Deliverable 2.3: Taxonomy of social acceptance drivers and barriers

Date: 18.12.18

Version V3

Summary

WP	2	Name of the WP: Social acceptance analyses in target regions/communities		
Dissemination level:		Public	Due delivery date:	31 July 2018
Nature:		Report	Actual delivery date:	11 December 2018
Lead beneficiary:			CICERO	
Contributing beneficiaries:				
Authors:			Stine Aakre, Merethe Dotterud Leiren, Kristin Linnerud Contributing authors: Rosaria Di Nucci, Michael Krug, Elena De Luca, Nicoletta del Bufalo, Tania Giuffrida, Ivars Kudrenickis, Pouyan Maleki-Dizaji, Piotr Nowakowski, Maria Cristina Tommasino, Ryszard Wnuk, Gabi Zink-Ehlert, Aija Zucika	

Document history					
Version	Date	Submitted by	Partner	Reviewed/Approved by/Partner	Date
V0	04.09.18	Stine Aakre	CICERO	FUB-FFU	07.09.18
V1	14.09.18	Stine Aakre	CICERO	FUB-FFU	25.10.18
V2	11.12.18	Merethe Dotterud Leiren	CICERO	FFU (Michael Krug)	14.12.18
V3	18.12.18	Merethe Dotterud Leiren	CICERO	FUB-FFU	18.12.18

WinWind has received funding from European Union's Horizon 2020 Research and Innovation programme under Grant Agreement Nº 764717. The sole responsibility for any errors or omissions made lies with the consortium. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained therein.

Abstract

The overall objective of the EU project WinWind is to enhance the (socially inclusive) deployment of wind energy by increasing social acceptance of, and support for, onshore wind energy in 'wind energy scarce regions' (WESR). The target regions are: Saxony and Thuringia in Germany, Lazio and Abruzzo in Italy, Latvia as a whole, Mid-Norway, the Warmian-Masurian Voivodeship in Poland and the Balearic Islands in Spain.

Work package 2 includes a systematic analysis of social acceptance barriers and drivers across the WESRs. The aim of this report (Deliverable 2.3), is to provide a taxonomy of acceptance barriers and drivers in the WESRs. The structure of the taxonomy is based on two previous studies undertaken in the frame of WinWind: Deliverable 2.1, which reviews the relevant literature on social acceptance of wind energy, and describes the technical, socio-economic and regulatory conditions for wind energy in the WESRs; and Deliverable 2.2, which presents a conceptual framework for analysing social acceptance barriers and drivers in the WESRs.

The taxonomy is structured as follows: After a brief introductory section in part 1, in part 2 we present key concepts, categories and definitions relevant to the study of social acceptance of wind energy. In part 3, we present the structure, classification and categorisation of the taxonomy. In part 4, we provide an overview of similarities and differences in barriers and drivers of acceptance in the WESRs. Appendix 1 gives specific information from all the WinWind target regions/countries provided by the partners. Appendix 2 presents a revised template that can be used by stakeholders, when assessing the importance of the different factors (i.e. scale of impact factors).

Contents

1 Introduction

WinWind has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement Nº 764717. The overall objective of WinWind is to enhance the (socially inclusive) deployment of wind energy by increasing social acceptance of, and support for, onshore wind energy in "wind energy scarce regions" (WESR). The target regions are: Saxony and Thuringia in Germany, Lazio and Abruzzo in Italy, Latvia as a whole, Mid-Norway, the Warmian-Masurian Voivodeship in Poland and the Balearic Islands in Spain.

As part of this work, WinWind has developed the following taxonomy of social acceptance barriers and drivers. The aim of the taxonomy is to identify differences and similarities in the acceptance-related patterns of these regions, providing a systematic overview of key similarities and differences between social acceptance drivers and barriers. It comprises a classification, coding and grouping of acceptance barriers and drivers as well as policies and corporate measures that aim to enhance acceptance. The results will be integrated into other activities in the WinWind project (in particular WP 3, Task 3.4, as part of the stakeholder dialogues and consultations, and WP 7, Task 7.5, which envisages the development of an interactive decision support tool.

This document presents the information collected, and provides an overview of key similarities and differences between social acceptance drivers and barriers in the WinWind target regions, including size and ownership of projects, perceived procedural or distributional justice of planning and permitting processes, grid infrastructure, critical community acceptance issues, like visual impact, noise, infrasound, shadow flicker, distance from residential buildings, protected areas etc., energy policy frameworks and support schemes, and policy measures to ensure community acceptance and support through procedural and financial participation. It also includes a template to assess social acceptance barriers and drivers. The template is based on the findings of the literature analysis (Deliverable 2.1), which reviews the relevant literature on social acceptance of wind energy, and describes the technical, socio-economic and regulatory conditions for wind energy in the WESRs. The template is moreover based on Deliverable 2.2, which presents a conceptual framework for analysing social acceptance barriers and drivers in the WESRs.

1.1 Methodology

The taxonomy was developed in three steps: Specifically, the information to be collected consists of 1) a specification of relevant barriers and drivers, and 2) an evaluation of the gravity of each barrier:

1. A template was developed based on the Literature Review (Deliverable 2.1) and the Conceptual Framework (Deliverable 2.2). After earlier rounds of comments from the WinWind partners, a template was completed on 14 September 2019.
2. The WinWind project partners assessed and specified the relevant barriers and drivers in the target regions in their respective countries, using the template. Their input is included in Appendix 1, which was completed by 11 December 2018.
3. The gravity of each of the specified barriers will be evaluated by the stakeholders, as part of the regional stakeholder consultations in work package 3 (Task 3.4). The level of impact of each barrier will be evaluated using a scale from -3 to 3, where -3 indicates "very strong

acceptance barrier" and +3 indicates "very strong driver". Combining information on how frequently a given barrier is reported by the regions/countries with information on the barrier impacts will allow us to estimate the overall *criticality* of each barrier across the WESRs. It will form the basis for an overall assessment of the frequency and gravity of each barrier across the different WinWind target regions. This will be presented in an updated version of the present report, to be completed by 31 May 2019.

1.2 Structure of this report

The main purpose of this report is to provide a taxonomy and a classification and analysis of the existing acceptance barriers and drivers. In a second iteration the barriers and drivers will be classified according to their gravity and the analysis will distinguish the perception of the importance of these barriers according to regions, countries, stakeholders and the project as a whole.

In part 2, we present key concepts, categories and definitions that we use in the taxonomy.

In part 3, we present the structure of the taxonomy, including the classification, and grouping of acceptance barriers/drivers and policy and corporate measures that aim to enhance acceptance.

In part 4, we use the barrier specification, based on input from the WinWind partners, to provide a systematic overview of key similarities and differences between social acceptance barriers and drivers in the WinWind target regions.

Appendix 1 contains brief assessments of the acceptance barriers and drivers in the WinWind target regions conducted by the partners.

In Appendix 2, we provide a guide for the stakeholders in specifying and evaluating the barriers to social acceptance.

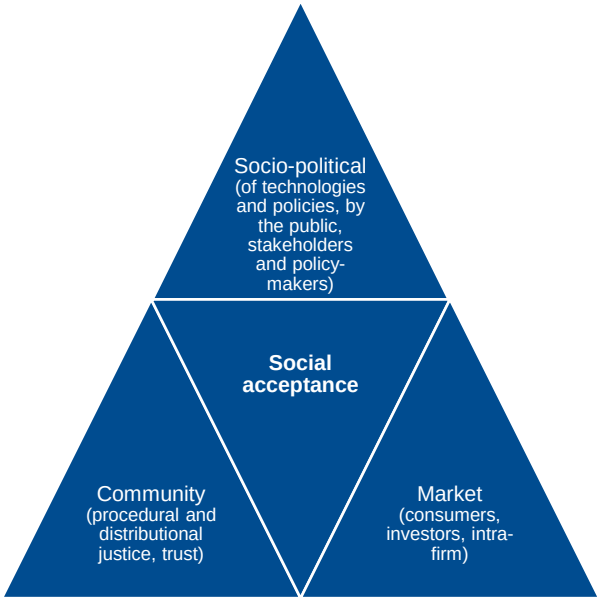
2 Concepts, categories and definitions

Broadly speaking, social acceptance may be defined as "a favourable or positive response (including attitude, intention, behaviour and — where appropriate — use) relating to a proposed or in situ technology or socio-technical system by members of a given social unit (country or region, community or town and household, organization)" (Upham et al. 2015, p. 103).

2.1 Socio-political acceptance, market acceptance and community acceptance

The WinWind project is primarily concerned with analysing **community acceptance** of specific wind energy projects. Figure 1 shows how community acceptance interacts with other dimensions of social acceptance. **Socio-political acceptance** refers to the general support for technologies and policies, whereas **market acceptance** relates to the meso level, involving consumer-, investor-, and intra-firm acceptance. **Community acceptance** refers to the specific acceptance of siting decisions and renewable energy projects by local stakeholders, in particular residents and local authorities.

Figure 1. The triangle of social acceptance of renewable energy innovation



Source: Wüstenhagen et al. 2007.

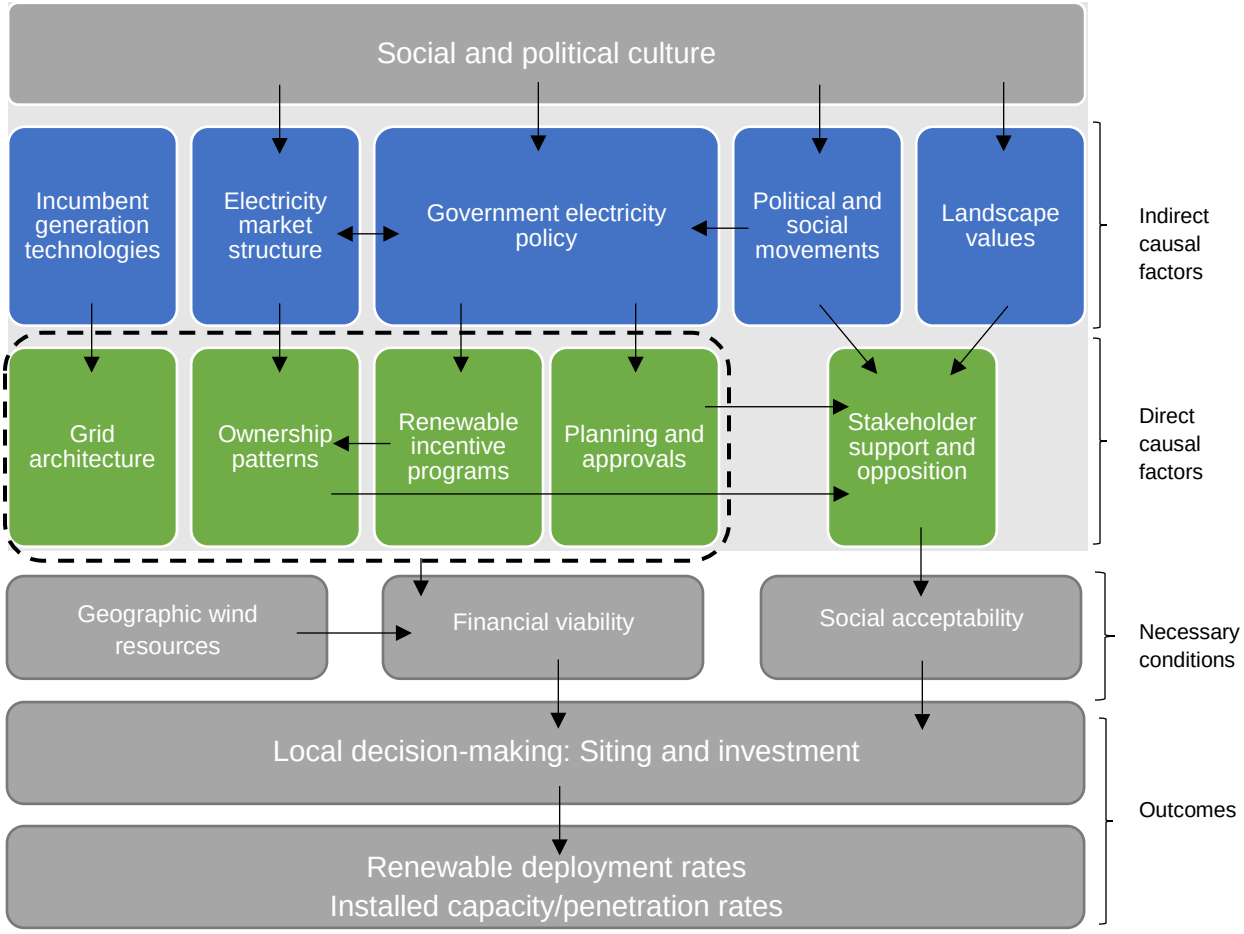
As discussed in the Literature Review and the Conceptual Framework (Deliverables 2.1 and 2.2), social acceptance of wind energy as an object is multi-faceted (as a technology, as projects, and as products), it is produced or constrained within a larger context (social acceptability), at different scales (socio-political, community and market), by actors at different levels (general, local), and by the relationship between them.

2.2 Social acceptance and wind energy deployment

Understanding social acceptance is key to understanding the prospects for successful wind energy deployment. While social acceptance can be regarded a *necessary condition* for successful wind energy deployment, it is not a *sufficient condition*.

Ferguson-Martin and Hill (2011) present a framework in which they conceptualise wind energy technology deployment as the outcome of a larger process of investment and local siting decisions. **Financial viability** and **social acceptability** (and ultimately social acceptance) are necessary conditions for successful deployment. Both are shaped by a range of factors (e.g. social, political and institutional), as shown in Figure 2 below.

Figure 2 Factors influencing wind energy deployment rates



Source: Ferguson-Martin and Hill (2011)

The financial viability of wind energy is determined by factors such as turbine and electricity prices, wind speeds resp. local wind energy densities, and by institutional factors such as grid architecture, ownership structures, the degree of certainty in planning and approval processes, and the nature and extent of financial incentives for wind energy.

Social acceptability (and acceptance) is determined by stakeholder attitudes, which in turn are shaped by the "nature of the planning and approval process (i.e. the effectiveness of public engagement), the degree of local ownership, the landscape values held by affected stakeholders, and broader socio-political movements around energy and electricity" (Ferguson-Martin and Hill 2011, p. 1650). Stakeholders include both supporters and those opposed, where those in favour "are generally centred on environmental concerns, such as climate change or air pollution, but can also include potential economic development, energy security and concerns over other energy technologies", while opponents typically cite concerns such as "noise, health impacts, landscape and aesthetic impacts, wildlife concerns, property value, and procedural fairness".

Thus, although the primary concern of the WinWind project is with understanding community acceptance (i.e. acceptance by local stakeholders, local populations, policy-makers and administration) of wind energy projects (i.e. acceptance of specific wind energy projects at a local level), it is important to be aware that such acceptance (as an outcome) is produced within a larger, complex and dynamic process.

2.3 Barrier identification and prioritisation

Wind energy is one of the key technologies in the endeavour to decarbonise the energy sector. However, this implies that more wind turbines need to be set up and that more sites to place them have to be identified. In broad surveys capturing socio-political acceptance, the public is generally in favour of wind energy. Implementation on a local level has, however, sometimes proved to be more challenging. For example, when mapping lead times for projects in the EU in 2007-2008, the European project WindBarriers found that over 20% of wind energy projects were delayed and close to 20% were seriously threatened due to appeals from local communities (Iuga et al. 2016).

Successful (and socially inclusive) wind energy deployment requires that barriers are identified, and that they are prioritized to ensure efficient resource allocation and effective measures to increase overall acceptance and support (Mosannenzadeh et al. 2017).

Tables 1 and 2 below summarise key categories and definitions of social acceptance.

Table 1. Acceptance types, objects and subjects

Acceptance type	Acceptance object	Acceptance subject
Socio-political acceptance	Wind energy, wind energy technology or associated policy	General public, central stakeholders, policy-makers
Community acceptance	Specific wind energy project at local level	Local stakeholders, local populations (particularly affected citizens), local policy makers and administration
Market acceptance	Technological products (wind turbines) or services associated with those products	Consumers, investors, companies, financing institutions.

Source: Adapted from Sonnberger and Ruddat 2017; Wüstenhagen et al. 2007.

Table 2. Definitions

Key definitions	
Acceptability	"The process of collective assessment of a given project (understood as the specific embodiment of complex interactions between technology and society within a given socio-technical project), integrating a plurality of actors (stakeholders) and spatial scales (from global to local), as well as involving the specific trajectory (past present and future) of a political group or polity (community/society)" (Fournis and Fortin 2016, p. 5).
Acceptance	"A favourable or positive response (including attitude, intention, behaviour and — where appropriate — use) relating to a proposed or in situ technology or socio-technical system by members of a given social unit (country or region, community or town and household, organization)" (Upham et al. 2015, p. 103)
Socio-political acceptance	Acceptance of both technologies and policies at the most general level. This general level is not limited to the general public, but includes acceptance by key stakeholders and policymakers.
Community acceptance	Acceptance of specific projects at the local level, including affected populations, key local stakeholders and local authorities
Market acceptance	Process by which market actors adopt and support (or otherwise) the energy innovation. Market acceptance is proposed in a wider sense, including not only consumers but also investors and, very significantly, intra-firm acceptance.
Barrier criticality	A barrier's criticality is defined as a function of 1) its frequency and 2) its level of impact.

Sources: Mosannenzadeh et al. 2017; Fournis and Fortin 2016; Upham et al. 2015; Wüstenhagen et al. 2007.

3 A taxonomy of the main barriers and drivers of social acceptance

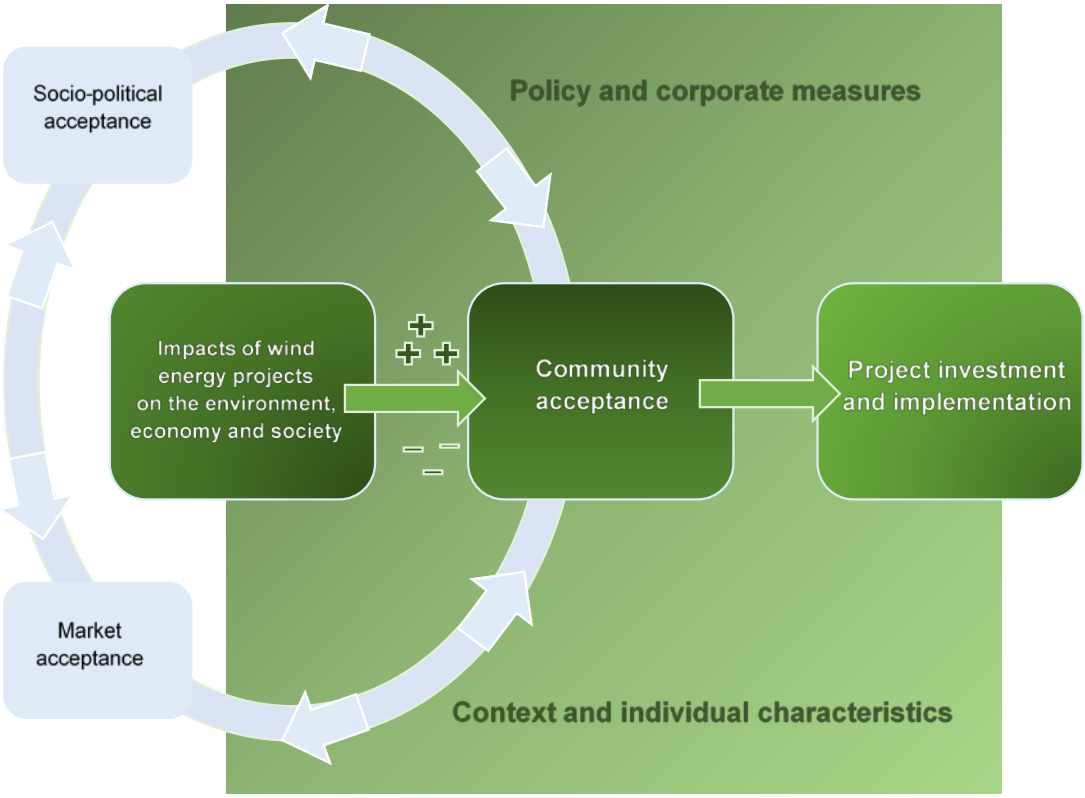
The selection and classification of main acceptance barriers draws extensively on two previous reports (Deliverables 2.1 and 2.2) The first of these reports (Deliverable 2.1) consists of (1) a review of existing scientific literature on the social acceptance of wind energy, and (2) information about technical, socio-economic and regulatory conditions in the WESRs.

The literature review focuses on the key peer-reviewed contributions published in scientific journals, primarily from the period 2007 to present. Relevant literature was identified through several key word searches (e.g. “wind energy” or similar, “social acceptance” or similar) in Scopus, Web of Science, and Google Scholar. The articles represent a broad range of themes, variables, disciplines and methodologies. Information on each article was entered into a detailed summary matrix to catalogue the year, research questions, methods, analysis techniques, geographic coverage, explanatory variables examined, major conclusions, and additional research recommendations of each study. These data formed the basis for the conceptual framework for analysing social acceptance barriers and drivers in the WESRs, presented in the second report (Deliverable 2.2) and summarised in Figure 3 below.

Broadly speaking, the reviewed literature on social acceptance suggests that community acceptance of specific wind energy projects is shaped by the (1) environmental (e.g. birds, bats, wildlife, ecosystems), (2) economic (e.g. costs and benefits, tourism, property prices, regional value creation, employment, distribution of costs and benefits), (3) societal (e.g. human health and well-being) impacts of the project (4), process related (e.g. transparency of information, formal/informal participation of citizens) and (5) contextual factors (e.g. national or regional energy market characteristics, regulatory conditions, political and institutional context, actor constellations), individual characteristics (e.g. personal values, socio-demographic factors) and measures that modify how these impacts are perceived. These measures include both policy and corporate *activities* specifically related to a particular wind energy project, targeting a particular acceptance factor or groups of acceptance factors to influence community acceptance. Examples of policy and corporate measures include activities aimed at increasing transparency (e.g. sharing of project relevant information) and inclusiveness (e.g. identifying and interacting with all relevant stakeholders) to enhance the perceived procedural justice, and the establishment of a benefit sharing scheme (e.g. a community fund, local contracting and local ownership) to enhance perceived distributional justice. A national, regional or local authority may introduce regulations to ensure a minimum degree of community ownership.

The Literature Analysis (Deliverable 2.1) which provides the basis for the present report, also includes a brief description of the physical, technical and political context for wind energy development in each of the WESRs. It describes the technical conditions for wind energy and challenges related to market development and grid connectivity. The report moreover describes relevant policies, support schemes and institutions that govern the development of wind energy. This part complements the literature review by focusing on factors that may influence social acceptance at the socio-political and market scale in the target regions of the WinWind project.

Figure 3. A conceptual framework for analysing social acceptance in the WESRs



To the extent possible, the classification of acceptance barriers and drivers in the taxonomy follows the methodological framework for good/best practice selection and analysis, which was prepared in the frame of the WinWind project (Deliverable 4.1). Good practices are measures either taken by the wind industry (project developers/planners, operators, investors, industry associations) or by public/policy actors to enhance social acceptance and to address social acceptance barriers, and which have been proven to work well and produce good results and are therefore recommended as a model. They are successful experiences, which have been tested and validated, are transferable and can be shared so that a greater number of people can adopt them (cf. Krug and Di Nucci 2018, p. 4, FAO 2014). Best practices are proven or innovative corporate or policy measures, preferably implemented in a WinWind model region, target region or any other region of the WinWind partner countries, or third countries (Krug and Di Nucci 2018, p. 14). Best practices are considered to be superior to good practices because they require innovative, testable, and replicable approaches which contribute to the improved performance of a project or policy, usually recognized as best by peer organizations (Rumohr-Voskuil 2014).

3.1 Main acceptance barriers and drivers

The literature review of social acceptance barriers and drivers (presented in Deliverable 2.1) highlights the complexity of social acceptance. For instance, although the WinWind project is primarily concerned with analysing community acceptance of specific wind energy projects, the report emphasises the fact that social acceptance is produced at different scales (socio-political, market and community acceptance), and these dimensions interact in shaping acceptance of wind energy development. Also, the report highlights the difference between outcomes and process (acceptance versus acceptability) and the fact that social acceptance can be regarded as one necessary condition for the successful deployment of wind energy technologies (besides financial viability). Regarding the latter point, in their study of social acceptance of wind energy development in Canadian provinces, Ferguson-Martin and Hill (2011) find that "the pro-wind gained political influence by capitalizing on a social movement toward banning coal and a need to create green energy jobs". The salience of these acceptance drivers could depend on factors such as incumbent generation technologies and the extent to which jobs are created locally. These complexities must be kept in mind aiming to enhance the (socially inclusive) deployment of wind energy increasing the social acceptance of wind energy in the WESRs.

A central theme in the peer-reviewed literature assessed in the above-mentioned report is the location-specific nature of impacts of wind energy projects, and how these impacts are perceived and valued by local communities. For instance, impacts depend on the technical and geographical characteristics of the respective wind energy project. Also, the environmental, economic and societal impacts of wind energy development could depend on what wildlife species are present in a particular location, on the extent and nature of local tourism, and whether the proposed land use changes conflict with existing societal uses, for instance by indigenous groups. How such impacts are perceived and valued, in turn, also depends on a range of contextual factors (including political-administrative factors) and personal factors (e.g. individual experience with wind projects, personal attitudes and values including political and socio-cultural values, and socio-psychological factors). Again, such location-specific nuances must be considered in order to fully understand local responses to wind energy development in the WESRs.

Location-specific characteristics are also key to the successful governance of wind energy development, and to the design and implementation of policy and corporate measures aimed at enhancing social acceptance in cases where barriers are identified.

Local environmental, economic and societal impacts are key determinants in shaping social acceptance. Despite the very location-specific nature of such impacts, however, there seems to be a consensus in literature on the importance of the following three factors in shaping social acceptance, across diverse contexts:

1. **procedural justice** (fair and participative decision-making processes),
2. **distributional justice** (fair distribution of costs and benefits), and
3. **trust** (in information and the intentions of key actors)

Although recognized as among the more critical factors shaping social acceptance in general, the salience of each of these factors in a specific project depends on context-specific factors (including general socio-political acceptance and market acceptance), how these factors interact, and on the extent to which policy and corporate measures are introduced to address them. Thus, although common acceptance factors and "good practices" have been identified in the literature, it ultimately

depends on the specific circumstances and challenges surrounding a particular project how justice and trust are ensured.

Thus, a general conclusion from the literature review is that there is no “one size fits all” solution to enhancing social acceptance in the WinWind regions. Each project is unique, facing unique challenges and opportunities, rooted in the local context.

Indeed, the literature review also clearly illustrates the very different technical, socio-economic and regulatory conditions for wind energy development in the six WinWind countries. Thus, while the findings from the review can help direct attention to central challenges and key questions related to the social acceptance of wind energy development, solutions and answers to these questions must take into consideration the regional context and location-specific factors that ultimately shape community acceptance of specific wind energy projects.

3.2 Key categories of acceptance factors in the taxonomy

Table 3 presents a taxonomy of the main categories of acceptance factors. Each acceptance factor, including the relevant research on their potential effects on social acceptance, is discussed in more detail in Deliverable 2.1.

The taxonomy has been filled with information for each region in Appendix 1. This Information forms the basis for the overview of key similarities and differences between social acceptance drivers and barriers in the WinWind target regions (in Section 4). A revised template, which includes the scope of the impact factors, for stakeholders to assess, is provided in Appendix 2.

Table 3. A taxonomy of acceptance factors in the WinWind regions

Acceptance factor category	Acceptance factors	Specification of factor (general or specific to target region)	Measures **Policy** (National, regional, local); **Corporate** (developers, other market actors)
Technical characteristics of project	Visibility, number and size of plants Distance from residential areas, protected areas Grid infrastructure Other		
Impact on Environment	Effect on the physical environment (e.g. change of landscape, protected areas, increased traffic) Effect on biodiversity and wildlife Effect on greenhouse gas emissions, energy mix Other		
Impact on Economy	Effect on local economy (e.g. tourism, agriculture, jobs) Effect on individuals' economy (e.g. property values) Distributional justice (i.e. distribution of burdens and benefits (a) geographical distribution between regions (b) distribution among actors within community) Ownership of land and plants Other		
Impact on Society	Health, well-being, quality of life (e.g. noise pollution, visual impact, recreation) Other		
Individual characteristics	Socio-cultural values Sense of place, self-identity, place attachment Discourses on wind energy Attitudes (e.g. political, environmental, towards wind energy) Other		
Market	Share of wind energy and other renewables Energy demand (e.g. exporter/importer of electricity, security of supply)		

	Other		
Planning and permitting process	Procedural justice (formal/informal participation and consultation) Information and transparency Other		
Governance and regulatory framework	National/regional/local targets, plans and policies Other		
Trust	Trust in key actors and processes Other		
Other	Factors not listed above		

Sources: Adapted from IEA 2013; Krug and Di Nucci 2018; Linnerud et al. 2018a, b; Zaunbrecher and Ziefle 2016.

4 Similarities and differences of acceptance factors in the WESRs

Input from the WinWind partners to the taxonomy and the description of the technical, regulatory and socio-economic conditions for wind energy in the WES target regions in Deliverable 2.1, show the patterns of differences and similarities that exist across the regions. We summarise the key findings under the taxonomy's categories for social acceptance drivers and barriers:

4.1 Technical characteristics of projects

The category "Technical characteristics of projects" includes: visibility, number and size of plants; distance from residential and protected areas; and grid infrastructure.

Related to visibility, several studies have proposed that impacts from wind facilities may be cumulative, increasing with the size of turbines, the number of turbines visible, and the clustering of turbines (Petrova, 2013; Walker et al., 2014). However, other European studies have not found a significant correlation between the number of turbines and negative attitudes (Krohn & Damborg, 1999; Pohl et al., 2012). Questions around cumulative impacts and visual accessibility deserve additional study. However, in Norway there is certain evidence that wind projects enjoy higher acceptance levels for example in terms of support from local authorities, once original number and size of plants have been reduced. In the Warmian-Mazurian Region experiences also tend to support the view that a large number of wind turbines affects social acceptance negatively. However, visual impacts are not universally negative; there is also some, although more random evidence for positive visual and symbolic perceptions of wind turbines, for example in Germany.

Distance from residential and protected areas is an important social acceptance factor. The literature review highlights that siting of turbines close to the most sensitive and protected landscapes provokes the most negative responses to wind energy. All the WESRs under investigation have *restrictions on land use*. For example, they all define certain nature conservation areas that cannot be used for wind energy production. Most of the WESRs also have rules on minimum setback distances between settlements and the wind turbines. In Lazio and Abruzzo, the use of wind power is forbidden in urban areas. In Germany, the regional planning bodies define specific setback distances for settlement areas, infrastructure objects, monuments, and protected areas when designating suitable/preferable areas for wind energy in their regional plans. As a consequence, minimum distances between wind turbines and residential areas, for instance, may vary substantially across the sixteen federal states of Germany. In Saxony, the setback distance between wind turbines and residential areas used to be fixed at 1,000 metres but is more flexible under the new government. In Thuringia setback distances depend on the height of the wind turbine (>150 m: 1,000 m, <150 m: 750 m). In Latvia wind power plants shall not be placed closer than 500 metres to residential houses in rural areas and 1,000 metres to dense existing or planned residential buildings or public buildings. The distance between residential houses in rural areas and wind farms shall be no less than five times larger than the maximum height of the wind power station; for dense residential buildings and public buildings the distance shall be at least 2,000 metres. Poland also has setback distance regulations. In May 2016, Poland adopted limits on where wind farms can be built. Wind farms must be built at a distance from housing of at least 10 times the height of turbine. In contrast, Norway does not have such setback rules, but because of noise and shadow flicker regulations there needs to be a

distance of typically 700-900 metres from houses. In relation to the 'national frame' for wind energy that the Norwegian regulator will launch 1 April 2019, the regulator recommends that a minimum setback standard should be introduced, but with exceptions.

However, in the literature there is no clear consensus on the relationship between social acceptance and distance to wind turbines, but setback rules may be important for social acceptability. One effect of such rules is that they exclude large areas from potential use for wind turbines. For example, the setback rules referring to settlement areas in Thuringia exclude 60% of Thuringia's area from being used for wind power. Interests like wind energy developers argue that setback distances are often too large (e.g. in the Balearic Islands, Latvia).

In general, in the WESRs, the larger the distance of wind turbines from settlements and single houses, the higher the local acceptability/acceptance. However, this is not true everywhere. In Norway wind power development typically occurs in rural areas where the population density is scarce and wind resources large. Most planned projects occur in 'untouched' nature. This creates resistance among people and interest groups, who value such nature and use it for fishing, hunting, reindeer herding. Friends of Earth proposes that wind power development should occur closer to industry and in areas where nature has already been 'touched'; this means closer to houses and therefore also smaller wind turbines, which gives less effect. Others argue that it is better with bigger and fewer wind turbines, than many small ones.

Wind energy creates pressures on *grid infrastructure* and grid capacity. This is clear for example in Italy, where a large majority of new requests for connection to the national grid is because of new wind turbines. In Germany a major challenge is to improve transport of electricity from the northern/eastern regions where there is a lot of wind energy to the south of Germany where wind energy is not as developed and there is a high demand for power. In Italy, Germany and Norway grids are being upgraded to improve the security of supply and increase the capacity. Such improvements represent a social acceptability driver in many cases.

We also see that harsh climate, as in Norway, creates challenges for grid maintenance and causing outages. Other regions, like the Warmian-Masurian Province in Poland, experience grid problems due to a poor network and therefore a constant threat of power loss in large areas in the region, where power loss issues hamper the development of wind power.

Improvements in grid capacity may affect social acceptance in a negative way if wind power increases the need for grids that are perceived as large nature interventions (e.g. conflicts related to "monster masts" in Norway). The effect may enhance social acceptance when it contributes to expansion and increased capacity of existing grids that are considered weak and limits local businesses in expanding their activities. This has been important for municipalities in, for example, Fosen in Norway.

In Latvia grid infrastructure projects like interconnectors with the Nordic electricity market cause resistance against wind power, because certain groups in society argue for cheaper electricity from the Nordic market provided through interconnectors instead of domestic wind energy production. Also, in Thuringia and Saxony there are concerns related to increasing electricity bills. Where grid upgrades add to the electricity bill the increasing price may create a social acceptability barrier.

4.2 Impact on environment

The category “Impact on environment” comprises *effects* on: the physical environment (e.g. change of landscape, protected areas, increased traffic), biodiversity and wildlife, greenhouse gas (GHG) emissions, the energy mix.

Landscape change and effects on *biodiversity and wildlife* are among the most important factors that negatively affect the local acceptance of wind energy projects and is mentioned as a barrier for social acceptance in all the WESRs. People perceive risks for the cultural and natural landscape. In Thuringia and other regions of Germany environmental NGOs and citizen initiatives opposing wind energy often demand more independent environmental impact assessments and expertises including expertises on the impact on wildlife. As a rule, such expertises are commissioned and paid for by the project developers which increases the risk of “courtesy expertises”. Also, in Norway interest groups like Friends of the Earth point out that environmental concerns are not being assessed as good as other aspects in impact assessments, an argument that has received support from the national audit authorities.

Increased traffic is also an issue that creates concern. While in Germany potential sites can often be reached using the existing road network, new roads typically have to be built for new wind energy projects in Norway. This results in large nature interventions in areas that are sparsely populated, where noise levels are lower and expectations of quietness higher than in urban areas. Increased traffic and wind turbines also disturb reindeer herding, which is an important industry for the Norwegian minority, the Sami population.

Dismantling and restoration of the used land is also important for the physical landscape. In Germany operators have to ensure that they will dismantle wind turbines and restore the nature back to how it was prior to being allowed to construct, for example by providing a bank guarantee. Operators are required to dismantle the whole turbine and remove the foundations up to a minimum of 1 meter into the ground so that the land can be used for agriculture. Poland also has rules that require that the area of wind parks shall be restored to its state before construction was made. In Norway the regulator requires that the wind park owner – after 12 years in operation – makes a plan for how to remove the wind turbines and recover the nature to its ‘original’ state. The regulator approves the plan. However, the nature will never be exactly like it used to be.

The effect of wind energy on *greenhouse gas emissions* is one important acceptance driver in Thuringia, Saxony, Lazio, Abruzzo, Warmian-Mazurian Province and the Balearic Islands. However, in Germany opponents argue that GHG savings from wind energy are only small or even non-existent, when taking into account lifecycle GHG emissions. In Latvia climate mitigation is not perceived as being an important argument in the discourse, where the focus is much more on the fear of increasing electricity prices as the share of renewables in the *energy mix* is already high. In Norway one common argument is that wind power does not have any climate change mitigation effect domestically because the power sector is already fully renewable; therefore, the country should not destroy its nature. Other certain green NGOs and wind power associations that promote wind energy as a climate change mitigation solution, arguing that there will be a higher need for electricity in future, when other sectors are electrified, and that Europe needs Norwegian wind power. Along these lines, the argument is that climate change will have a greater impact on nature than wind power constructions.

4.3 Impact on economy

The impact on economy category include effect on local economy (e.g. tourism, agriculture, jobs), effect on individuals' economy (e.g. property values), distributional justice (i.e. distribution of burdens and benefits (a) geographical distribution between regions (b) distribution among actors within community), and ownership of land and plants.

Creation of *regional/local added value* in the form of tax revenues for municipalities, increased activity for local businesses and local employment is one key driver for local acceptance in the two German regions, the Warmian-Mazurian Province, Latvia and Norway, and has contributed to ensure local acceptance of wind energy projects. However, the extent to which local value creation can help to ensure local acceptance depends very much on the specific context, actor constellations and local circumstances of each individual project. In Germany the expected tax income for municipalities is often lower than expected. Similarly, in Norway municipalities with property tax, consider the tax income as particularly important, but the association for wind power municipalities argue that local compensation/benefits should be higher than today.

In general, there are concerns related to *tourism*, particularly highlighted in the two Italian regions and the Balearic Islands, whose economies are dependent on tourism.

In rural, depopulated areas, such as in many Norwegian municipalities, wind power development gives sign of new investments and a belief that new working places arise. During the construction phase, wind power development contributes with a large number of jobs in areas, where there are local competitive entrepreneurs, who can carry out the necessary jobs. However, once the construction phase has been completed the number of jobs will be much more limited. Thuringia has experienced a considerable increase in the number of working places in the wind energy sector (i.e. increased by almost 300 in from 2014 to 2016).

Income and profits from the operation of wind power plants, particularly among shareholders and land owners, and those who indirectly benefit from wind power projects is a key social acceptance driver. However, a likewise important acceptance barrier is the risk of decreasing *housing and property values*. This is similar in all the WESRs. In general, there is a negative correlation between visible wind turbines and the selling price of nearby homes and vacation homes.

Community wind parks including citizen-owned wind parks are an important acceptance driver in many regions of Germany due to the relatively high local added value they can generate. However, in East Germany (former GDR) local or community ownership of wind energy plants is underdeveloped. Also, in other countries, community ownership is less relevant. This also applies to Norway where it is primarily investors from abroad who invest in wind power projects.

The issues discussed above are closely related to *distributional justice.* In the German target regions of Saxony and Thuringia, host communities argue that they bear a disproportionate share of negative project impacts, that local communities and residents are forced "to finance wind and solar lobbyists, in return get higher electricity prices and must still financially compensate operators for turbines which have to be temporarily switched off due to grid improvements. In addition, grid usage charges (levy on the electricity price per kWh) vary regionally in Germany, depending on grid expansion activities. The highest electricity network tariffs exist in rural areas in the northern and eastern federal states, where wind energy expansion has progressed the most. This is considered a 'double' disadvantage. On the other hand, benefit sharing mechanisms, financial compensations for citizens and communities etc. can support distributional justice.

Renewable energy support schemes are also relevant to distributional justice. All the WESRs have support instruments for renewable energy including wind energy. However, Latvia has phased out its feed-in tariff support scheme (i.e. there is no feed-in tariff/feed-in premium support scheme for new RES power plants in Latvia) and Norway is phasing out its green certificate scheme in 2021. In Latvia the discussion has been heated with a focus on electricity prices, as in the past renewable energy support schemes contributed to drive up the costs for consumers. In Norway, there is also a focus on increasing electricity prices, but related to interconnectors abroad, not the renewable energy support instruments. Export of power to other countries increases the Norwegian electricity prices.

In contrast to price concerns, development of *new infrastructure* such as roads or ports (i.e. they need to be improved for the transport of wind turbines) is mentioned as a positive driver for social acceptance in Abruzzo, Latvia and Norway.

In some WinWind countries, it was mentioned that transferring and distributing part of wind park *owner* income to local communities can help to increase acceptance. In Germany there is extensive experience with community ownership of wind parks, but to a lesser extent in Thuringia and Saxony and other states in East Germany (former GDR) than in a number of West German regions (particularly Schleswig-Holstein). It means that profits and partly tax income do often not remain in the municipalities hosting wind power in Thuringia and Saxony. While there is a lack of experience with community ownership in Latvia, in the Warmian-Mazurian Province, and the Balearic Islands, such a measure was described as an important driver. In Norway, there are mainly foreign companies that invest in wind power. Foreign ownership is mentioned in Norwegian news and in discussions, but it is uncertain to what extent this is a social acceptance barrier. Also hydropower, which today is typically owned by local authorities, started out based on foreign investments. However, for large-scale hydropower (>10 MW) private companies can only own 30% and there is a ‘right of return’, meaning that the government takes over the hydropower plant after a certain number of years or the government asks for example, a local authority to buy the powerplant. For small-scale hydropower and wind power there are no such rules. For wind power, licenses are only granted for 25 years, with the obligation to make a cost plan for how to clean up the area by the end of the period, which means that national control over the areas of the wind power plants remains.

Norway differs from the other regions in particular because of distributional issues related to the indigenous people’s way of living, whose income is based on reindeer herding. Such farming is threatened by increasing pressure on land and untouched nature. Large areas in Mid-Norway and the majority of land in Northern Norway is used for raising reindeer. Reindeers are not kept in captivity, but roam free on pasture grounds.

4.4 Impact on society

The category “Impact on society” comprises health, well-being and quality of life (e.g. noise pollution, visual impact, recreation). The literature review emphasises the impacts of wind energy developments on human health and wellbeing, in particular of visual impacts and noise as well as the societal dimension of the use of contested land.

Health and well-being and quality of life issues are being raised in all the regions, although to a varying extent. For example, in Germany concerns that wind energy development could adversely

affect human health and well-being are regularly being raised, in particular: Wind turbine noise (and the extent to which such noise is associated with health issues, such as sleep disturbance, cardiovascular disorders, high blood pressure, headache, cognitive disruptions, stress, anxiety etc); low-frequency sound and infrasound; optical emissions (shadow flicker, aviation lighting); other operational risks (ice throw, forest fire); and electromagnetic frequencies from transmission lines. In contrast such issues have not been an important or relevant issue at the Balearic Islands, with the exception of noise, in particular being pointed out by the tourism industry.

In Norway recreational life related to skiing possibilities, hunting and fishing is highlighted.

4.5 Individual characteristics

The category “Individual characteristics” includes: socio-cultural values; sense of place, self-identity and place attachment; discourses on wind energy, and attitudes (e.g. political, environmental, towards wind energy).

Cultural identities and place attachment are other important acceptance factors. In Norway many sites for existing and planned wind power projects are found in reindeer habitat, where the Sami community enjoy constitutionally protected user rights over the area for reindeer grazing, and the area is culturally and spiritually significant. Contestations over wind power developments on traditional Sami lands are not isolated local disputes, but “cut to the heart of indigenous claims to self-determination and resource sovereignty” (Lawrence 2014, p. 1037).

In the Balearic Islands there are issues related to archaeological sites, which can be damaged as a consequence of wind power development.

People’s general *attitudes* towards wind energy or renewables vary across the countries. In Germany people are in general positive towards renewables; a dominating majority support further expansion of renewable energy and consider such a development important. Yet it should be mentioned that Thuringia and Saxony are part of the former GDR, where the population tends to support wind energy to a lesser extent than the population in other federal states in Germany. When it comes to the acceptability of wind turbines in the local neighbourhood, surveys show that support is generally lower, but interestingly, among those who have already turbines installed in their vicinities, support rates tend to be higher than among those who do not. In recent years opposition towards wind energy has been growing steadily in Thuringia and Saxony and becoming increasingly well organised.

In Latvia surveys indicate that there is a somewhat positive attitude towards renewables; however, a majority is not willing to pay more for energy. In this country, renewable energy has received rather negative attention in the media, mainly due to detrimental effects related to the pre-existing support scheme (e.g. increase in electricity tariffs as the number of those benefitting from feed-in support grew, a lack of communication on the feed-in support for different types of renewable energy installations, and illegal actions and misuse of the feed-in system that has in the meantime been phased-out).

In the Norwegian election survey in 2009 and 2013, a large majority agreed that wind power should be further developed in Norway. However, with increasing development that puts pressure on nature conservation, which has always spurred a lot of conflict in Norway, opposition against wind power might increase in future.

In the Warmian-Mazurian Province the general view of the population is that investments in wind energy can bring positive benefits for the region, including environmental improvements, boosting tax income and increasing employment. Also, in the Balearic Islands evidence suggests that the local population is largely in favour of wind energy. Similarly, in Italy a majority responds that they "trust" wind energy.

All the regions have particular cultural/nature heritage groups and/or environmental and conservation movements or interest groups that are against wind power, yet this is less pronounced in Latvia, where the focus is primarily on electricity costs.

4.6 Market

The market category refers to the share of wind energy and other renewables and energy demand (e.g. exporter/importer of electricity, security of supply, energy mix). The *share of renewable energy* in the energy resp. electricity mix of the target regions varies considerably. While the share of renewables in Norwegian electricity generation is 98%, it is 13.5% in Saxony. This is an important condition for social acceptability because one aim of increasing the share of wind energy is to phase-out fossil fuels. In Norway, opponents of wind energy point to the fact that Norwegian nature should not be destroyed, when the electricity generation is already fully renewable. This is in contrast to for example Poland, which is highly dependent on coal and where concerns regarding social welfare effects of phasing out coal are prevailing. Safeguarding coal interests is therefore more important than climate policy rationales. Also, in Saxony, one of the two German WinWind target regions, and one of the main lignite mining states in Germany, wind energy industry proponents continuously criticize state government for supporting the local lignite mining industry and slowing down the further development of wind energy, e.g. by rather restrictive designation of priority zones in spatial planning. In 2017, close to 40 per cent of German electricity generation were based on coal (hard coal, lignite), but in contrast to Poland, the Federal Government of Germany has, in 2018, set up a "Coal Commission" (Commission on Growth, Structural Change and Employment) to find the appropriate measures to phase out coal. In other words, the share of renewables in existing electricity generations affects social acceptability, but the relationship is not clear (e.g. the contrast between Poland and Germany). Both high shares of renewables (e.g. Norway) as well as high shares of fossil fuels and employment (e.g. Poland) may contribute to form opposition against wind energy.

While Norway and Saxony are exporters of electricity, all the other regions are dependent on import of electricity. Development of wind energy contributes to improve energy supply security and enhance the creation of regional/local added value. In so far, it is a social acceptance driver.

However, in German public discourses, opponents of wind energy emphasize that the intermittent electricity generation from wind results in comparatively low outputs requiring extra capacity, plus back-up from conventional power stations (fossil fuel, nuclear). Another argument put forth is that wind power plants can only cover a small proportion of society's needs and do not provide a satisfying solution, given the disadvantages.

4.7 Planning and permitting process

The category “Planning and permitting process” is about procedural justice (i.e. fair formal/informal participation of local residents and communities) and information and transparency. The literature review highlights the importance of stakeholder participation (Deliverable 2.1). Broad, substantial and early involvement of citizens is key to increased acceptance of wind energy. Wind power imposed from above tends to meet increasing opposition.

Almost all the countries involve the public in consultations either during the licensing process and/or spatial planning processes. In Italy the public is not involved in the general permitting/concession procedure, unless the regions establish public consultation procedures. In the Warmian-Mazurian Province the involvement of residents in planning and permitting processes is low in general.

Regarding stakeholder participation, a distinction can be made between formal and informal participation, where the latter type of participation comprises voluntary arrangements going beyond the formal statutory participation. The Planning Region of Oderland-Spree, one of the five planning regions in the federal state of Brandenburg, one of the model regions in Germany, has developed regular “wind plan dialogues” as an informal public participation instrument addressing those municipalities and stakeholders affected by the designation of suitable areas for wind energy in the corresponding regional plan. In Saxony (Upper Elbe Valley/East Ore Mountains) informal working groups were established accompanying the designation of areas for wind energy in spatial planning. In Fosen in Norway, a process for continuous developer and community dialogue was established in relation to the concession process.

In Thuringia and Saxony wind power opponents complain that the participation possibilities are provided only for larger municipalities and not for smaller, in particular rural ones. Municipalities’ ability to influence the exact position/design of wind turbines/height of the turbines within the priority zones in the frame of urban land use planning (micro-siting) is limited. There is a lack of effort to create local development plans. The designation of priority zones for wind energy in the regional plans is in a transitional stage, due to political and judicial decisions. It creates uncertainty for investors, communities and citizens and increases their concerns of an uncontrolled and uncoordinated development of wind energy. The local administrations including the mayors and other local decision makers (working as honorary persons, unpaid) often lack the capacities and resources to cope with the complex issue of planning, constructing and operating wind turbines and ensuring public participation. Municipalities and local residents perceive the designation of priority zones as a top-down process with limited scope to influence the process. They often feel badly informed and that their concerns and objections are not sufficiently considered. Citizens experience that they are poorly informed about the regional plans and criticize the limited scope of participation and possibilities to influence and shape the outcome of the planning process and the designation of priority zones. When it comes to permitting procedures in Thuringia and Saxony, many municipalities seem to be overloaded and over-challenged with wind energy planning in their jurisdictions. There is a need to support municipalities and residents by providing ‘neutral’ information and advice regarding the planning of wind energy plants, including informal procedural participation formats and financial participation for citizens and communities.

4.8 Governance and regulatory framework

The governance and regulatory framework category refers to national/regional/local targets, plans and policies. *National and regional policy targets for RES* is an important issue. Targets are considered as being important drivers for social acceptance, but not under every condition. In Latvia the discussion about renewable energy development is ongoing. Social acceptance depends on whether and how local communities are able to benefit on the renewables development.

In Thuringia the state government aims to cover its total primary energy supply by a mix of locally available RES by 2040. The area dedicated to the development of wind energy is planned to be increased from 0.3 to 1% of the total area. In Thuringia, the ambitious policy targets are often perceived as arbitrary and not well-argued by opponents. The process of target setting and breaking those targets down in the context of regional planning and the designation of suitable/preferable areas for wind energy is often perceived as biased and not open-ended.

In Norway, wind power is taxed to a lesser extent than hydro power. In 2018, surplus in the power sector is taxed as ordinary income with 23%. Hydropower plants with an installed capacity above 10 MW is subject to an additional resource tax of 35,7%; thus, marginal taxes may be as high as 58,7%. This means that large hydropower installations, often with the flexibility to regulate production, are taxed much more heavily than wind power and small hydropower. In addition, operators of large hydropower have to sell 10% of their production to lower-than-market prices to the municipality. Wind power is from 2016 subject to favourable tax depreciation rules. The investment can be depreciated linearly over only five years, resulting in more positive cash flows early in the project's life. Associations such as the one for wind power municipalities are of the opinion that wind power and hydro power should operate under the same taxation rules. The difference in taxation, combined with difference in ownership (hydro power is typically owned by local authorities, wind power by foreign investors), may contribute to reduce social acceptance for wind power.

4.9 Trust

Trust of citizens and local communities in key actors and processes of the planning and permitting process is key for local acceptance of wind turbines.

In general, there is high trust in Norwegian laws, institutions and regulations of the energy sector. While the Norwegian regulator has achieved high scores in survey about trust among citizens, opponents to wind energy argue that the regulator is biased towards the interests of wind power developers. In the Warmian-Mazurian Province there is a lack of trust in key actors and processes. In Thuringia and Saxony, there are low levels of trust in investors and planners, and often in regional or municipal decision-makers, which seem to prevail among citizens in relatively many municipalities in Thuringia. In Germany, the low level of trust is relatded ownership: Only 10 % of the companies operating renewable energy plants including wind turbines in Thuringia are local (i.e. based in Thuringia). There are few community wind energy plants. Most wind energy plants are owned by external investors. The owners of the land where turbines are located are often not local. It means that profits and taxes do not remain in the municipalities. These factors provide key barriers for the trust in the investors and planners of wind plants. Annulment of two of the four regional plans designating priority zones for wind energy in Thuringia by court decisions led partly

to aggressive and non-transparent land acquisition practices by developers. Project developers act in an increasingly competitive environment with strong cost pressure due to the transition from feed-in tariff system to competitive bidding procedures. There is a knowledge gap between professional wind energy developers, on the one hand, and municipal decision-makers and citizens, on the other. Municipalities, but also public authorities (responsible for planning and permitting) often face time, informational and staff constraints. The willingness of municipalities to enter into a dialogue with project developers is declining. The situation is partly aggravated by the following problems, particularly in rural areas: Decreasing trust of citizens in political and administrative elites; political alienation and increasing distance of citizens from the political institutions, actors and procedures; perceived heteronomy (including the perception that leading positions in politics, administration, jurisdiction, media etc. are occupied by elites from West Germany); perception of being left behind; perception of the *Energiewende* as an (urban) elitist project; increasing distrust towards scientific experts; increasing affinity to (right wing) populistic movements and parties.

In Latvia, past political decisions related to the renewables feed-in tariff have created scepticism of whether such tariffs are fair in the society. As a number of former politicians have been directly involved in the operation of renewable energy plants, including wind turbines, a great part of society does not trust related decisions.

All the countries, also Norway (which is a member of the European Economic Area), are obliged to adhere to the EU Environmental Impact Assessment Directive, but the information provided in such processes is not always trusted. In Latvia parts of society do no trust environmental impact assessment reports and objectivity/fairness of involved experts, as they consider them as being too much influenced by wind park developers. The same applies partly to Germany as well (see above).

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Appendix 1. Country/region-specific information

The partners have specified relevant acceptance factors in the third column, including information on whether the factor is general or specific to the region. Not all barriers listed are present in each region/country. Barriers that exist but are not listed are indicated in the third column, under “other”.

Finally, the fifth, sixth and seventh columns specify whether any measures (policy or corporate) have been introduced to address the acceptance factor, and if so, at what level (local, regional, or national). Information on policy and corporate measures in the target region can be entered in column five. In column six, examples of measures in other regions in the country can be provided. In column seven, please enter information on national measures which help to address the specific barrier. Some measures may address several barriers and are entered where relevant. For example, the Service Unit Wind Energy in Thuringia is directed at strengthening local value creation, financial participation of communities/citizens to achieve a more balanced distribution of costs and benefits, and trust-building. Much of the information contained in Appendix 1 is based on the WinWind Report “Technical and socio-economic conditions - Literature analysis” (Deliverable 2.1) (http://winwind-project.eu/fileadmin/user_upload/Resources/Del2.1_final.pdf). Additional references are contained below. Further sources include information provided by the stakeholders in the respective WinWind country desks.

Acceptance factor category	Acceptance factors	Specification of factor (please specify whether the factor is general or specific to target region)	Policy and corporate measures in target region	Measures/good practices from other regions in country	Measures taken at national level which help to address barrier
Technical characteristics of project	Visibility, number and size of plants	Thuringia and Saxony - Both states are inland regions. Due to lower average wind speeds, height of the turbine towers and rotor diameters are normally larger than in coastal areas. - Areas with good wind energy conditions are often located on mountain tops or ranges. This can negatively influence visibility of the plants. Furthermore, mountain tops/ranges are often covered by forests. - 0.3 % of the area in Thuringia is presently reserved for wind turbines. This share shall be increased to 1%.	- Visualization tools - Guided tours - Provision of hard and soft taboo zones in spatial planning - Some regional planning associations (e.g. Leipzig-West Saxony) define certain cultural landscape elements/areas as soft taboo zones stipulating that landscape-forming mountain ridges, hilltops and hilltop landscapes must be kept free of wind turbines. - Partly height restrictions in spatial planning (e.g. Saxony)	Brandenburg does not allow the total encirclement of a village with wind power plants	
		Lazio - Lazio is the second most populated and ninth largest region of Italy, with a population of 5,898,124 (2017), mostly concentrated in the Metropolitan City of Rome (4,353,738), an area of 17 242,29 km² and a population density of roughly 342 ab./km². It is divided into 5 provinces and located in the centre of Italy and it has borders with Tuscany, Umbria and Marche (N), Abruzzo, Molise (E), Campania (S) and it faces the Tyrrhenian Sea (W). The Region also includes the Pontine Islands off the southern coast. - In 2016, Lazio had a total installed wind energy capacity of 52.2 MW distributed in 46 plants with which it produced 97.4 GWh (Terna). ANEV (Associazione Nazionale Energia del Vento) estimates a total installed capacity of 750 MW by 2030, with relative production of 1.58 TWh.	- Energy Regional Plan (ERP)		- The Legislative Decree D.Lgs 387/03 transposed the EU Directive 2001/77/CE for the promotion of electricity from renewable energy sources - Ministerial Decree 10 September 2010 (national guidelines for RES plants authorization) - Annex IV
		Abruzzo The repowering process, replacing the obsolete WTGs with next-generation wind turbines, allows to increase the wind farm energy production and reduce the number of WTGs. It is specific for target region in which obsolete wind farm need to be restored.	- Since the approval of the D.G.R. n. 754 del 30 July 2007, the Abruzzo Region established the guidelines for the building of wind farms and indicated the directives to the Environmental Impact Assessment. - Public authorities' consultation during the final project phases. - Specific solutions have been agreed with the actors adapting the initial project plan to the territory needs.	The repowering was carried out in the neighbouring region Molise.	- The Legislative Decree D.Lgs 387/03 transposed the EU Directive 2001/77/CE for the promotion of electricity from renewable energy sources - Ministerial Decree 10 September 2010 (national guidelines for RES plants authorization) - Annex IV

		Latvia - Total installed on-shore wind capacity in Latvia is 77 MW (2017). The size of implemented wind parks is rather small. - Latvia has not much experience with the implementation of large scale (height, occupied area, etc.) wind parks. - In the EIA processes, the (local) population is concerned with and objects to height and related impact on the surrounding landscape.			
		Mid-Norway - There are examples that wind projects increase their acceptance in terms of support from local authorities, once original number and size of plants have been reduced. However, such reductions are typically only marginal and does not have much effect on visibility, and therefore, does not affect social acceptability among the population much.			
		Warmian-Mazurian Voivodeship - There is a risk that a large number of wind turbines may cause negative visual impact.			
		Balearic Islands - There are only four wind turbines on the Balearic Islands (the En Mila site in Menorca). The wind turbines are old and only stand at 55m, the visual impact is lower than in other European regions. However, visual impact is of great concern for local residents, who do not want any landscape disturbance on the island due Menorca's protected area status.			
	Distance from residential areas, protected areas	Thuringia - The higher the distance of wind turbines from settlements and single houses, the higher seems to be the local acceptability (ex ante).	- Recommended setback distances for housing of 1,000 m for wind turbines with a total height of >150 m, and 750 m for plants ≤150 m.	- Hard and soft exclusion ("taboo") criteria at state level, further specified by the regional planning bodies. - Bavaria: 10H-rule (distance between a wind turbine and settlements at least 10 times the height of the turbine).	- Temporary 'opening clause' for binding minimum distances in the Federal Building Code - Court decisions: "optically distressing impact" precluded if the distance between turbine and housing is at least three times the total height of the wind plant (i.e. hub height + ½ rotor diameter).
		Saxony - The higher the distance of wind turbines from settlements and single houses, the higher seems to be the local acceptability (ex ante).	-Flexible setback distances (but in compliance with minimum thresholds set out in Federal Pollution Control Act) - turbines located < 750 m from residential areas subject to height limit ≤ 150 m	- Hard and soft exclusion ("taboo") criteria at state level, further specified by the regional planning bodies. - Bavaria: 10H-rule (distance between a wind turbine and settlements at least 10 times the height of the turbine).	- Temporary 'opening clause' for binding minimum distances in the Federal Building Code - Court decisions: "optically distressing impact" precluded if the distance between turbine and housing is at least three times the total height of the wind plant (i.e. hub height + ½ rotor diameter).
		Lazio - Plant installation is forbidden in the following areas: Urban areas; Regional and National Parks; ZPS (Zone di Protezione Speciale), Appennine areas > 1200 m a.s.l.	- Energy Regional Plan (ERP)	- The Apulia regional rule L.R. 31/08 prohibits WE installation in SCI, SPA,ZPS, IBA, Ramsar and Regional protected areas and buffer zone of 200m must be respected; 5 km from IBA.	- Ministerial Decree 10 September 2010 (national guidelines for RES plants authorization) - Annex IV

		Abruzzo - The distances from residential/protected areas have not been modified. - The reduction of number of WTGs benefit the residential areas.	- Energy Regional Plan (ERP) - Critical Areas (CA) for WE are IBA, ZPS, SIC, SPA and others. In these CA an assessment over 1 year before and over 2 years by the starting of works must be carried out following the method Before and After Control Impact (BACI)	The Apulia Regional Rule L.R. 31/08 prohibits WE installation in SCI, SPA,ZPS, IBA, Ramsar and Regional protected areas	Ministerial Decree 10 September 2010 (national guidelines for RES plants authorization) - Annex IV
		Latvia - In EIA processes, the local population expresses strong concerns with impact on residential areas (buildings). - Wind energy project developers argue that setback distances specified in the Governmental Regulations are too large and significantly restricting the development of larger wind parks, particularly in the region of Kurzeme with high average wind speeds. Amendments on the Governmental Regulations specifying these distances have been initiated, but have not yet been adopted. There are concerns that reducing the distances will result in stronger objections from the population. .			
		Norway - There are no specified setback distances, but because of noise and shadow flicker regulations there needs to be a distance of typically 700-900 metres from houses. - The regulator recommends that a minimum setback standard should be introduced, but with exceptions. - Wind power development typically happens in rural areas where the population density is scarce and wind resources large. - Many sites for wind power projects are found in 'untouched' nature. This creates resistance among people and interest groups, who value such nature and use it for fishing, hunting, reindeer herding. Friends of Earth proposes that wind power development should occur closer to industry and in areas where nature has already been 'touched'. This means closer to houses and therefore also smaller wind turbines, which gives less effect. Others argue that it is better with bigger and fewer wind turbines, than many small ones.			The regulator advises that the municipality and certain interest groups meet in a "common counselling forum"
		Warmian-Mazurian Voivodeship - In general there is a risk of decreasing value of property and/or land.			- Wind Farm Investment Act – the so-called distance act entered into force on 16 July 2016. It introduced, inter alia, requirements for the distance of wind farms from residential buildings or mixed-use buildings with a residential function and from forests. Wind farms must be built at a distance from housing of at least 10 times the height of turbine.

		Balearic Islands The distance between wind farms and residential areas, tourist accommodation, and protected areas is a significant barrier. Wind farms are considered highly damaging for the purposes of all, particularly the two latter. - The distances and restrictions are regulated by the local governments. - Local governments have learned more towards protecting the interests and preferences of residents, hotel owners and conservationists than wind farm developers. The only wind farm on the islands is located nearby a landfill site. - Regulation on distances poses a barrier.		- The regional Balearic Climate Change Law (BCCL) 9347, (2018) enables the local governments to determine specific regulations concerning minimum setback distances.	
	Grid infrastructure	Thuringia - Lack of grid capacity to transport wind-based electricity from the northern/eastern regions with high wind energy densities to the southern parts of Germany with low wind energy densities but large industrial centres. - Opponents argue that as long as there is not enough grid capacity or sufficient storage facilities, further expansion of wind power is harmful to the environment and economically senseless - Construction of three new high voltage transmission lines (Thüringer Strombrücke, SuedLink (planned), SueostLink (planned) have raised strong opposition by citizens, the state government and other stakeholders. - High level of discontent and feeling of injustice due to the double burden and unfair distribution between regions and federal states.			- Federal Grid Expansion Plan - Grid Development Plan with 62 measures
		Saxony - Lack of grid capacity to transport wind-based electricity from the northern/eastern regions with high wind energy densities to the southern parts of Germany with low wind energy densities but large industry shares - Opponents argue that as long as there is not enough grid capacity or sufficient storage facilities, further expansion of wind power is harmful to the environment and economically senseless - Saxony is affected by network expansion, but not as strongly as Thuringia.			- Federal Grid Expansion Plan
		Lazio Obsolete infrastructures			
		Abruzzo Obsolete infrastructures	Particular attention is given to the recovery and reuse of existing infrastructures such as roads, cableways and substations.		

		Latvia - The Baltic States are interconnected with the electric power systems of the Nordic countries and the power systems of Central Europe including Poland and Germany through several electricity interconnectors. Development of these interconnectors continues. - Latvian transmission network, namely, the line "Kurzeme Circle" ("Kurzemes Loks") provides the necessary infrastructure for development of wind parks in Kurzeme region and connects the largest (central and western) power production-demand regions in Latvia. - From an acceptance point of view this has both positive and negative impacts: Positive, as integration of up to 800-1000 MW of wind capacity into the Latvian power network could be available. Negative, due to good interconnections with the Nordic electricity market, as parts of the society may argue in favour of cheaper electricity from the Nordic market provided through interconnectors instead of domestic wind energy production.			
		Norway - The transmission network is sometimes strengthened as a consequence of wind power development. This is a driver for social acceptance among for example, local businesses, which have not been able to increase their activities due to lack of grid capacity. - These infrastructures will have a visible impact on previous wilderness area and is therefore negative for social acceptance among groups concerned with nature conservation. - Grid expansions have met considerable social protests in Norway.			
		Warmian-Mazurian Voivodeship - Local: Limited capability of connection to the grid; bad condition of grid infrastructure			
		Balearic Islands - A key issue is that the overall power of grids in the Balearic Islands have weak characteristics and is sensible to changes in voltage and frequency. There are no big plants to contribute to the stabilisation of these two variables in case of unexpected disturbances. This weakness creates some difficulties for the integration of REs projects, not only by the resource variability, but also by the extensive of power electronics which isolate the projects to the grid and they cannot react those disturbances. - One issue is the lack of culture of the grid owners (REE and Endesa) to introduce storage and compensation solutions, which are only tested in small and innovated projects but without a real commitment to extend its use in real applications. - One of the future actions will be to launch auctions to incorporate integrated solutions which could overcome the characteristics of variability and isolation of the wind projects. In this sense, education of grid owners is important. REE is for example known to propose an increase in conventional generation or the reinforcement of the interconnection between islands (in spite of the bad experience of the existing cable between Mallorca and Menorca).	- The RE sector proposes different solutions for example storage systems and dynamic compensation systems.		

	Other	Norway - Wind energy resources in Northern Norway and the Mid-Norway region are excellent, with an estimated wind power potential among the best in Europe.			
Impact on Environment	Effect on the physical environment (e.g. change of landscape, protected areas, increased traffic)	Thuringia - Visual impacts and landscape change are among the most important factors negatively affecting the local acceptance of wind energy projects. Also, nature protection rationales play a central role as acceptance factors in Thuringia (impacts on (avi)fauna and bats). - Trust among NGOs and opponents of wind energy projects in the independence and quality of pre-construction environmental expertises (commissioned and financed by developers) is partly low. - Citizen initiatives opposing wind energy in Thuringia demand more independent assessments. They also request to make EIA generally mandatory for all wind turbines (presently an EIA is mandatory only if the number of wind turbines reaches 20). - Wind power developments in forest areas raise massive protests.	- Spatial planning and designation of suitable/priority areas for wind energy - Sensitive siting - Proactive governmental planning - Hard and soft taboo zones: wind energy is mainly allowed in commercial, less valuable forests - Environmental and nature protection legislation - EIAs Developers have to submit environmental pre-construction expertises defining impacts on nature, biodiversity and their mitigation.		- Competence Center for Nature Protection and Energy Transition, which provides expertise, consultation, and conflict mediation services for municipalities - NGOs propose trust building measures (e.g. quality labeling/certification of environmental assessors, commissioning of studies by permitting authority rather than by the developers)
		Saxony - Visual impacts and landscape change are among the most important factors negatively affecting the local acceptance of wind energy projects.	- Spatial planning and designation of suitable/priority areas for wind energy - Sensitive siting - Proactive governmental planning - Hard and soft taboo zones: wind energy is mainly allowed in commercial, less valuable forests - Environmental and nature protection legislation - EIAs - In the permitting process, developers have to submit environmental pre-construction expertises defining impacts on nature, biodiversity and their mitigation. - Compensation payments and measures to be implemented by the developer/operator for impacts on landscape and nature		- Competence Center for Nature Protection and Energy Transition, which provides expertise, consultation, and conflict mediation services for municipalities - NGOs propose trust building measures (e.g. quality labeling/certification of environmental assessors, commissioning of studies by permitting authority rather than by the developers)

		Lazio - Landscaping characteristics and territorial 'vocation' in particular related to items that are popular among tourists is a social acceptance barrier		- Policy: Tax cuts and Landscape commitment in Tula Municipality, Sardinia.	
		Abruzzo - Repowering of existing WTG by setting of powerful turbines in order to reduce the number of WTG avoiding visual impact.	- Voluntary self-commitments by industry Involvement of municipal administrations	- Policy: Tax cuts and landscape commitment in Tula Municipality, Sardinia.	
		Latvia - Changes in physical environment, as landscape, are important acceptance factor, expressed by the Latvia society in general and particularly by local citizens during EIA procedures. - The latest survey, carried out in relation to an EIA procedure (2018) on the sites of planned wind parks, indicates that a significant part of local respondents (44%) consider that the development of wind parks will have or might have a negative impact on landscape.			- Policy at national level: Pro-active planning for wind energy areas in the Northern Vidzeme Biosphere Reserve – spatial planning, based on the landscape ecological planning method, for wind energy areas in valuable environmental and landscape territory.
		Norway - In general, there is high concern with impact of wind energy development on landscape. - One issue is the fact that the wind power plants require new roads (in Fosen: 241 km of new roads). Such infrastructure has a visible impact on former wilderness areas.	- Corporate: Møllestua cabin in Fosen – facility open to the general public built by the developer – helping general public experience the physical impacts on nature.		
		Warmian-Mazurian Voivodeship - Local: Warmian – Masurian Voivodeship is a tourist region, thus a barrier related to change of landscape is a concern of reduction of tourist values			
		Balearic Islands In the Balearic Islands there exists many designated Natural Parks such as the Cabrera Archipelago, a small island of 100sq meters 14 km off the coast of Mallorca. Numerous natural reserves also exist across the Islands. In Mallorca there are 4, the largest being Parc Natural de s'Albufera de Mallorca which is a protected wetland park of 1,647 hectares. In Menorca there also exists 2 nature reserves, and in Ibiza one. It is also noted that the Island of Menorca was declared a Biosphere Reserve by UNESCO in 1993, given the great variety of habitats that it comprises. Collectively, these pose a significant barrier.			
	Effect on biodiversity and wildlife	Thuringia See the effect on the physical environment.	- Technologies and operational measures (e.g. radar detection of birds, adapting turbine operation to wildlife behavior, e.g. birds and bats). - Bat monitoring and shut down wind turbines during certain time periods	- Designation of priority zones for wind energy takes into consideration protected areas and corresponding minimum distances and buffer zones (state or region-specific) - Intermediary organisations provide expertise, particularly where conflicts arise between	Spatial planning/permitting: - Regional plans subject to Strategic Environmental Assessments (SEAs) - EIAs are mandatory if the number of wind turbines reaches 20. For projects with 3 to 19 wind turbines, conditional EIAs are required, depending on initial screening procedure.

			- Offsetting or compensation for, nature/landscape impacts by the developer - Biodiversity guidelines for wind energy - Documents guiding siting and permitting of wind energy plants	nature protection and the development of RES projects	- Developers submit a number of nature and biodiversity related pre-construction expertises. - R&D activities analyzing impacts - Institution & Capacity Building, e.g. Competence Center for Nature Protection and Energy Transition (at federal level) - Coalition Agreement of CDU/CSU and SPD: Government is committed to reconcile the renewable energy interests with nature conservation and protection of local residents (CDU, CSU, SPD, 2018)
		Saxony - Besides landscape change, nature protection rationales play a central role as acceptance factors. Impacts on (avi)fauna and flora are an argument often put forward by nature protection organizations, but also community and opponent groups. - Trust among NGOs and opponents of wind energy projects in the independence and quality of pre-construction environmental studies is often low. Citizen initiatives opposing wind energy in Saxony demand more independent assessments. They also request to make EIA generally mandatory for all wind turbines (presently an EIA is mandatory only if the number of wind turbines reaches 20).	- Technologies and operational measures (e.g. radar detection of birds, adapting turbine operation to wildlife behavior, e.g. birds and bats). - Environmental Impact assessments (EIA) - Voluntary EIAs Spatial planning: - Policy documents guiding siting of wind energy plants. However, nature and biodiversity related issues are only marginally addressed, and there is much discretion of the regional planning associations. Permitting: - Project developers have to submit environmental pre-construction expertises defining the impacts on nature, biodiversity and their mitigation. - Implementation of compensatory measures is strictly required	Spatial planning: - Designation of priority zones for wind energy in regional plans takes into consideration protected areas and corresponding minimum distances and buffer zones (state or region-specific). - Biodiversity guidelines which guide the spatial planning and permitting process. - Intermediary organisations provide expertise, consultation and conflict mediation services, particularly where conflicts arise between nature protection and the development of RES projects.	Spatial planning: - Regional plans determine priority areas for wind energy and are subject to Strategic Environmental Assessments (SEA) that help ensure that significant environmental effects are considered Permitting: - Environmental Impact Assessments are mandatory if the number of wind turbines reaches 20. For projects with 3 to 19 wind turbines, conditional EIAs are required, depending on the results of an initial screening procedure. - developers have to submit nature and biodiversity related pre-construction expertises. - R&D activities analyzing impacts - Institution & Capacity Building, e.g. Competence Center for Nature Protection and Energy Transition (at federal level) - In the Coalition Agreement (CDU/CSU and SPD): the Government parties committed themselves to

			- Developers are usually required to perform bat monitoring and temporarily shut down wind turbines during certain time periods where appropriate.		reconcile the renewable energy interests with nature conservation and protection of local residents (CDU, CSU, SPD, 2018).
		Lazio Acoustic emission control		- Sardinia Regional procedure of Environmental Impact Assessment must be carried out for wind farm to be built in SCI over 60kW. - The Region has compiled a list of non-suitable areas for WE. - 'Rivoli Veronese and Affi communities Wind Farm', Verona, Italy.	Ministerial Decree of 10 September 2010 (national guidelines for RES plants authorization) - Annex IV
		Abruzzo - Use of anti-reflective paints - Acoustic emission reduction	Selection of sites with no environmental restrictions in the area (natural reserve, protected area, SIC etc.)	Policy: Tax cuts and landscape commitment in Tula Municipality, Sardinia	Ministerial Decree 10 September 2010 (national guidelines for RES plants authorization) - Annex IV.
		Latvia - Effects of wind energy plants on biodiversity and wildlife, especially avio-fauna, is an important factor expressed by the Latvian society and NGOs in general and particularly local citizens in EIA procedures. The latest questionnaire, which was carried out related to the EIA procedure in the sites of planned wind parks, indicates that a significant part of local respondents (44%) consider that the development of wind parks will have or might have negative impact of the values of nature. Also concerns on avio-fauna is a popular argument against wind power.			
		Norway - In Norway it varies from project to project what are the biggest concerns with impact of wind energy on wildlife and biodiversity (e.g. sea eagles at Smøla, reindeers in Mid-Norway and Northern Norway), but these aspects always play a role.			Policy: Funding for Research and Development (R&D) – project "BirdWind" (about 35 million NOK).
		Warmian-Mazurian Voivodeship - There are concerns of wind farms' negative impact on birds and other wildlife			
		Balearic Islands - The local Balearic Ornithology and Nature Defence Group (GOB) has been the most significant and effective form of opposition against the use of wind energy. It wants protected natural areas to be excluded from the implementation of wind and photovoltaic parks; and demands that Areas of Agricultural Interest of the Territorial Plan of Mallorca should be excluded from the areas of exploitation. The installation of wind farms is understood as posing a serious risk during the migratory movements for threatened species as they pass through Mallorca.			

	Effect on greenhouse gas emissions/energy mix Perceived contribution to climate protection	Thuringia and Saxony - Climate change mitigation is one key acceptance driver. However, opponents argue that taking into account lifecycle GHG emissions, GHG savings from wind energy are only small or even non-existent.	- Publications on avoided GHG emissions through wind energy		- Publications on avoided GHG emissions through wind energy
		Lazio and Abruzzo Accurate selection of advanced wind technologies to improve power generation.			
		Latvia - In current public discourses on wind energy, the reduction of GHG emissions is not perceived as an important argument for wind power in Latvia. This is among others because Latvia already has a high RES share in the energy mix (higher than most of the EU Member States). Hence, a significant part of the society does not support further increase of the RES share in electricity supply as people are concerned that it may result in increasing electricity prices. - Wind park developers highlight the positive impact of wind energy on the energy mix and GHG emissions.			
		Norway - Because Norway's electricity generation is almost fully renewable (hydro 96%, natural gas 2% and wind 2%), phasing out fossil fuels is not a driver for social acceptability in Norway. - Certain green NGOs and the Norwegian Wind Energy Association emphasise the importance of the wind energy and its contribution to reducing climate gas emissions. In this sense, climate change is a social acceptance driver. - Nature conservationist groups argue that investments in wind power does not contribute to decreasing GHG emissions in Europe. This is because Norwegian electricity generation is part of the EU Emissions Trading System (ETS). An increase in renewable electricity production does not reduce the emissions that are included in the ETS. - If, however the electricity produced replaces fossil fuels in sectors not covered by EU ETS, such as transport, increased wind power production may reduce GHG emissions. The long-term impact of more wind power may also be to enable a more ambitious climate policy in EU.			
		Warmian-Mazurian Voivodeship - General: This factor can be considered as a positive driver for wind energy development. It affects social acceptance positively, because people are aware that Poland pursues RES targets.			- National support scheme for RES implementing at different levels.

		Balearic Islands - Currently there are positive attempts in regional politics and policies to diversify the energy mix. The recent BCC Law is pushing the further use of wind energy in order to diversify the energy mix on the islands and thereby enable wind energy to reach a significant share of the energy mix on the islands. This is a positive driver of wind energy on the islands.			
	Other	Warmian-Mazurian Voivodeship Local: A large area of the region is covered by NATURA 2000 areas and other forms of territorial environmental protection.			
Impact on Economy	Effect on local economy (e.g. tourism, agriculture, jobs)	Thuringia - Regional/local added value is a key driver for local acceptance (e.g. municipal tax revenues, employment). - Business tax revenues for the municipalities from the operation of wind energy plants are often lower than expected - Low level of citizen/community ownership of wind energy plants - Allocation ratio of business tax revenues - Benefit sharing mechanisms - There is a significant tourist industry in Thuringia, primarily German travellers focused on cultural activities and historical sites. Several communities, and representatives of the tourism industry fear adverse effects of wind turbines on tourism through the potential loss of scenic value. - Thuringia has an increasing number of working places in the wind energy sector: 2.710 in 2014 and 3.000 in 2016	- Direct and/or indirect financial participation of citizens and communities - Benefit-sharing mechanisms (e.g. sponsoring, reduced electricity tariffs etc.) - The Service Unit Wind Energy in Thuringia helps to strengthen local value creation by providing guidance, technical assistance and comprehensive consulting services for municipalities, communities and citizens - Issuance of the quality label "Partner for Fair Wind Energy" to project developers	- Direct and indirect financial participation of citizens and communities - Compensations and other benefit sharing mechanisms. - Mandatory financial participation of citizens/ municipalities as shareholders required by law in Mecklenburg-Vorpommern. - Community ownership of wind farms (e.g. North Frisia with 90% citizen-owned the wind power plants; cf. windcomm Schleswig-Holstein, 2012) - Regional support schemes community ownership (financial incentives, capacity development, information, advise, networking etc.)	- Tax incentives (e.g. 70%-100% transferred to the community where the project is located, 0-30% to the communities where the operators have their headquarters). - Financial incentives for community energy in the national RES support schemes: special rules for community wind power in auctions; however, these privileges have been partly misused by commercial developers
		Saxony - Regional/local added value is a key driver for local acceptance (e.g. municipal tax revenues, employment). - Business tax revenues from the operation of wind energy plants in municipalities often are lower than expected - Low level of citizen/community ownership of wind plants - Individual allocation ratio of tax revenues - Benefit sharing mechanisms -The total number of persons employed in the wind energy sector has been recently estimated at roughly 5,900. -There is a modest tourist industry in that largely serves German travellers, and which is focused on cultural activities and historical sites in towns and on the scenic landscapes of the Ore mountains or Vogtland. Several communities, and representatives of the tourism industry fear adverse effects of wind turbines on tourism through the potential loss of scenic value.	- Direct and/or indirect financial participation of citizens and communities - Benefit-sharing mechanisms (e.g. sponsoring, reduced electricity tariffs etc.)	- Direct and indirect financial participation of citizens and communities - Compensations and other benefit sharing mechanisms. - The Service Unit Wind Energy in Thuringia helps to strengthen local value creation by providing guidance, technical assistance and comprehensive consulting services for municipalities, communities and citizens. - The quality label "Partner for Fair Wind Energy" to project developers in Thuringia	- Tax incentives (e.g. 70%-100% transferred to the community where the project is located, 0-30% to the communities where the operators have their headquarters). - Financial incentives for community energy in the national RES support schemes: special rules for community wind power in auctions; however, these privileges have been misused by commercial developers

				- Mandatory financial participation of citizens/ municipalities as shareholders in Mecklenburg-Vorpommern. - Community ownership of wind farms (e.g. North Frisia, where 90% of the wind power plants are citizen-owned). - Regional support schemes community ownership (financial incentives, capacity development, information, advise, networking etc)	
		Lazio Tourism is a significant sector in Italy's national economy. The government has focused efforts on this sector in its government policy for economic development. Many destinations are historic places, often protected as world heritage sites.			
		Abruzzo - Tourism is a significant sector in Italy's national economy. The government has focused efforts on this sector in its government policy for economic development. Many of Italy's major tourist destinations are historic places, often protected as world heritage sites. - The repowering extends the investments on the area producing sustained benefits for the municipalities. - In some cases, repowering has offered to local operators the opportunity to collaborate in the realization of the project.			
		Latvia - The effect on the local economy is an important factor for local citizens and the local municipalities hosting wind energy plants. The latest survey carried out in relation to the EIA procedure in the sites of planned wind parks indicates that around 40% of respondents consider that the development of wind parks might have a positive impact on local/municipal development, another 40% respondents are neutral. - Renovation of local roads is one positive argument (the questionnaire indicated that around 1/4 of respondents consider that development of wind parks might have positive impact on transport infrastructure and 56% are neutral). At the same time there are concerns with ice-throw on local roads and whether roads could be damaged during construction processes. - Where a wind park is planned on agricultural land, local citizens express often concerns related to the potential loss of agricultural land.. - The fact that the creation of a wind park limits the future construction of residential buildings is also an argument against wind power among landowners.		- Corporate measures: Sharing the profit from wind energy production with local communities through voluntary donations by wind park owner (fixed donation per MWh of produced electricity, implemented by the Nelja Energia, operating in Estonia and Lithuania)	

		Norway - In Fosen the construction phase gives a large number of regional jobs, as there are local competitive entrepreneurs, who can take these jobs. - In Fosen the operating phase is 5-15 man-years for operating each of the 6 windfarms. The service sector experiences a similar number of increase in man-years. - In general, municipalities that have property tax regulations, benefit from this tax (e.g. in Fosen the municipalities will receive a 0,7% property tax from wind power installations, which is equal to 0,7% of estimated value of a new installation minus depreciations). - In a report developed for the purpose of creating a 'national frame' for wind power (to be launched 1 April 2019), the national regulator writes that in general impact assessments conclude that wind turbines do not cause significant negative impacts on agricultural land because the area that is directly affected constitutes only small part of the resource base for wilderness in the areas. The same report suggests that grazers are negatively affected during the construction phase. When it comes to forests, the report mentions that the network of roads that are constructed may contribute to more easily get control of forest fires.		- Nord-Odal skiing facilities – compensatory measure (corporate, local) - A local innovation house in Birkenes – compensatory measure (corporate, local) - In Lister, the wind developer has built 25 km roads with 50 exits. As a result, farmers can collect timber, have cultivated moors and can more easily bring and collect grazers.	
		Warmian-Mazurian Voivodeship - General: Effect on local economy is rather positive. Increasing an income of municipalities in the region; creation of new jobs. Possible negative impact on tourism			- Policy: Property tax on wind turbines – as a source of additional income for municipalities.
		Balearic Islands The Balearic Islands hosta13 million tourists each in a multibillion-euro sector. Therefore, a significant amount of the jobs in the Balearic economy are dependent on tourism. There are concerns that the installation of wind energy plants can negatively affect tourism, due to the negative impacts on the landscape and perception of the islands. Such concerns are not yet at the forefront of the debate concerning wind energy.		- Som Energia – non-profit oriented energy cooperative governed and financed by its members. - Galicia singular wind farms. - Galicia Regional wind farm plans. - Social Wind energy Project (Lanzarote). - Mancomunidad del Sureste de Gran Canaria: Developing Wind and Water	
	Effect on individuals'economy (e.g. property values)	Thuringia - Income and profits from the operation of wind power are key drivers of social acceptance, particularly if citizens/communities are benefiting directly as shareholders and if local land owners benefit from land lease payments However, community/citizen owned wind parks are still rather rare in Thuringia. - One key acceptance barrier is the risk of decreasing property/housing values for those who are living in the vicinity of wind energy plants.	- Compensatory payments - Direct financial participation of those homeowners who are directly affected by the installation of wind turbines can help to increase acceptance/acceptability		
		Saxony - One of the key arguments of the opponents of wind energy projects in Saxony is that property/housing values may decrease due to the installation of wind turbines.	- Compensatory payments. - Direct financial participation of those homeowners who are directly affected by the installation of wind turbines		

			can increase acceptance/acceptability		
		Lazio - In 2016, Lazio had a total installed wind energy capacity of 52.2 MW distributed in 46 plants with which it produced 97.4 GWh (Terna). ANEV (Associazione Nazionale Energia del Vento) estimates a total installed capacity of 750 MW by 2030, with relative production of 1.58 TWh. This corresponds to the generation of up to 3400 additional jobs in the region. The GSE (Gestore Servizi Energetici) provides a conservative estimate in the increase of installed capacity of 65 MW by 2020 and of 100 MW by 2050, which results in a techno-economic potential for total installed capacity in Lazio of 170-190 MW, translating in 330 GWh/year of electric producibility. If we add the conservative estimates of off-shore potential (325 GWh/year) these figures reach 250 MW and 650 GWh/year.		- Policy: Tax cuts and landscape commitment in Tula Municipality, Sardinia.	- Policy: Many destinations protected as world heritage sites.
		Abruzzo - During and after the repowering have arisen many commercial activities carried out by residents.		- Policy: Tax cuts and landscape commitment in Tula Municipality, Sardinia.	- Policy: Many destinations protected as world heritage sites.
		Latvia - In general, landowners are positive, if rent payment is based on fair principles and methodology, taking a set of criteria into account. - The latest survey carried out in relation to the EIA procedure in the sites of planned wind park indicates that the shares of local respondents, who consider the impact on property value to be negative or positive, are almost equally large (respectively 22% and 18%).			
		Norway - Land owners who benefit from selling land to wind project developers are positive. - People who live nearby are concerned with decreasing values of their land and houses. - In general, there is a negative correlation between visible wind turbines and the selling price of nearby homes and vacation homes. Norconsult, which has carried out a study on this topic, suggests that this also applies in Norway. - In cottage areas where an important factor for market value is easily accessible hiking areas, wind turbines which affect large parts of these areas, can create a negative effect on property prices, even in cases where the wind turbine is not visible or visually dominant from the view of the cabins.		- In Lister, the wind developer has built 25 km roads with 50 exits. As a result, farmers can collect timber, have cultivated moors and can more easily bring and collect grazers.	
		Warmian-Mazurian Voivodeship - In general, decreasing value of property and land.			
		Balearic Islands - In terms of being a driver, many land owners are currently in favor of using their land for sustainable energy purposes, given their positive experience and incomes gained from solar PV land rent. Further profiting through the installation of wind energy plants is an attractive option. - In terms of being a barrier, Menorcan land is most commonly owned by large and historically wealthy land owners who often prefer to preserve the			

		quality and nature of their land, rather than use it for pure commercial purposes, other than traditional agriculture.			
	Distributional justice (i.e. distribution of burdens and benefits (a) geographical distribution between regions (b) distribution among actors within community)	Thuringia - Distributional justice/injustice: Host communities argue that they bear a disproportionate share of negative project impacts, that local communities and residents are forced "to finance wind and solar lobbyists, in return get higher electricity prices and must still financially compensate operators for turbines which have to be temporarily switched off due to grid congestions" - Grid usage charges (levy on the electricity price per kWh) vary from region to region, depending on grid expansion activities. The highest electricity network tariffs exist in rural areas in the northern and eastern federal states, where wind energy expansion has progressed the most. This is considered a 'double' disadvantage.	- Voluntary monetary payments from the developer to the community (e.g. via non- profit associations, foundations, trusts, community benefit funds) - Direct funding of projects, energy price discount schemes or other site-specific benefits - Employment of local companies, skills training, apprentices, educational visits. - Material benefits (e.g. improved infrastructure) - The Service Unit Wind Energy in Thuringia provides guidance, technical assistance and comprehensive consulting services for municipalities, communities and citizens. - The quality label "Partner for Fair Wind Energy" to project developers focuses on distributional justice and local value creation.	- Direct financial participation of citizens as shareholders - Indirect financial participation of citizens, benefit sharing mechanisms (e.g. non-profit associations, sponsoring etc.) - Community owned wind energy parks (e.g. Schleswig-Holstein/North Frisia, many other regions in Germany) - Technical assistance and consulting services - Financial support including seed money for community/citizen owned wind parks (e.g. in the federal state of Schleswig Holstein) - Legal obligation for developers to share equity in the federal state of Mecklenburg-West Pomerania. - Public support for benefit sharing mechanisms - Federal state governments provide guidance, capacity building, networking and financial incentives (e.g. seed-money) for citizen/community energy initiatives and projects. - Brandenburg plans a special charge for the plant operators.	- The Federal government aims to create better opportunities for municipalities and citizens to participate in the construction of wind turbines. - Under debate: special levies paid to municipalities; minimum share of developers' annual turnover to be shared with communities; reform of the municipal concession fee system (under which grid operators have to pay concession fees for the admission to use public install electric power supply lines). - The Act on the Modernisation of the Grid Fee Structure stipulates that from 1 January 2019, transmission network charges will be gradually aligned until uniform in 2023.
		Saxony - Distributional justice/injustice: Host communities argue that they bear a disproportionate share of negative project impacts, that local communities and residents are forced "to finance wind and solar lobbyists, in return get higher electricity prices and must still financially compensate operators for turbines which have to be temporarily switched off due to grid - Grid usage charges (levy on the electricity price per kWh) vary from region to region, depending on grid expansion activities. The highest electricity network tariffs exist in rural areas in the northern and eastern federal states, where wind energy expansion has progressed the most. This is considered a 'double' disadvantage.	- Wind turbines owned by citizen co-operative (e.g. Wülknitz, Saxony). - Voluntary monetary payments (e.g. via non- profit associations, foundations, trusts, community benefit funds). - Direct funding of projects, energy price discount schemes or other site-specific benefits.	- Direct financial participation of citizens as shareholders - Community/citizen owned wind energy parks (e.g. Schleswig-Holstein/North Frisia, many other regions in Germany) - Indirect financial participation of citizens, benefit sharing mechanisms (e.g. non-profit associations, sponsoring etc.)	- Financial incentives for community energy in RES support schemes (e.g. preferential treatment for community wind parks in the new auctioning system regulated under the Renewable Energy Sources Act) - The Federal government aims to create better opportunities for municipalities and citizens

			- Employment of local companies, skills training, apprenticeships, educational visits. - Material benefits such as improved infrastructure.	- The Service Unit Wind Energy in Thuringia provides guidance, technical assistance and comprehensive consulting services for municipalities, communities and citizens. - The quality label "Partner for Fair Wind Energy" for project developers in Thuringia - Financial support including seed money for community/citizen owned wind parks (e.g. in Schleswig Holstein) - Legal obligation for developers to share equity in Mecklenburg-West Pomerania. - Public support for benefit sharing mechanisms - Guidance, capacity building, networking and financial incentives (e.g. seed-money) for citizen/community energy initiatives and projects.	to participate in the construction of wind turbines. -The Act on the Modernisation of the Grid Fee Structure (NEMoG) stipulates that from January 1, 2019, the transmission network charges will be gradually aligned and, as of 1 January 2023, be set uniformly throughout Germany.
		Lazio		'Rivoli Veronese and Affi communities Wind Farm', Verona, Italy. New power contract for citizens provided by AGSM at reduced prices.	
		Abruzzo The road network and grid connection rehabilitation improved the use of territory.		'Rivoli Veronese and Affi communities Wind Farm', Verona, Italy. New power contract for citizens provided by AGSM at reduced prices.	
		Latvia - Fair distribution of benefits by transferring and distributing part of wind park owner income to local community can help to increase the acceptance		- Corporate: Sharing the profit from wind energy production with local communities through voluntary donations by wind park owner (fixed donation per MWh of produced electricity). (implemented by the Nelja Energia, operating in Estonia and Lithuania)	

		Norway - The indigenous people's way of living and in particular reindeer herding by increasing pressure on land and untouched nature. Most of the land in Northern Norway is used for raising reindeer. - In the Fosen Vind project area there is about 2100 reindeers. Reindeers are not kept in captivity but roam free on pasture grounds. The UN Committee on the Elimination of Racial Discrimination has asked Norway to stop the ongoing wind power constructions in Fosen.		Nord-Odal skiing facilities – compensatory measure (corporate, local) A local innovation house in Birkenes – compensatory measure (corporate, local)	
		Warmian-Mazurian Voivodeship - At local level there is a lack of distributional justice, low level of trust of local authorities and public actors and residents to wind farms developers, owners (and to technologies generally).			- Corporate: Additional activities undertaken by developer. - Promotion of "energy clusters" as an efficient way for implementation of a distributed energy generation scheme being instrumental in balancing supply and demand while taking utmost of the local resources and of unleashing enterprising spirit in suburbs and rural areas.
		Balearic Islands Previously no provisions existed in to enhance distributional justice.		- Som Energia – non-profit oriented energy cooperative governed and financed by its members. - Social Wind Energy Project (Lanzarote). - The newly passed BCC Law will prescribe that there must be a certain degree of community ownership and fair distribution of benefits from sustainable energy revenues. But this is not yet implemented nor realized in practice.	
	Ownership of land and plants	Thuringia Key reasons for increasing conflicts and decreasing levels of social acceptance include: - In several federal states like e.g. Schleswig-Holstein or North Rhine-Westphalia, numerous citizen/community owned wind parks have been implemented, completely or partly owned by citizens in cooperation with local partners. - In Thuringia, 80% of all wind turbines are owned by investors from outside Thuringia (Gude, 2015). There are only few community/citizen owned wind parks or wind parks owned by cooperatives, although Thuringia has generally the highest share of energy co-operatives in Germany (compared to the number of inhabitants) - Long planning and lead times, high investment costs and associated risks makes community/citizen cooperation models in wind difficult to implement. - Lack of availability of suitable land.	- Service Unit Wind Energy - Quality label "Partner for Fair Wind Energy" - Developers and municipal authorities increasingly create or support benefit sharing mechanisms (e.g. land lease pooling schemes).	- Mandatory financial participation of citizens/ municipalities as shareholders (Mecklenburg-Vorpommern)	- Financial incentives for community energy in RES support schemes (e.g. preferential treatment for community wind parks in the new auctioning system).

		- Profits and partly business taxes from the operation of wind plants do not remain in the municipalities hosting wind projects. - Often, the owners of the land are not local farmers, local residents or communities. This is related to the privatisation of formerly state-owned agricultural and forestry areas in Eastern Germany. The *Bodenverwertungs - and Management GmbH* (BVVG) auctions land in designated suitable/priority wind areas so that financially strong investors have competitive advantages when securing land for wind turbines (Gotchev, 2016). Opportunities for citizen/community wind parks are often limited. Municipalities only own a small fraction of land. Income from land lease payments partially is generated by land owners, who are not located on-site. Local/regional value creation from wind turbines has therefore been limited so far.			
		Saxony - In several federal states like e.g. Schleswig-Holstein or North Rhine-Westphalia, numerous citizen/community owned wind parks have been implemented, completely or partly owned by citizens in cooperation with local partners. - In Saxony, a large part of the existing wind farms has been realized by external developers and investors. -There are only few community/citizen owned wind parks or wind parks owned by cooperatives. - Long planning and lead times, high investment costs and associated risks makes community/citizen cooperation models in wind difficult to implement. - Lack of availability of suitable land. - Profits and partly business taxes from the operation of wind plants do not remain in the municipalities hosting wind projects. - Often the owners of the land are not local farmers, local residents or communities. This is related to the privatisation of formerly state-owned agricultural and forestry areas in Eastern Germany. The *Bodenverwertungs - and Management GmbH* (BVVG) auctions land in designated suitable/priority wind areas so that financially strong investors have competitive advantages when securing land for wind turbines (Gotchev 2016). Opportunities for citizen/community wind parks are often limited. Municipalities only own a small fraction of land. Income from land lease payments partially is generated by land owners, who are not located on-site. Local/regional value creation from wind turbines has therefore been limited so far.	- Few community/citizen owned wind parks or wind parks owned by cooperatives (e.g. Wind turbine owned by a citizen co-operative in *Wülknitz*, Saxony). .	- The Service Unit Wind Energy (see above for more details) - Quality label "Partner for Fair Wind Energy" (see above for more details) - Benefit sharing mechanisms (e.g. land lease pooling schemes) - Mandatory financial participation of citizens/ municipalities as shareholders, Mecklenburg-Vorpommern.	- Financial incentives for community energy in RES support schemes, Renewable Energy Sources Act.
		Lazio		'Rivoli Veronese and Affi communities Wind Farm', Verona, Italy. Bond issue to finance the wind farms.	
		Abruzzo		'Rivoli Veronese and Affi communities Wind Farm', Verona, Italy. Bond issue to finance the wind farms.	
		Latvia - Currently Latvia has no experience in community ownership of wind parks.			

		Norway - Many foreign companies invest in Norwegian wind power. Foreign ownership is mentioned in the news and in discussions, but not (yet) an important social acceptance barrier. - In Fosen, Statkraft is responsible for project execution on behalf of Fosen Vind. The joint venture is owned by the Norwegian utilities TrønderEnergi and Statkraft, and the European investor consortium Nordic Wind Power DA. Wind Power DA is established by Credit Swisse Energy Infrastructure Partners and is supported by the Swiss power company BKW. The fact that a regional owner is part of the project has been considered as being a driver for social acceptance initially, although perhaps not a necessary condition.			
		Warmian-Mazurian Voivodeship - Locally, there is a lack of community energy initiatives and best practice examples in order to ensure fairer distribution of benefits among residents.			
		Balearic Islands - The wind park in Menorca is owned and managed by the local authority. Not much has been directly or individually distributed to the local residents, but this type of public ownership has been positively received, which suggests it could be an important driver for the future installations. Indeed, it is likely that any future installations would also be locally owned.		- Som Energia – non-profit oriented energy cooperative governed and financed by its members. - Policy: Galicia Singular Wind Farms. - Social Wind energy Project (Lanzarote).	
	Other	Thuringia: Cost of electricity generation from wind - Opponents argue that the **electricity price burden** for households and enterprises in Thuringia is too high. In particular, they demand to reduce the surcharge that German consumers pay through their electricity bills to support RES based electricity. However, electricity generation from wind has become significantly cheaper, potentially providing wind power a long-term competitive advantage over coal-fired power production. This might increasingly become a driving force for social acceptance.		- There are several examples from other regions and federal states where communities hosting wind parks benefit directly from reduced electricity prices (e.g. Brandenburg)	
		Saxony: Cost of electricity generation from wind - Opponents argue that the **electricity price burden** for households and enterprises in Saxony is too high. In particular, they demand to reduce the surcharge that German consumers pay through their electricity bills to support RES based electricity. However, electricity generation from wind has become significantly cheaper, potentially providing wind power a long-term competitive advantage over coal-fired power production. This might increasingly become a driving force for social acceptance.		- There are several examples from other regions and federal states where communities hosting wind parks benefit directly from reduced electricity prices (e.g. Brandenburg)	
Impact on Society	Health, well-being, quality of life (e.g. noise pollution, visual impact, recreation)	Thuringia and Saxony - Concerns that wind energy development could adversely affect human health and well-being are regularly raised, in particular, the following concerns: Wind turbine noise (and the extent to which such noise is associated with health issues, such as sleep disturbance, cardiovascular disorders, high blood pressure, headache, cognitive disruptions, stress, anxiety etc.); low-frequency sound and infrasound; optical emissions (shadow flicker, aviation lighting); other operational risks (ice throw, forest fire); and electromagnetic frequencies from transmission lines. - The opposition parties in the Thuringian Parliament have asked the state government to review its wind energy development plans in accordance with	- Technical measures (e.g. optimizing rotor blade constructions) - **Demand-oriented navigation lights** reduce the need for permanent lighting systems (Thuringia favors a national solution in order to avoid competitive distortions and it considers to provide financial support to introduce such systems in pilot projects)	- In the federal state of Mecklenburg-West Pomerania **demand-oriented marking systems** are mandatory for all new wind parks, which include more than four turbines.	- The **Federal Pollution Control Act** includes provisions regulating noise and refers to the area specific thresholds that are listed in the corresponding Technical Instructions on Noise Abatement; regulates **shadow flicker** and **formation of ice**. Amendments to the **General Administrative Regulation on Marking of Aviation**

		the WHO Guidelines. One opposition party (AfD) called for a moratorium to temporarily stop any wind energy development.	- The new WHO Environmental Noise Guidelines for the European Region released in October 2018 include recommendations for noise from wind turbines for the first time (The WHO Regional Office for Europe, 2018)		Obstacles from July 2015 provided the general possibility to introduce demand-oriented night marking of wind turbines. This regulation is under evaluation. In December 2018 the federal parliament (Bundestag) adopted a new law ("Energiesammelgesetz") which, inter alia, requires new and existing wind plants to install demand oriented navigation lighting systems by July 2020.
		Lazio Need for accurate information on the local impacts including technological aspects and specific benefits for the communities.			
		Abruzzo - Noise pollution - Visual impact	- The repowering reduced acoustic emissions by using new technologies. - The repowering of ancient wind farms met a large consensus among the population. The reductions of visual impact by reducing the number of turbines associated to an increase in energy production have been success factors for social acceptance.		
		Latvia - There are various presumptions in society about the impact on health from noise, infrasound, electromagnetic fields, which affect social acceptance. - A recent survey carried out in relation to the EIA procedure for planned wind parks has indicated that a significant part of respondents consider the development of wind parks to have or potentially have negative impact due to the flicker effect, vibration and increase of noise. - Noise impact might be increased due to low quality of buildings, depending on in which areas wind parks are being set up.			- Policy: Pro-active planning for wind energy areas in the Northern Vidzeme Biosphere Reserve – spatial planning, based on the landscape ecological planning method for wind energy areas in valuable environmental and landscape territory. (National level)
		Norway - Local and general: Concern with impact of wind energy development on health and recreational opportunities (e.g. hunting, fishing, skiing).		- Møllestua cabin in Fosen – facility open to the general public built by the developer – helping facilitate the continued use of the area for recreational purposes (corporate, local). - Midtfjellet wind farm organises events such as a 'Midtfjellet Day' and a run in the wind park area ('Møllesprinten').	

		Warmian-Mazurian Voivodeship			
		Balearic Islands This has not yet been an important or relevant issue; however, it is noted that the tourism industry has some concerns about visual impact and the noise pollution which could be created by wind farms			
Individual characteristics	Socio-cultural values	Thuringia and Saxony - Community wind energy is comparatively underdeveloped and there is no 'tradition' of citizen/community wind energy as in other regions of Germany, like e.g. in Northern Frisia/Schleswig-Holstein. This might be partly explained socio-culturally (e.g. scepticism/reluctance of the population to invest in community owned companies and cooperatives due to historical reasons and the socialist heritage) and economically/institutionally (e.g. land ownership). - In other federal states like Schleswig-Holstein a variety of financial participation schemes emerged in the 1990s and 2000s, when investment amounts and permitting processes were less complex than today. - Average incomes and properties of private households in Thuringia are below the German average. - The generally high share of renewable energy communities in Thuringia suggests that there is an interest in direct investments by citizens , but mainly in PV projects which have lower entry barriers and lower complexity.			
		Lazio - Lack of an appropriate and context-specific participatory approach.			
		Abruzzo - The participatory planning process involved the local residents and local administration through public meetings from the planning stage to the actual implementation.			
		Latvia - See the category on sense of place			
		Norway - Sami people in Norway make their living from reindeer herding and most of the region of Northern Norway is used for raising reindeer. In Norway many sites for existing and planned wind power projects are found in reindeer habitat, where the Sami community enjoy constitutionally protected user rights over the area for reindeer grazing, and the area is culturally and spiritually significant. Contestations over wind power developments on traditional Sami lands are not isolated local disputes, but touching the heart of indigenous claims to self-determination and resource sovereignty. - In the Fosen Vind project area there is about 2,100 reindeers. Reindeers are not kept in captivity but roam free on pasture grounds.			

		Warmian-Mazurian Voivodeship			
		Balearic Islands Archaeological sites in all of Menorca, (the Navettas), have a high level of touristic and archaeological significance. Moreover, the existence of special types of drywalls created which are particular to the Balearic Islands, have meant that wind farms cannot be built in areas which may disrupt or damage these walls.			
	Sense of place, self-identity, place attachment	Thuringia - Place attachment (emotional bonds between individuals and the familiar locations they inhabit) play a role as acceptance factors.			
		Saxony (same as for Thuringia)			
		Lazio			
		Abruzzo			
		Latvia - In general, an important aspect is local patriotic feelings of people living in Latvia. This factor may negatively affect the development of wind parks ("there are a lot of values in our land, there should not be any wind industry in our land"). - The recent survey carried out in relation to the EIA procedure for several planned wind parks, indicates that a significant part of respondents (around 40%) considers that the development of wind parks will have or might have negative impact on cultural-historical values.			
		Norway - Sami people in Norway have a special sense of self-identity and place attachment (see socio-cultural values). Wind power affects this in a negative way. - In general, citizens' place-identity and associations to the place where they live, have grown up or regularly visit is a barrier for social acceptability.			
		Warmian-Mazurian Voivodeship			

		Balearic Islands It must be noted that on the Balearic Islands land is scarce and "sacred". High value is attached to it by the local population because it is a limited resource to protect.			
	Discourses on wind energy	Thuringia - In recent years opposition towards wind energy has been growing steadily in Thuringia. Opponents vary from "conditional supporters" to "fundamental opponents". Besides "silent" groups of supporters and the group of indifferent/undecided persons, there seems to be a growing share of "fundamental opponent groups", which are well organized and effective in shaping local discourses. - As of 4 October 2016, the Thuringian Association for a Reasonable Energy Transition, which unites local wind opponent groups and citizen initiatives listed 39 local citizen initiatives as member organizations opposing wind energy development in Thuringia. - Wind opponent groups have some affiliations to right-wing populistic parties and movements, which are perceived as instrumentalizing local protest for their political purposes. - The culture of debate and conflict has worsened. Conflicts are becoming increasingly emotional and the discourses on wind energy in Thuringia increasingly aggressive. - Negative reporting in the media plays a role in shaping wind energy discourses.	- Communication strategies addressing the "silent" group of supporters and the group of indifferent/undecided persons in local communities. - Innovative informal, participatory formats - Separate formats addressing the needs of the different target groups (traditional information events for the entire municipality are not very conducive) - Intermediary organisations may contribute to create trust.		
		Saxony - In recent years opposition towards wind energy has been growing steadily. Opponents vary from "conditional supporters" to "fundamental opponents". Besides "silent" groups of supporters and the group of indifferent/undecided persons, there seems to be a growing share of "fundamental opponent groups", which are well organized and effective in shaping local discourses. -Protest groups and opponents of wind energy are well organized. The network which unites many of the local wind opponent groups and citizen initiatives lists 43 local citizen initiatives currently in Saxony, while the newspaper *Sächsische Zeitung* reported 65 citizens' initiatives as of 9 September 2018. - Wind opponent groups have some affiliations to right-wing populistic parties and movements, which are perceived as instrumentalizing local protest for their political purposes.	- Communication strategies addressing the "silent" group of supporters and the group of indifferent/undecided persons in local communities. - Innovative informal, participatory formats - Separate formats addressing the needs of the different target groups (traditional information events for the entire municipality are not very conducive) - Intermediary organisations may contribute to create trust.		
		Lazio - The environmental and conservation movements disagree about the need of wind power: - In contrast, cultural/nature heritage groups (e.g. Italia Nostra, Comitato Nazionale del Paesaggio) have organised national campaigns to ban wind energy projects, frequently quoting the Constitution's Article 9.			
		Abruzzo The environmental and conservation movements disagree about the need for wind power: To meet the climate targets the largest environmental advocacy group (Legambiente) supports further development of wind power. In contrast, cultural/nature heritage groups (e.g. Italia Nostra, Comitato Nazionale del			

		Paesaggio) have organised national campaigns to ban wind energy projects, frequently quoting the Constitution's Article 9.			
		Latvia - In general, the development of particular wind parks or proposals to develop certain wind parks have been accompanied by different types of political scandals. - The cost for renewable energy support via the feed in tariffs/premium system makes for a significant share of the customers' electricity bill. Past political decisions on these RES feed-in tariffs have created scepticism related to fairness in society. - In many cases, the mass media do not communicate positively about wind energy.			
		Norway - The regulator will present a national map for areas suited for land based wind power 1 April 2019. In light of this, the media coverage has increased since June 2018. There are three key arguments: (1) Land based wind power can help mitigate climate change while simultaneously create new jobs in the rural areas. (2) Land-based wind power will harm the nature without giving any climate change mitigation effects. (3) There is a need for increasing electricity generation in future, when more sectors are electrified and big companies like data centres may enter into long-term contracts.			
		Warmian-Mazurian Voivodeship - Locally, the environmental protection organisations and associations are opposing wind energy developments (in some cases very strongly).			
		Balearic Islands There have been negative experiences with previous wind parks developments with a fairly intransparent planning process on the islands. Previously, promoters and investors attempted to bypass the local population to deal directly with local policy makers. Once this was exposed, local populations immediately moved to (successfully) block the move. Thus, distrust towards wind farm investors and developers is prevalent among the location populations.			

	Attitudes (e.g. political, environmental, towards wind energy)	Thuringia and Saxony - There is broad consensus in German society on the energy transition in all sections of the population and across the political spectrum (cf. for example the Social Sustainability Barometer for the German *Energiewende*, Setton et al., 2017). A large majority also favours the involvement of citizens in the expansion of renewable energy sources. - More than 87% of the supporters of the conservative CDU/CSU, the social-democratic SPD, the liberal Free Democrats (FDP), the Left Party, and Alliance 90/The Greens and 59 % of the supporters of the Alternative for Germany (AfD) are in favour of the *Energiewende*. - The population's attitudes towards the implementation of the Energiewende are more varied, including negative labels such as being 'unfair', 'expensive' or 'chaotic', even though most respondents find that the implementation is good, all in all. The majority does not see any specific disadvantages for the economy but are concerned with higher costs/increased electricity prices. 2/3 are convinced that the cost burden of the Energiewende is borne mostly by "ordinary people", while those well-off and companies tend to profit from it. ½ of wealthier respondents share this opinion. - 1/4 rejects the expansion of onshore wind energy, irrespective of whether the plants are built in their vicinity or elsewhere in Germany. This reflects doubts about the necessity and suitability of wind energy in the context of the energy transition. PV plants are rated much more positively. - People wish to participate more directly in wind energy expansion. - People want more opportunities for political participation, which is only possible to a limited degree under current planning/permitting law. - Older surveys from 2012 show that in most of the federal states being formerly parts of the GDR (particularly i.e. federal states of Brandenburg, Thuringia, Saxony and Saxony-Anhalt) support rates for wind energy are generally lower than in the rest of the country. - The latest survey "Energiewelt Ost" conducted in 2016 found that the support for the Energy Transition in East Germany has decreased since 2015. - Satisfaction with the implementation of the *Energiewende* in East Germany is low: 65% of citizens, 55% of the municipalities and 67% of the energy-intensive companies are dissatisfied with the implementation. Key issues include unfair distribution of costs, and lacking policy coherence between federal and state policies and between European and national policies (Universität Leipzig Kompetenzzentrum and enviaM, 2016) - In a 2018 survey in Thuringia (*Stimmungsbild Windkraft in Thüringen*), 364 persons living in a distance of 600 m to 5,000 m to wind turbines were asked about their acceptance. 57% were fully or rather in favour of the plant(s); 41 % were not or rather not in favour of the plants. 59% of 1,051 persons see rather disadvantages for people in the region;18% see rather advantages; and 19% no impact. From 364 respondents living in a distance of 600 m to 5,000 m to wind turbines only 15% see rather advantages, 15% see no impact, 65% see more disadvantages. From 691 respondents who do not live in the vicinity of any wind turbine, 19% see rather advantages, 22% no impact, while 55% see rather disadvantages (C-KCM Richard Schmidt, 2018).	- There is a desire for political involvement in an 'expanded culture of participation'. - Wind energy projects imposed from 'above' are increasingly being rejected. - A change in legal parameters so that it is possible for citizens to participate meaningfully and at an early stage in the planning of projects. - More informal possibilities of becoming involved could allow those who live near new energy installations to have more of a say in local planning processes.		

		Lazio and Abruzzo - 66% of the Italian population trust wind energy (2017, Univerde-IPR Marketing Report) - Disputes over hydro and wind energy plants are quite significant.			
		Latvia - The Baltic Environmental Forum survey (2016) indicates that for 68% of the respondents there is a need to work towards solutions to mitigate the effects of climate change, 44% supported the development of RES/alternative energy sources. - However, the DNB survey (2016) indicates that most respondents (61%) would not be willing to pay more for energy if more renewables would be used. - Acceptance might be expected, if it does not increase the electricity prices.			
		Norway - In the Norwegian election survey in 2009 and 2013, a large majority agreed that wind power should be further developed in Norway. However, with increasing development that puts pressure on nature conservation, which has always spurred a lot of conflict in Norway, opposition against wind power might increase in future.			
		Warmian-Mazurian Voivodeship - The 2013 Polish Wind Energy Association's survey shows that most respondents do not believe that wind power has a negative aesthetic impact on landscape (61%) or that wind power makes areas surrounding wind farms less attractive to tourists (54%). 47% of the respondents express that they are concerned with noise from wind turbines (i.e. respondents who have the opinion that wind turbines generate bothersome noise to residents living nearby). 35% of the respondents do not believe wind power creates bothersome noise. 40% of respondents were afraid of infrasound; in contrast, 34% were not afraid of such sounds; and as many as 26% had no opinion. - In 2013 the Polish Wind Energy Association hired an independent company to carry out a questionnaire in the Warmian-Mazurian Province. The findings suggest that 78% of the inhabitants are of the opinion that investments in wind energy can bring positive benefits for their region. Benefits from investments in wind energy that were most commonly ticked off by the respondents included: environmental benefits (65%), increase in communal income from taxes paid by the investor (51%) and a decrease in unemployment (46%). Research shows that residents of communes with wind farms see significantly more benefits related to wind farms compared to the general population. - Locally, almost half of the residents of the Warmian-Mazury Province have heard about risks related to the operation of wind farms. The three most frequently mentioned threats were listed: noise caused by turbines (57%), location of wind farms too close to buildings (47%), and depreciation of the value of the land around the power plant (44%). The vast majority of respondents (87%) expressed that wind farms are a good source of energy, of which 39% think that it is a very good source. 75% of the respondents also agreed that such power plants should be established within their own commune.			

		Balearic Islands - A recent study carried out by The Environmental Technologies Park of Mallorca shows that the local populations in the region are largely in favor of wind energy and are concerned about the lack of its existence in the Islands. The general wind energy acceptance in the in the Islands is 71% (2017). - In the individual islands, Menorca has the highest acceptance with 72%, followed by Ibiza 69%, Mallorca 66% and Formentera 62%.			
	Other	Thuringia and Saxony: Overall political attitudes - 28 years after German reunification many municipalities particularly in rural areas of East Germany including Thuringia and Saxony still face serious economic problems (e.g. rural depopulation, increasing economic, social and infrastructural disparities between urban and rural areas in East Germany, structural weakness, higher unemployment rates, low average income, decreasing revenues for municipalities) (Bundesministerium für Wirtschaft und Energie, 2018). This leads to a general discontent, and may aggravate negative perceptions related to the *Energiewende* such as: decreasing trust in political and administrative elites; political alienation and increasing distance of citizens from the political institutions, actors and procedures of democracy; perceived heteronomy (e.g. perception that leading positions in politics, administration, jurisdiction, media etc. are occupied by elites from West Germany); perception of the rural population as being left behind; perception of the *Energiewende* as an elitist project; increasing distrust towards scientific experts; increasing affinity to (right wing) populistic movements and parties.			
		Latvia: Willingness to participate in the discussion of local development plans - Such willingness is rather low. In general, participation in discussion of development plans is low. - A recent survey carried out in relation to the EIA procedure for several planned wind parks shows that around 40% of the respondents find that it is not important to participate in the discussions and 30% respondents are neutral. - There is one active group of people, who are usually against wind park developments and participate and actively express their opinion; and there is one group of people, who is indifferent when it comes to participating and who is not particularly interested in searching information.			
Market	Share of wind energy and other renewables	Thuringia - The proportion of domestic power generation in Thuringia is relatively low, but the net electricity imports could be reduced due to the continuous expansion of renewable energies. In 2015, electricity from RES covered 34.6% of electricity consumption and 58.6% of electricity generation. The current leftwing government coalition has ambitious targets and aims to cover the entire energy demand by 2040 by RES. In contrast, opponents of wind energy ask to reduce the “over-ambitious” targets of the state government and to synchronize the RES targets with those of the federal government.			
		Saxony - In 2016, 921 wind turbines were in operation in Saxony. However, the development of wind energy has been stagnating for several years. In the past three years, Saxony had the lowest annual growth rates in terms of wind turbine installations of all federal states (except Berlin).			

		Lazio During 2016, wind energy accounted for roughly 16.8% of the total renewable electricity production.			
		Abruzzo During 2016, wind energy accounted for roughly 16.8% of the total renewable electricity production.			
		Latvia - In the country the total supply of electricity in 2017 was 6,959 GWh. Around half of the electricity supply is provided by RES; however, wind energy contributes with only around 2% of the total supply of electricity. - At national level there is an important on-going discussion about RES development and definition of indicative national RES 2030 target within the Integrated National Climate-Energy Plan 2030. Wind energy might be an important technology to meet increasing RES targets.			
		Norway - Norway has installed power plants with a total capacity of 33.8 GW, a peak load capacity of 33.8 GW and an annual generation of 144 TWh. 10% of total generation in 2015 was exported. The electricity generation mix consists of: hydro 96%, natural gas 2% and wind 2%. Norway has the highest share of electricity produced from renewable sources in Europe (98%) (IEA, 2017). One key argument against development of wind power is related to the fact that wind energy does not contribute to phase out fossil fuels in Norwegian electricity generation. - Most of the electricity generation in Norway is publicly owned (state and municipalities): approximately 90% of hydroelectric generation, 90% of thermal generation, and 80% of wind generation (IEA, 2017). Under the 1917 Industrial Concessions Act, the government has a “right of reversion”, which allows it to resume ownership of privately-owned hydropower assets without compensation once the original 60-years license expires. As expected, the Act has resulted in privately developed hydropower plants gradually passing into public ownership. In capacity terms, the three largest generation owners (Statkraft, Agder Energi, and E-co) controls just under half of the assets. Statkraft produces around one-third of Norway’s net generation (IEA, 2017). More than 90% of the physical power trade in Norway takes place at the Nord Pool AS, a power exchange for the Nordic and Baltic region. Nord Pool AS was the world's first multinational exchange for trading electric power. Nord Pool AS runs the largest market for electrical energy in Europe. It operates in Norway, Denmark, Sweden, Finland, Estonia, Latvia, Lithuania, Germany and the UK. For the regional market to function properly, regulatory frameworks are harmonised across all the member countries. The Nord Pool AS has two physical power markets: a day-ahead market (Elspot) and a continuous intraday market (Elbas). Financial power contracts are traded through NASDAQ OMX.			
		Warmian-Mazurian Voivodeship - The share of wind energy in RES electricity generation in Poland is 55% (2016) according to data of Central Statistical Office.			

		Balearic Islands - The Balearic Islands current wind energy generation is the second lowest of all regions in Spain, after Extremadura. The current amount installed is 3.68 MW (AEE, 2017) generated by four wind turbines in the Es Milá Wind Park on the island of Menorca. This provides for 0.02% of the market share and total energy used in the Balearic Islands. The present wind park was created in 2004, however has since not experienced any form of expansion or growth.			
	Energy demand (e.g. exporter/importer of electricity, security of supply)	Thuringia - About 50% of electricity consumption in Thuringia is dependent on imports from other regions. Development of wind energy contributes to improve energy supply security and enhance the creation of regional/local added value. - In public discourses, oopponents of wind energy emphasize that the intermittent electricity generation from wind results in comparatively low outputs requiring extra capacity, plus back-up from conventional power stations (fossil fuel, nuclear). Another argument put forth is that wind power plants can only cover a small proportion of society's needs and do not provide a satisfying solution, given the disadvantages.			
		Saxony - Saxony's gross electricity generation in 2015 reached more than 42.4 billion kilowatt hours (kWh). The most important source of energy for power generation in Saxony is lignite. In 2015, lignite accounted for around 32 billion kWh, or three quarters of gross electricity generation. The combined share of renewable energies reached 13.5 percent in 2015 (5.7 billion kWh) followed by natural gas with 8.8 percent (3.7 billion kWh). - The electricity generated in Saxony is consumed only partially in Saxony itself. Electricity supplies on the one hand and electricity exports on the other hand resulted in a provisional export surplus of 15.9 billion kWh in 2015. - In the public discourses on wind energy, opponents of wind energy regularly emphasize that the intermittent electricity generation from wind results in comparatively low outputs requiring extra capacity, plus back up from conventional power stations (fossil fuel, nuclear). Furthermore, they argue, that wind power plants can only cover a small proportion of society's needs and do not provide a satisfying solution taking into account their disadvantages.			
		Lazio - Local: The regional energy balance report suggests that in 2014 Lazio was almost fully dependent on imports (91,7% of Gross Internal Consumption, GIC)			
		Abruzzo - Local: The regional energy balance report suggests that in 2014 the primary production in Abruzzo covered only 24% of gross internal consumption.			
		Latvia - In parts of Latvia citizens are not concerned with the security of energy supply. However, a significant part of society supports use of local fuel, although mainly in the heat sector, instead of import of natural gas from third countries, including Russia.			

		Norway - There is an over-supply of electricity in Norway. Therefore, energy demand is not a driver for social acceptability, although some interest groups argue that – with increasing electrification of sectors – there will be an increasing demand in future. - 10% of total electricity generation in 2015 was exported. Norway's consumption of electricity was 118 TWh. More than 75% of the Norwegian capacity is flexible, and Norway has half of Europe's hydro reservoir capacity (IEA, 2017). - Norway is part of a highly integrated Nordic power system that has interconnectors to the Baltics, Northern Europe and Russia. Nearly all the imports and exports go via land cables to Sweden or submarine cables to Denmark and the Netherlands. The flexibility of Norway's hydropower production makes it a valuable resource to balance variable renewable power. In a recent review of the Norwegian energy sector, the International Energy Agency recommended for the electricity sector (IEA, 2017 p. 11): "Continue to support further harmonisation and integration within the Nordic electricity market, facilitate an increase in cross-border connections and demand-side measures to this end, and take measures to encourage market-based investments in low-carbon power generation."			
		Warmian-Mazurian Voivodeship - There is low coverage of demand by local sources.			
		Balearic Islands - Four thermal power plants exist in Mallorca (527 MW, 432 MW, 412 MW and 400 MW), one thermal power plant in each of Ibiza (292 MW), Formentera (10.5 MW) and Menorca (245 MW). These are all either coal-oil fired or gas turbines. The coal is largely imported from South Africa and oil is also imported. Thus, the islands are heavily dependent on net imports of energy.			
	Other	Thuringia and Saxony: Competitiveness of wind energy - Due to massive cost reductions wind power has become competitive with fossil power plants. The levelized cost of electricity (LCOE) for new wind power plants is partly in the range of the LCOE of new coal fired power plants (Kost et al., 2018). - Opponents of wind energy in Thuringia and Saxony argue that due to over-optimistic wind potential calculations, many of the existing wind parks are not economically competitive.			
		Norway: Competitive energy source Wind power has become competitive with hydropower,and is subject to favourable taxation compared with large hydropower installations.			

Planning and permitting process	Procedural justice (formal/informal participation and consultation)	Thuringia - Spatial planning: Thuringia is divided into four planning regions, which consist of counties, cities and municipalities identified as 'middle centers' in the Federal State Development Program. These are responsible for regional planning including the designation of wind priority zones in their regional plans. The highest decision-making body is the Planning Assembly. Some members are *ex officio* (district councillors and mayors of the middle centers), others are elected by the political committees of the districts. - Wind power opponents complain that the participation possibilities are given only for larger municipalities and not for smaller, in particular rural ones. - Municipalities' ability to influence the exact position/design of wind turbines/height of the turbines within the priority zones in the frame of urban land use planning (micro-siting) is limited. Municipalities are reluctant to develop local land use plans plans. - The designation of priority zones for wind energy in the regional plans is currently in a transitional stage, due to political and judicial decisions. It creates uncertainty for investors, communities and citizens and increases their concerns of an uncontrolled and uncoordinated development of wind energy. - The local administrations including the mayors and other local decision makers (working as honorary persons, unpaid) often lack the capacities and resources to cope with the complex issue of planning, constructing and operating wind turbines and ensuring public participation. - Municipalities and local residents perceive the designation of priority zones as a top-down process with limited scope to influence the process. They often feel badly informed and that their concerns and objections are not sufficiently considered. - Citizens experience that they are poorly informed about the regional plans and criticize the limited scope of participation and possibilities to influence and shape the outcome of the planning process and the designation of priority zones. - Permitting: Formal participation of the public in the wind turbine permitting process is required only if the number of wind turbines reaches or exceeds 20. For projects with 3-19 plants, the scope of public participation is dependent of the results of an initial screening process. There is a call for making public participation mandatory in general. - Many municipalities seem to be overloaded and over-challenged with wind energy planning in their jurisdictions. - There is a need to support municipalities and residents by providing 'neutral' information and advice regarding the planning of wind energy plants, including informal procedural participation formats and financial participation for citizens and communities.	- Voluntary EIA with comprehensive public participation; various informal participation formats (information events, information markets etc.) - Spatial planning: Formal public consultation of the Wind Energy Decree (2016) and regional plans. Formal consultation procedures are partly accompanied by informal participation formats (e.g. regional dialogue fora for debating the Wind Energy Decree) - The Service Unit Wind Energy in Thuringia provides advisory and technical assistance services for citizens, municipalities and developers. - The quality label for project developers, "Fair wind energy developer", seeks to address procedural and distributional justice. - The state government plans to develop a Codex for Citizen Participation to strengthen participation before and during the permitting process - The state plans to develop a Community energy advisory programme.	- Spatial planning: In Brandenburg, the mayors of the municipalities with > 10,000 inhabitants are members *ex officio* of the regional assembly. To ensure a fairer participation of smaller communities in this decision-making body the threshold under which *ex officio* membership of mayors shall be reduced to 5,000 inhabitants. - The state planning authorities and regional planning bodies in the 16 federal states use increasingly informal and voluntary public participation formats beyond formal statutory participation (e.g. informal working groups in Saxony, informal wind plan dialogues in Oderland-Spree, one of the five planning regions in the state of Brandenburg, public information events, expert talks and informal mappings in Schleswig-Holstein). - Other informal measures being discussed is 'citizen persons of trust' and 'planning cells' - Permitting: Informal local meetings, hearings, public discussions to involve and engage the public. - In autumn 2018, the state government of Brandenburg launched an initiative that aims to abolish the privileged status of wind energy in spatial planning and thus increase acceptance for wind energy (Wind farms are currently treated as privileged structures in areas without land-use plans under the German Federal Building Code. Giving up the privileged status would mean in the end	

				it is the municipalities which solely specify in their land use plans on whether and where wind turbines might be constructed	
		Saxony - Spatial planning: Saxony is divided into four regional planning bodies. All four are required to designate corresponding priority and suitability zones for wind energy in the corresponding regional plans. Construction of wind energy plants is only possible within these areas. The highest decision-making body is the association meeting. Voting members are the district councillors and mayors of the independent cities and in addition for every 75,000 inhabitants a further association council will be elected. The number of association councils may not exceed six per member body. The acceptance factors described for Thuringia above largely apply to Saxony.	Permitting: The state government developed Recommendations on the Permission of Wind Energy Plants (2011), which provide an overview of existing regulations for the permission of wind energy turbines, but do not contain any special measures promoting informal participation of communities/citizens	Spatial planning: Informal and voluntary public participation formats going beyond formal statutory participation (e.g. the planning association Upper Elbe Valley / Ore Mountains set up a (temporary) informal working group involving different stakeholder groups. In Oderland-Spree, one of the five planning regions in the federal state of Brandenburg, one of the WinWind model regions, the regional planning bodies organize regular, informal "wind plan dialogues" involving various stakeholders in those municipalities which are affected by the designation of wind energy zones in the regional plans)	
		Lazio Targeted Identification of key stakeholder for each themes and regions			
		Abruzzo Public consultation of stakeholders	The participatory process involved the local residents and local administration through public meetings from the planning stage to the actual implementation.		
		Latvia - Consultations with the population, carried out by municipalities, increases the fair/objective information provided to people.	- Policy: Survey about inhabitant's awareness and attitude towards a wind farm, voluntary survey commissioned by a public body (municipality) at the planning and permitting stage.		
		Norway - Planning of energy power plants is not a local responsibility, but in the hands of national authorities.		- At Hitra in 2001, a local "common counselling forum" was established between the	

		- The regulator (Norwegian Water Resources and Energy Directorate) is a directorate under the Ministry of Petroleum and Energy (OED), with responsibility for the management of the nation's water and energy resources. The main task of the regulator's licensing department is to process license applications for the construction of power plants, dams and other installations in our water courses, for major power lines and other energy installation that require permission according to the Energy and/or the Water Course Act. The process involves the public in open hearings. NVE is a trusted organisation (i.e. in terms of all the tasks it carries out, not in particular related to wind energy).		municipality, local businesses and nature, environment and recreational interest groups. Ever since, the regulator advises municipalities and local interest groups to establish such forums.	
		Warmian-Mazurian Voivodeship - The involvement of residents in planning and permitting processes is low in general.			- Policy: Public participation in the issuance process of a decision on environmental conditions – supported by the Act on Providing Information on the Environment and Environmental Protection, Public Participation in Environmental Protection and on Environmental Impact Assessment.
		Balearic Islands - There has been significant distrust towards investors and the non- transparent planning processes.	The recently approved BCC Law requires positive action to ensure more formal and information participation of the public, in particularly through the empowerment of publicly elected local officials.	- Policy: Galicia Singular Wind Farms. - El Hierro Energy Transition. - Social Wind Energy Project (Lanzarote). - Mancomunidad del Sureste de Gran Canaria: Developing Wind and Water	
	Information and transparency	Thuringia - See former category. - In a recent 2018 survey, *Stimmungsbild Windkraft in Thüringen*, approximately 1,000 persons were asked to identify measures which raise social acceptance for regional wind energy development. The measures receiving most answers were "More/better information" and "Direct dialogue with citizens (discussions, presentations, information events) (C-KCM Richard Schmidt, 2018) - There is a knowledge gap between professional wind energy developers, on the one hand, and municipal decision-makers and citizens, on the other. Local authorities face time, informational and staff constraints.	- The Service Unit Wind Energy provides information and technical assistance services to citizens and communities. - The quality label "Partner for Fair Wind Energy" and related guidelines envisage, inter alia: involvement of all interest groups in the vicinity; transparent handling of project-related information on-site, provision of assistance and informational services; and fair participation of everyone affected		
		Saxony - See former category - There is a knowledge gap between professional wind energy developers on the one hand and municipal decision-makers and citizens on the other. Local authorities often face time, informational and staff constraints.		- The Service Unit Wind Energy in Thuringia provides comprehensive information and technical assistance services to citizens and communities.	

				- The quality label "Partner for Fair Wind Energy" and related guidelines envisage, inter alia: involvement of all interest groups in the vicinity; transparent handling of project-related information on-site, provision of assistance and informational services; and fair participation of everyone affected	
		Lazio Clarity on the regulatory framework for the entire wind farms installation chain, including the repowering.			The "Conferenza dei Servizi" (Conference of services) (Law 241/90) represents the institution that enhances the dialogue and cooperation between public authorities to implement the administrative simplification of the activities related to project realization.
		Abruzzo Authorization process	The Abruzzo Region has efficient procedures and definite timeframe for authorization process.		The "Conferenza dei Servizi" (Conference of services) (Law 241/90) represents the institution that enhances the dialogue and cooperation between public authorities to implement the administrative simplification of the activities related to project realization.
		Latvia - Transparent information on planning and permitting process likely increases the acceptance, and vice versa.			
		Norway - The concession process is transparent in terms of making all the documentation publicly available on its home page and carrying out public meetings. - Interest groups opposing wind power argue that the process is not sufficiently transparent, as for example land owners and developers have sometimes already made agreements prior to a project has been reported to the regulator (i.e. before entering into the concession process).		- At Hitra in 2001, a local "common counselling forum" was established between the municipality, local businesses and other interest groups. Ever since, the regulator advises municipalities and local interest groups to establish such forums.	
		Warmian-Mazurian Voivodeship - Low level of public awareness concerning impacts and benefits of wind energy on a local level. A little engagement of public authorities in informational activities and campaigns dedicated for residents.		Preparation of pilot wind turbine investment (policy, local)	
		Balearic Islands - See earlier category		- Som Energia – non-profit oriented energy cooperative governed and financed by its members.	

				- Policy: Galicia Singular Wind Farms. - El Hierro Energy Transition. - Social Wind energy Project (Lanzarote). - Mancomunidad del Sureste de Gran Canarias: Developing Wind and Water	
Governance and regulatory framework	National/regional/local targets, plans and policies	Thuringia - The leftwing state government coalition of Thuringia pursues ambitious RES expansion targets (more ambitious than federal targets and of other German states) and seeks to increase the share of RES in overall energy consumption to 100% by 2040. To achieve the targets, the area dedicated to the development of wind energy is planned to increase from 0.3 to 1% of the total area of Thuringia. - Opponents perceive the targets as arbitrary, not well argued, too ambitious, ideological, and inflexible. The process of target setting and breaking those targets down in the context of regional planning and the designation of suitable/preferable areas for wind energy is often perceived as biased and not open-ended. - Opponents criticize the insufficient synchronization of RES expansion policies and grid/storage expansion which leads to massive temporary shutdowns of wind turbines, particularly in the North Germany (particularly Schleswig-Holstein), but also in other regions including Thuringia.		- Policy target setting: social acceptance of wind energy has been included as a separate political priority of the regional energy strategy 2030 in Brandenburg	- The Renewable Energy Sources Act contains provisions which give community wind park planners and operators certain privileges under the new auctioning system - The Federal government (Coalition Agreement 2018) aims to reconcile the interests of the renewable energy industry with nature conservation and create better opportunities for municipalities and citizens to participate in the construction of wind turbines. - Several proposals are being debated: special levies paid to municipalities, minimum share of developers' annual turnover to be shared with communities, reform of the municipal concession fee system. - In October 2018 the coalition partners decided to set up a working group to debate and develop measures to increase social acceptance.
		Saxony - In its Energy and Climate Programme of 2013 (EKP 2013) the previous state government has set out a RES expansion target of reaching 28% in gross electricity consumption by 2022. In 2016, this share was approximately 21%. - After the parliamentary elections in Saxony of 2014, the new government coalition agreed to pursue the (more ambitious) RES targets of the federal government (40-45% until 2025 and 55-60% until 2035), and to revise the EKP 2013, a key issue being the further expansion of RES with the participation of citizens. -The slow market development can be explained by the: limited designation of wind priority/suitability zones in the regional plans; increasingly demanding nature protection requirements (see above); increasing local opposition; low number of successful bids in the auctions.	Energy and Climate Programme, Coalition Agreement of the state government. Saxony	Wind Energy Masterplan and Guidelines for Community Wind Energy in the district of Steinfurt (North-Rhine-Westphalia) Policy target setting (social acceptance of wind energy has been included as a political priority of the regional energy strategy 2030), Brandenburg.	- The Renewable Energy Sources Act contains provisions which give community wind park planners and operators certain privileges under the new auctioning system - The federal government (Coalition Agreement 2018) aims to reconcile the interests of the renewable energy industry with nature conservation and create better

		- The wind industry claims that the state government actively impedes an expansion of wind energy, e.g. by restrictive designation of wind priority/suitability zones, or height restrictions. The industry also argues that the state government has a strong bias to promote the domestic lignite industry at the expense of the wind energy sector and other RES sectors. - According to the EKP 2013, areas must be reserved enabling an annual energy output of 2,200 GWh from wind energy which means an increase of 1,050 GWh/year. This state-wide energy target has been broken down into individual minimum wind energy outputs to be achieved by each of the four planning regions. - Saxony has not set any area-related expansion target for the development of wind energy (e.g. as a minimum percentage of the total area to be reserved for wind energy), but a state-wide minimum wind energy output target which has been broken down for each of the four planning regions according to their respective shares in the total area. - All four regional plans which designate wind priority/suitability zones are currently under revision. But the revision is based on the existing (outdated) policy goals and does not consider any updated EKP. Political goal setting and spatial planning are not synchronized. Due to the obsolete expansion targets contained in the existing EKP which has been developed by the previous government, proponents of the wind industry expect further stagnation of wind energy in the coming years.			opportunities for municipalities and citizens to participate in the construction of wind turbines. - Several proposals are being debated including, e.g., special levies paid to municipalities, minimum share of developers' annual turnover to be shared with communities, or reform of the municipal concession fee system. - In October 2018 the coalition partners decided to set up a working group to debate and develop measures to increase social acceptance.
		Lazio	Energy Regional Plan (ERP)	Energy Regional Plan (ERP) are still not completed for all Italian regions. Rivoli Veronese and Affi communities Wind Far", Verona. Tax cuts and landscape commitment in Tula Municipality, Sardinia. Progetto Integrato Energie Rinnovabli per lo Sviluppo Ecocopatibile dell'Appennino (P.E.R.S.E.A.), Apulia and Campania.	Legislative Decree No 387 of 29 December 2003, Ministerial Decree 10 September 2010 "Guidelines for the authorization of plants powered by renewable sources", Legislative Decree No 28, 3 March 2011, Legislative Decree Law 152/2006 „Code on the Environment, Cultural Heritage and Landscape Code, Law 42/2004 and Amendments. Presidential Decree n. 327 of 8 June 2001. National Renewable Energy Action Plan, National Energy Strategy. Ministerial Decree (MD) of 6 July 2012, Feed-in premium for renewable energy sources other than photovoltaic, Ministerial Decree (MD) of 30 June 2016: Feed-in premium for renewable energy sources other than photovoltaic.

		Abruzzo	Energy Regional Plan (ERP)	Energy Regional Plans (ERP) are still not completed for all Italian regions Rivoli Veronese and Affi communities Wind Far", Verona. Tax cuts and landscape commitment in Tula Municipality, Sardinia. Progetto Integrato Energie Rinnovabli per lo Sviluppo Ecocopatibile dell'Appennino (P.E.R.S.E.A.), Apulia and Campania.	Legislative Decree No 387 of 29 December 2003, Ministerial Decree 10 September 2010 "Guidelines for the authorization of plants powered by renewable sources", Legislative Decree No 28, 3 March 2011, Legislative Decree Law 152/2006 „Code on the Environment, Cultural Heritage and Landscape Code, Law 42/2004 and Amendments. Presidential Decree n. 327 of 8 June 2001. National Renewable Energy Action Plan, National Energy Strategy. Ministerial Decree (MD) of 6 July 2012, Feed-in premium for renewable energy sources other than photovoltaic, Ministerial Decree (MD) of 30 June 2016: Feed-in premium for renewable energy sources other than photovoltaic.
		Latvia - At national level there are important on-going discussion on RES development and definition of an indicative national RES 2030 target within Integrated National Climate-Energy Plan 2030. - Municipal support for wind energy in the corresponding administrative territory expressed by municipal planning documents (municipality sustainable development strategy, development programme, zoning for wind energy in municipality spatial plan) and including clear framework conditions (methods) how to involve local communities and share benefits from wind power, could be an important acceptance promoting factor.			- Cabinet of Ministers Regulations No 240 (in force 22 May 2013) "General Regulations for the Planning, Use and Building of the Territory" (issued pursuant to the Spatial Development Planning Law). - The Energy Law - Law on Regulators of Public Utilities. - Electricity Market Law. - Spatial Development Planning Law - Regional Development Law - Protection Zone Law - Land Management Law - Construction Law. - Electricity Tax Law - Other laws: TourismLaw; Environmental Protection Law; Law on Environmental Impact Assessment; Law on the

					Conservation of Species and Biotopes; Law on Specially Protected Nature Territories; Law on Protection of Cultural Monuments
		Norway - The target in the EU Renewables Energy Directive of achieving a 67,5% share of renewable energy was, when this target was introduced, a driver for social acceptability of wind power. At the same time, the national government introduced a target for how much the elcertificate scheme was supposed to contribute with (see the next point). The Parliament unilaterally agreed with this. The new Norwegian Energy White Paper from 2016 is less clear: The government aims to fostering economic development and value creation through the effective use of profitable renewable resources. It does not include a particular target for wind energy. - In 2012, Norway and Sweden implemented a common market for RES elcertificates to achieve each country's renewable-energy target. The Swedish-Norwegian elcertificate scheme (Regjeringen, 2011; LOVDATA, 2011) is designed to achieve a given increase in annual renewable-electricity production capacity at the least cost to society and to provide incentives to producers to respond to market developments. The scheme gives the producers of new (i.e., the added production under the scheme), renewable electricity the same support per MWh delivered on the electricity grid irrespective of which technology is used and regardless of whether the plant is located in Norway or Sweden or whether the additional production comes from a new plant or from updating and expanding an existing plant. To be entitled to sell elcertificates, the power plant must be completed by 31 December 2021. There are no plans of supporting renewable electricity production after this date (but radically, new renewable energy production technologies may receive investment subsidies through ENOVA). - Overall, wind power is taxed more favourably than hydro power. In 2018, surplus in the power sector is taxed as ordinary income with 23%. Hydropower plants with an installed capacity above 10 MW is subject to an additional resource tax of 35,7%; thus, marginal taxes may be as high as 58.7%. This means that large hydropower installations, often with the flexibility to regulate production, are taxed much more heavily than wind power and small hydropower. In addition, operators of large hydropower must sell 10% of their production to lower-than-market prices to the municipality. Wind power is from 2016 subject to favourable tax depreciation rules. The investment can be depreciated linearly over only five years, resulting in more positive cash flows early in the project's life. This fact contributes to make citizens more in favour of hydropower than wind power (i.e. they experience that there are larger local benefits from hydropower than wind power).			
		Warmian-Mazurian Voivodeship - The national target for RES in 2020 is a positive driver of social acceptance.			Property tax on wind turbines – as a source of additional income for municipalities.
		Balearic Islands - Plan de Energías Renovables 2011-2020. (Vol. I.) is a broad national action plan designed to implement and deliver the obligations under the EU Renewable Energy Directive 2009/28/EC		- Policy: Galicia Singular Wind Farms. - Galicia Regional wind farm plans.	

		- Royal Decree-Law 413/2014: Under the Spanish incentive scheme, renewable power generators sell the electricity they generate into the Spanish wholesale market and receive the market price for such sales; and also receive additional regulated payments during their respective regulatory lifetime (e.g., 20 years for wind farms and 30 years for solar photovoltaic facilities, starting on the commissioning operation date). - Royal Decree 947/2015 16th of October Orden IET/2212/2915 This announced a call for renewable energy actions to be held yearly in order to procure wind and biomass generation capacity. This capacity development was aimed at contributing to Spain´s EU 2020 renewable energy target. More specifically, the government opened an auction for 500 MW of onshore wind generation capacity, and for all the years thus far, all opened capacity was awarded according to the Balearic Climate Change Law,9347 (2018): 35% renewable energies by 2030; 100% by 2050; implementing details to be set out however very positive foundations for further measure to enable the use of wind energy in order to realise the renewable energy objectives.		- Policy: El Hierro Energy Transition	
Trust	Trust in key actors and processes	Thuringia - Low levels of trust in investors and planners, and often in regional or municipal decision-makers seem to prevail among citizens in relatively many municipalities in Thuringia. This is a consequence of several factors: 80% of all wind turbines are owned by investors from outside Thuringia (Gude, 2015). There are only few community wind energy plants. The owners of the land where turbines are located are often not local. It means that profits and taxes do not remain in the municipalities. These factors provide key barriers for the trust in the investors and planners of wind plants. - Annulment of two of the four regional plans designating priority zones for wind energy in Thuringia by court decisions led partly to aggressive and non-transparent land acquisition practices by developers (Gude, 2015). Project developers act in an increasingly competitive environment with strong cost pressure due to the transition from feed-in tariff system to competitive bidding procedures. - There is a knowledge gap between professional wind energy developers, on the one hand, and municipal decision-makers and citizens, on the other. Municipalities, but also public authorities (responsible for planning and permitting) often face time, informational and staff constraints. - The willingness of municipalities to enter a dialogue with project developers is declining. - The situation is partly aggravated by the following problems, particularly in rural areas: Decreasing trust of citizens in political and administrative elites; political alienation and increasing distance of citizens from the political institutions, actors and procedures; perceived hheteronomy (including the perception that leading positions in politics, administration, jurisdiction, media etc. are occupied by elites from West Germany); perception of being left behind; perception of the Energiewende as an (urban) elitist project; increasing distrust towards scientific experts; increasing affinity to (right wing) populistic movements and parties.	-Trust-building through intermediary organizations, informal participation measures, institution building, capacity building, effective communication, unbiased technical assistance to local stakeholders incl. policy makers and planners. - The Service Unit Wind Energy in Thuringia acts as a neutral intermediary organization. - The quality label "Partner for Fair Wind Energy" for project developers) has been introduced to to increase trust.	- Intermediary organizations and advisory units providing unbiased technical assistance to local communities and stakeholders in Baden-Wurttemberg, Rhineland-Palatinate, Hesse:Citizens' Forum Hesse Quality label and certification scheme "Fair Wind Park Developer" for project planners and developers in Schleswig-Holstein.	
		Saxony - Low levels of trust in investors and planners, but often also in regional or municipal decision-makers seem to prevail among citizens in many municipalities in Saxony. This is a consequence of several factors: Few citizen/community owned wind energy plants/parks; most wind energy plants	- The Saxon Energy Agency SAENA provides consulting services for municipalities and citizens, but with limited resources the	- Intermediary organizations and advisory units providing unbiased technical assistance to local communities and stakeholders in Baden-	

		are owned by external investors which are not rooted locally; the owners of the land where turbines are located are often not local, and hence profits and taxes do not stay in the site municipalities. - There is a knowledge gap between professional wind energy developers, on the one hand, and municipal decision-makers and citizens, on the other. Municipalities, but also public authorities (responsible for planning and permitting) often face time, informational and staff constraints. - The willingness of municipalities to enter into a dialogue with project developers is declining. - The situation is partly aggravated by the following problems, particularly in rural areas: decreasing trust of citizens in political and administrative elites; political alienation and increasing distance of citizens from the political institutions, actors and procedures; perceived heteronomy (including the perception that leading positions in politics, administration, jurisdiction, media etc. are occupied by elites from West Germany); perception of being left behind; perception of the Energiewende as an (urban) elitist project; increasing distrust towards scientific experts; increasing affinity to (right wing) populistic movements and parties.	focus being more on energy efficiency. - In February 2018, the parliamentary group of the Green Party brought forward a parliamentary motion to establish a service unit wind energy and labelling scheme for project developers following the Thuringian model.	Wurttemberg, Rhineland-Palatinate, Hesse:Citizens' Forum Hesse Quality label and certification scheme "Fair Wind Park Developer" for project planners and developers in Schleswig-Holstein. - The Service Unit Wind Energy in Thuringia acts as a neutral intermediary organization. - The quality label "Partner for Fair Wind Energy" for project developers) has been introduced to strengthen procedural and distributional justice, to increase credibility of planners and developers and to build trust.	
		Lazio Wrong communication modalities and a lack of attention to the social network	The clear procedures and timeframe for authorization represent a good model for citizens' increasing social acceptance of wind farms.	Lazio Wrong communication modalities and a lack of attention to the social network	
		Abruzzo Local administrators Wind energy companies	The clear procedures and timeframe for authorization represent a good model for citizens' increasing social acceptance of wind farms.	Abruzzo Local administrators Wind energy companies	
		Latvia - Past political decisions on the RES feed-in tariffs had created scepticism of whether such tariffs are fair in the society. - Former politicians have certain interests in a number of RES plants, including wind plants, thus a great part of the population considers that they influenced decision making in their own interest. - Parts of society, as indicated by public meetings on EIA reports, do not trust EIA reports and objectivity/fairness of involved experts (as they consider them as being too inspired by wind park developers).			
		Norway - In general, there is high trust in Norwegian laws, institutions and regulations of the energy sector. However, opponents argue that the regulator 'sing from the same hymn sheet' as the wind energy developers.			
		Warmian-Mazurian Voivodeship - There is a lack of trust in key actors and processes		Preparation of pilot wind turbine investment (policy, local).	
		Balearic Islands - See the category transparency and procedural justice.		Mancomunidad del Sureste de Gran Canaria: Developing Wind and Water	

	Other	Latvia: Information - In general, the quality and objectivity of information is an important factor. There is a lack of analytic information regarding RES electricity, and mass media rarely provide such analytic information (partially due to a lack of research journalism traditions). - In the latest survey carried out in relation to the EIA procedure in the sites of planned wind parks a significant part of respondents indicate that information on the negative impacts of wind parks is based on their own personal thoughts.			
Other	Factors not listed above	Saxony: Active local protest groups, partly affiliated with right wing populistic movements and parties (AfD) which are very sceptical towards man made climate change and the energy transition.			
		Latvia: Information of local people regarding the planned project The surveys carried out within the EIA procedure indicate that up 1/2 of the local citizens had no information on planned wind park projects. Evidently, late information regarding planned projects may decrease social acceptance.			

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Appendix 2. Scale of impact factor

The information provided in Appendix 1 is based on input from the partners, who filled in the template that was submitted in September 2018. The template has since been revised to provide an explanation on how to quantify the impact of factors that increase or decrease social acceptance (see point 3 in the methodology section). Appendix 2 presents the scale of impact factor and provides guidelines for how to use this scale.

"Specification of factor" in column 3 refers to the specification that is included in Appendix 1. In comparison to the tables in Appendix 1, a new column at the end of the table has been added, where stakeholders can add comments. Example: If a stakeholder finds that important aspects are not included or the text in column 3 is misleading, the stakeholder can provide a comment in this column.

"Impact of factor" in column 4 has a scale from -3 to +3, where:

- Positive values indicate that the factor increases social acceptance (i.e., is a driver)
- Negative values indicate that the factor decreases social acceptance (i.e., is a barrier)
- Zero indicates that the factor has either not significant or neutral impact on social acceptance.

In column 4 "Impact of factor" the value chosen should represent the stakeholder's overall assessment of one acceptance factor. Example: If, for the acceptance factor "Effect on local economy", a wind power project is expected to increase employment in one sector but reduce employment in another sector, then the value should reflect the net impact to the economy.

In column 4 "Impact of factor", the values should reflect the following assessments:

- -3: Minus three means that this factor, by itself, is sufficient to prevent wind energy development projects from being realized. Example 1: Take the acceptance factor "Sense of place, self-identity, and place attachment". In Norway, most people have a strong attachment to the fiords. A large-scale wind power development in areas close to valuable scenery might trigger nation-wide demonstrations and make it politically impossible to support the project. Example 2: Take the acceptance factor "Effect on biodiversity and wildlife". If a wind power development poses a threat to red-listed species, then national laws, international commitments or massive demonstrations may reduce the social acceptance for wind energy developments to the extent that it is not realized.
- -2: Minus two means that this factor will have a clear negative impact on social acceptance, but it will not be enough, by itself, to hinder the project from being realized. Yet, the barrier is so important it will have a significant impact on the overall assessment of the social acceptability of the project.
- -1: Minus one means that this factor has a small but negative impact on the social acceptance for wind power. Or, that the negative impacts are slightly greater than the positive impacts, and there are no considerable conflicts related to the acceptance factor.

- 0: A zero value means that this factor has an overall neutral impact on acceptability.
- +1: Plus one means that this factor has a small but positive impact on the social acceptance for wind power. Or, that the positive impacts are slightly greater than the negative impacts, and there are no considerable conflicts related to the acceptance factor.
- +2: Plus two means that this factor will have a clear positive impact on social acceptance, but it will not be enough by itself to guarantee that the project is realized. Yet, the barrier is so important it will have a significant impact on the overall assessment of the social acceptability of the project.
- +3: Plus three means that this factor, by itself, may be enough to ensure a considerable support for the wind power project. Example: Take the acceptance factor “Effect on greenhouse gas emissions, energy mix”. In one region/nation, the focus on climate change and/or energy supply security may be so dominant in the public debate, that this factor alone may ensure a positive attitude towards the project.

There is a need to distinguish between local impacts and regional/national impacts. This can be achieved by adding two columns after column 4, one for local and one for regional/national impacts. The respondent can then tick off in one or both columns.

Region

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Acceptance factor category	**Acceptance factor**	**Specification of factor*1**	**Stakeholder comment*2**	**Impact of factor** -3 to +3*3	**Local impact*4**	**Regional/ national impact*4**	**Policy and corporate measures in target region**	**Measures/good practices from other regions in country**	**Measures taken at national level which help to address barrier**
Technical characteristics of project	Visibility, number and size of plants	Inserted by WinWind partner							
	Distance from residential areas, protected areas	Inserted by WinWind partner							
	Grid infrastructure	Inserted by WinWind partner							
	Other (please specify)	Inserted by WinWind partner							
Impact on Environment	Effect on the physical environment (e.g. change of landscape, protected areas, increased traffic)	Inserted by WinWind partner							
	Effect on biodiversity and wildlife	Inserted by WinWind partner							
	Effect on greenhouse gas	Inserted by WinWind partner							

	emissions/energy mix								
	Other (please specify)	Inserted by WinWind partner							
Impact on Economy	Effect on local economy (e.g. tourism, agriculture, jobs)	Inserted by WinWind partner							
	Effect on individuals' economy (e.g. property values)	Inserted by WinWind partner							
	Distributional justice (i.e. distribution of burdens and benefits (a) geographical distribution between regions (b) distribution among actors within community)	Inserted by WinWind partner							
	Ownership of land and plants	Inserted by WinWind partner							
	Other (please specify)	Inserted by WinWind partner							
Impact on Society	Health, well-being, quality of life (e.g. noise	Inserted by WinWind partner							

	pollution, visual impact, recreation)								
	Other (please specify)	Inserted by WinWind partner							
Individual characteristics	Socio-cultural values	Inserted by WinWind partner							
	Sense of place, self-identity, place attachment	Inserted by WinWind partner							
	Discourses on wind energy	Inserted by WinWind partner							
	Attitudes (e.g. political, environmental, towards wind energy)	Inserted by WinWind partner							
	Other (please specify)	Inserted by WinWind partner							
Market	Share of wind energy and other renewables	Inserted by WinWind partner							
	Energy demand (e.g. exporter/importer of electricity, security of supply)	Inserted by WinWind partner							

	Other (please specify)	Inserted by WinWind partner							
Planning and permitting process	Procedural justice (formal/informal participation and consultation)	Inserted by WinWind partner							
	Information and transparency	Inserted by WinWind partner							
	Other (please specify)	Inserted by WinWind partner							
Governance and regulatory framework	National/regional/local targets, plans and policies	Inserted by WinWind partner							
	Other (please specify)	Inserted by WinWind partner							
Trust	Trust in key actors and processes	Inserted by WinWind partner							
	Other (please specify)	Inserted by WinWind partner							
Other	Factors not listed above (please specify)	Inserted by WinWind partner							

***1:** Specify if the factor is general or specific to the target region. ***2:** Respondent may add comments to the inserted information that specifies the factor in column 3. ***3:** Respondent should use negative (positive) values to indicate that the factor decreases (increases) the social acceptance for wind energy development. See separate note dated 26th of October for more information on the use of the scale. ***4:** The respondent may tick off for local impact and/or regional/national impact.*

www.winwind-project.eu

info-winwind@PolSoz.FU-Berlin.de

@winwind_eu WinWind project

Project Partners

WinWind has received funding from European Union's Horizon 2020 Research and Innovation programme under Grant Agreement Nº 764717. The sole responsibility for any errors or omissions made lies with the consortium. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained therein.