) Perceived reactions of the community citizens to the project development process of Project X

- How did you assess the interest of the entire community population in the project?
- Which groups of citizens were particularly active during the wind farm project development process?
- Were there any particular supporters?
  - What percentage of the total community population was supporting the project?
- What were the protest movements?
  - What was the approximate share of the project's opponents in relation to the total affected community population?
  - To what extent did individuals play a role in this protest?

C) Limits of citizens' participation in the project development process of Project X

According to media reports, there was resistance from the population to the planned wind energy project, especially in M2. In a statement by the M2 local farmers' council and a citizen interest group of M2, for example, it says: "As a genuflection to [the wind energy operating company], no thought was given to other sites proposed by us."

In your opinion, where were the limits to allowing the citizens of the affected communities to participate in the project development process or to allow them to co-decide on individual aspects of the wind farm?

- In your opinion, to what extent do these limits apply to any wind farm project?
- In this context, where are the similarities between the Project X and other arbitrary projects?

D) Ideal form of citizen participation of any wind park project development process

- Assuming that the previously mentioned limitations of citizen participation do not exist, how do you imagine the ideal project development process of a wind park?
    - In your opinion, what is the role of local community involvement in the ideal wind park project development process?
    - In which phase of the project development process should the local population ideally be involved?
    - In what form do you think the local population should ideally be involved in the project development process?
    - Why do you consider this/these form(s) of involvement to be most appropriate?
- Assuming that a community with a positive attitude towards wind energy could solely decide on the characteristics of a wind park in its community area, what would such a wind park look like?
    - What would the planning process for such a wind park look like?
    - What do you think are the greatest needs of the local community in the planning process of such a wind park?

Concluding question:

The needs of the local population mentioned in the interview and the limits that exist in the planning process create a tension. In your opinion, what are the greatest opportunities in the future to involve the local population in a wind park project development process?

Interview guideline I2

Objectives and function of the interviews:

- Identify the perspectives of the community representation on the project development process of Project X
- Identify ideal ideas of a wind farm project development process from the perspective of the community representation
- Preparation for the subsequent interviews with the community citizens

Method: qualitative semi-standardized (guided) interviews; duration approx. 30-40 minutes per interview; subsequent transcription and evaluation (qualitative content analysis according to Kuckartz)

Target group: political representatives of M1 and M2

Research questions:

- From the point of view of the community representatives, what went particularly well in the project development process, and what did not go so well?
- How was the cooperation with the wind farm operating company?
- What was the attitude of the community citizens to the planning process like?
- To what extent does the income generated by the wind farm benefit the citizens of the community?
- Which characteristics of a wind farm and the associated planning process appear to be particularly relevant to the community representatives?

Thematic blocks/subjects:

A) Approach of political representatives to the project development process of Project X (procedural fairness, spectrum of citizen participation)

B) Perceived reactions of the community citizens on the project development process of Project X (social (non-)acceptance, knowledge, values)

C) Financial participation and dedication of the revenues generated by Project X (distributive justice)

D) Ideal form of citizen participation of a hypothetical wind park project development process (normative criteria, criteria of the democratic process)

Introductory question:

Project X was completed in Spring 20XX after a planning process that lasted several years. What is your basic position on the expansion of wind power in your region?

A) Approach of political representatives to the project development process of Project X

- In the 4th quarter of 20XX, in an issue of the M1 municipal newspaper, an article on Project X was published. It states the following:
  "During planning, the wind energy operating company placed particular emphasis on the needs of the population and the protection of the landscape, animals and plants."
  What is your opinion of this statement?
    - In your opinion, what were the needs of the population?
    - To what extent can these needs be addressed to the project planning?
- How satisfied were you with the cooperation with the wind energy operating company?
    - To what extent did you personally get involved in the planning process of the wind park?
    - In your opinion, what went particularly well in the planning process?
    - In your opinion, what went less well in the planning process?

B) Perceived reactions of the community citizens to the project development process Project X

- How did you assess the interest of the entire community population in the project?
- Which groups of citizens were particularly active during the wind farm project development process?
    - Were there groups of or individual active proponent(s) of the project?
        - Approximately what proportion of the total affected community population did project proponents represent?
    - What were the protest movements?
        - Approximately what proportion of the total affected community population did opponents of the project represent?
        - To what extent did individuals play a role in this protest?

C) Financial Participation and dedication of the revenue generated by Project X

- To what extent does the revenue generated by the wind farm benefit the community population?
    - To what extent is the revenue generated explicitly earmarked?
        - If yes, what is the revenue earmarked/used for?
        - If so, to what extent was this communicated to the community's citizens during the planning process?

D) Ideal form of citizen participation of a hypothetical wind park project development process

- Hypothetical example: Assuming wind park planning was only in the hands of the community and proceeded independently of an operating company, what would you place particular emphasis on in the planning process?
    - What technical and economic characteristics should a wind park in your community ideally have?
    - In your opinion, what is the role of community involvement in the ideal wind park planning process?
        - To what extent and at what stage in the planning process should the community population ideally be involved?

        - What measures should be taken to involve the community population in the ideal planning process?
        - To what extent should community citizens have a say in individual aspects of the wind park, such as the wind park layout?
    - In your opinion, what are the greatest needs of the community population in the planning process of such a wind park?

Final question:

In your opinion, what are the greatest benefits of involving local people in the planning process of an infrastructure project?

Interview guideline I3

Objectives and function of the interviews:

- Identify the perspectives of the community citizens on the project development process for the Project X
- Identify ideal ideas of a wind farm project development process from the perspective of the community citizens
- Preparation for the following interviews with the community citizens

Method**:** qualitative semi-standardized (guideline-based) interviews; duration approx. 30-40 minutes per interview; subsequent transcription and evaluation (qualitative content analysis according to Kuckartz)

Target group: citizens of M1 and M2

Research questions:

- How do the community citizens feel about the development of wind power in the immediate vicinity of their homes?
- From the point of view of the community citizens, what went particularly well in the planning process, and what not so well?
- What was the exchange with the municipal council and the operating company like?
- What were the opportunities for active participation in the planning process for the wind park?
- To what extent do citizens wish to participate/be asked/have a say in the wind park planning process?
- To what extent do community citizens feel that they benefit from the revenues generated from the wind park?
- What features of a wind park and the associated planning process are particularly important to community citizens?

Thematic blocks/subjects:

A) Approach of community citizens to the planning process of Project X (procedural fairness, spectrum of citizen participation)

B) Ideal conception of a wind park planning process from the point of view of the community citizens (normative criteria, criteria of the democratic process)

Entry question:

Project X was completed in Spring 20XX after a planning process that lasted several years. What is your basic opinion on the expansion of wind power in your region?

A) Approach of the community citizens to the planning process of Project X

- In the issue X of the M1 community newspaper, an article was published on wind energy in M2. It states the following:
  "During planning, the wind energy operating company placed particular emphasis on the needs of the population and the protection of the landscape, animals and plants."

  What is your opinion of this statement?

  - What were your needs in the planning process of Project X?
  - How did you express your needs in the planning process of Project X?
    - Were you asked about your needs, interests or opinion during the planning process?
    - If so, by whom and in what form?
  - To what extent did you feel that the municipal council and the wind energy operating company actively addressed your needs and interests?
    - What do you think happened to the feedback you gave?
  - What was the process of securing land? (Only relevant for landowners)
  - How satisfied were you with the wind farm planning process?
    - How satisfied were you with the work of the wind energy operating company?
    - How satisfied were you with the work of the municipal council?
    - To what extent did you feel that the municipal council or wind energy operating company actively sought discussion/exchange with you in the planning process?
    - In your opinion, what could have been done better in the planning process of the wind farm?
  - To what extent were you interested in the construction of the wind farm in your community and the associated planning process?
    - How did you express interest in the wind farm planning process?
    - How did you assess the interest in the wind farm on the part of other community citizens? (Perception of overall interest)
  - During the wind farm planning process, to what extent did you feel that this created conflicts within the community?
    - To what extent were these expressed publicly?
  - To what extent do you personally feel that you benefit from Project X?
    - To what extent do you feel this is fair/justified?
    - To what extent do you personally benefit from the income from the wind farm?
    - For landowners: To what extent do you feel the financial compensation is appropriate?

B) Ideal perception of a wind park planning process from the point of view of the community citizens

I would like to do a little experiment with you: Please imagine the ideal wind farm and its planning process in your opinion. In this experiment, you alone can determine all the characteristics of the planning of this wind farm, as well as its layout.

- **Layout**: What does this ideal wind farm look like to you?

    - Where is it located? How far is it from the residential area?
    - How many and which turbines?
    - Should the wind turbines be located on private or communal land?
- **Planning**: To what extent would you like to have a say / be involved in the planning of a wind farm in your community?
    - How would you like to be involved in the planning process of a wind farm in your community?
        - Examples: Being asked for opinions, participation in workshops to jointly develop a WP layout, financial participation in the wind farm, referendum.
        - At what stage of the planning process would you like to be involved?
        - What time commitment would you personally make to be involved in the planning process of a wind farm?
            - ...For example, to work on a wind farm layout together with other community citizens, the operating company, as well as the community council?
    - Who should make decisions about the wind farm layout (i.e. on which sand sites, which and how many turbines)?
        - To what extent should the opinions and interests of community citizens be considered in the planning process and incorporated into the final layout?
        - To what extent should the planning of the layout be the responsibility of the community or the operating company?
- **Revenues**: Where should the revenues from the wind farm go?
    - For example, earmarking for the construction of municipal infrastructure, to landowners, distributed directly to citizens in the form of vouchers or relief from municipal taxes, direct financial participation of a wind turbine.
    - To what extent can you imagine to be financially involved in a wind farm?
        - That is, to bear investment costs and in return receive returns/dividends of the proceeds of the energy fed into the grid over a period of about 20 years?

Final question:

We have now talked about the planning process of Project X on the one hand, and on the other hand about the characteristics of your ideal wind farm and its planning process on the other. If you could express one wish for the further development of wind power in your region, what would it be?

Alternative: What is particularly important to you in the development of wind power in your region?