Overcoming Barriers to the Community Acceptance of Wind Energy: Lessons Learnt from a Comparative Analysis of Best Practice Cases across Europe

Pouyan Maleki-Dizaji [1,*] , Nicoletta del Bufalo [1], Maria-Rosaria Di Nucci [2] and Michael Krug [2]

[1] ECORYS Research & Consulting, Calle del Marques de la Ensenada 16, Centro Colon 1018, 28004 Madrid,
    Spain; nicoletta.del.bufalo@ecorys.com

[2] Environmental Policy Research Centre, Freie Universität Berlin, D-14185 Berlin, Germany;
    dinucci@zedat.fu-berlin.de (M.-R.D.N.); mikru@zedat.fu-berlin.de (M.K.)

* Correspondence: pouyan.maleki@ecorys.com

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Abstract: Empirical evidence has shown that local community opposition is one of the key obstacles for new wind energy development. Consequently, the community acceptance of renewables, such as wind energy, has become a crux for Europe in both achieving and going beyond its renewable energy targets. Significant academic literature has already been devoted to conceptualising the community acceptance of wind energy. This article builds on the existing research by showcasing how regions and municipalities across Europe have successfully and effectively been able to overcome barriers to community acceptance. In doing so, 10 best practice case studies across six European countries have been carefully identified and investigated. The results of individual assessment of these different cases, each of which employ different types of measures/approaches, are comparatively analysed in order to identify the key success factors (drivers) for achieving community acceptance of wind energy in Europe. The identification of the success factors serves to start paving the way for the transfer of these measures/approaches to other municipalities and regions across Europe, particularly those who may encounter similar barriers of community acceptance of wind energy. Thus, our findings deliver to policy makers and developers a number of lessons learnt on how to organise future actions by proposing ways their activities can enhance community acceptance.

Keywords: wind energy; social acceptance; best practices; knowledge transfer; lessons for policy

1. Introduction

The European Commission's long-term decarbonisation strategy envisages that wind will be the largest source of power generation by 2050 [1]. However, in many countries, wind energy developments face increasing local resistance and thereby community acceptance of wind farms has become a critical bottleneck. A key challenge remains the question of how to help many local communities, who are the hosts of renewable energy facilities, better understand the value of such installations. Local opposition is most apparent and concerning in regions across Europe which possesses ample potential for renewable energy generation yet fail to even marginally realise their full potential. In such regions, local opposition is often the critical obstacle for realising such energy potential, thereby hindering Europe's progress towards the energy transition.

Onshore wind power is perhaps one of the most classic forms of renewable energy which has been subject to such a polarised debate among local communities. In this regard, community opposition has proven to be a central obstacle to the promotion of use of the wind energy in many regions across Europe. This is documented by a vast academic literature as well as by a number of cooperative European projects [2–4].

The existing literature has provided much relevant insight into determinants of community acceptance of wind energy as well as the factors which cause conflicts between local residents and wind development proposals, such as economic, social, environmental reasons [5]. More recently, the gravity of the different barriers and drivers of community acceptance have been empirically investigated [4]. Whilst much of this academic attention has been devoted to what stands in the way of community acceptance of wind energy development (i.e., the barriers), a number of issues remain to be investigated and explained with the help of empirical evidence. In this regard, open questions remain about whether a typology can be created to accurately describe different measures across Europe to overcome community acceptance, or whether measures are in fact highly localised (and thereby cannot be accurately described as under broad categories). Furthermore, and more importantly, what is yet to be investigated is how community acceptance can be positively achieved. In other words, how can local community-related barriers be effectively overcome?

We try to provide a partial contribution towards filling these identified gaps. We do so firstly by testing the practical application and accuracy of a typology of measures to achieve community acceptance. Then, we identify and analyse different measures that have been successfully designed and implemented across various regions and municipalities across Europe. In doing so, we strive to make a contribution towards the transfer of these measures to other regions and municipalities. This is specifically done by developing recommendations based on lessons learnt, addressed to both policy makers and developers, on how their efforts can be shaped in order to enhance the community acceptance of wind energy developments.

To this end, by carefully selecting and comparatively analysing the findings of 10 best practices cases across Europe for achieving community acceptance, we address the following research questions (RQ):

- RQ1: To what extent can measures for overcoming the obstacles of community acceptance be accurately explained by a typology which characterises such measures according to one key success factor (driver) of community acceptance?
- RQ2: What have been the most common success factors (drivers) for community acceptance across Europe?
- RQ3: What are the lessons learnt for policy makers and developers that can be extracted from the analysis of these cases in order to optimise their efforts and activities to achieve community acceptance?

The remainder of this article is structured as follows. Section 2 explains the main concepts of the study to define community acceptance and best practice cases, and elaborates on the proposed typology of measures to improve community acceptance. Then, in Section 3, the case study research methodology is described. In Section 4, the results of the best practice cases and their comparative analysis is explained. In Section 5, the lessons learnt and the recommendations for future activities and actions. Finally, Section 6 summarises the conclusions.

2. Literature Review and Analytical Framework

Although a great number of definitions exist on social acceptance and acceptability, this article borrows the apt description of Paul Upham et al. [6], according to which 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)". Others have described social acceptance as a triangular concept encompassing socio-political acceptance, community acceptance and market acceptance [7]. In this regard, wind energy developments can be categorised according to their impacts on the environment, the economy and society.

A number of studies have focused on the framework conditions for the uptake of sustainable energy technologies and revealed how these are affected not only by trust, procedural fairness and distributive fairness, but also by attitudes, personal and social norms as well as perceived behavioural control. In this framework, attitude is influenced by the perceived costs, risks and benefits, positive

and negative perceptions of the technology, whereas personal norms are affected by perceived costs, risks and benefits [8]. Besides geographic, market, policy, and other factors which affect the economic viability of wind energy projects, low levels of market deployment of wind and other renewable energy (RES) technologies can also be attributed to a lack of social acceptance and local opposition. Although the energy transition is generally supported by the vast majority of the population throughout Europe, its implementation faces criticism. Large energy projects lack support and provoke considerable local opposition. Besides the fairness of the planning processes and trust, local opposition is often influenced by the economic impact and the perceived fairness of wind projects implementation as well as the perceived role of the meaningfulness of renewables for the energy transition. Specifically, in many countries, social acceptance of wind energy has become a subject of contested debates due to the visual impact on landscapes, noise annoyance (including infrasound), public perception of health risks, local environmental disruption harming local fauna and flora, negative impact on recreation, tourism, land and real property value loss, but also due to perceived procedural or distributional injustice and the lack of public involvement and participation [9]. In the last years, initiatives against the deployment of wind energy have started proliferating on an unprecedented scale, fuelled by a clear lack of trust in developers, local governments and in the overall participatory procedures.

　　The focus of this article, in line with the focus of the European Union Horizon 2020 funded WinWind project, is community acceptance of specific wind energy projects. This is the acceptance of specific wind energy projects or siting decisions at a local level by local stakeholders. A wide array of literature shows that such acceptance (as an outcome) is produced within a large, complex and dynamic process [6–13] as illustrated in Figure 1 below. Figure 1 depicts the direct and indirect causal factors affecting social acceptability. These, together with the financial viability of projects, are key determinants influencing renewable deployment rates. Stakeholder support/opposition is closely related to values like sense of place and attachment, but also ownership patterns. In many European countries, community acceptance for renewable energies, particularly wind onshore and ground-mounted photovoltaic is decreasing. One of the key problems is that commercial, external developers and incumbent energy suppliers which are not rooted locally dominate the market. They often do not appropriately take into account the needs and preferences of local communities so that they can benefit from RES facilities, e.g., through benefit sharing, local value creation, or solutions oriented at the Common Good [13].
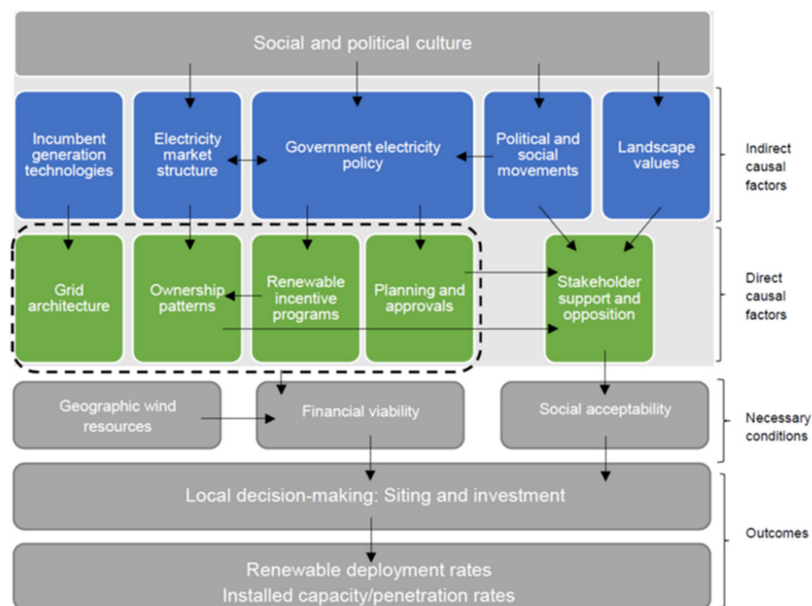

Figure 1. Conceptual framework for analysing social acceptance. Figure adapted from [12].

As part of the WinWind project, a recent publication specifically examined the different factors which shape community acceptance in six countries across Europe [4], paying particular attention to the extent to which local populations and relevant stakeholders perceive a factor as being either an obstacle or driver for community acceptance. Overall, it was found that, on the one hand, comparisons between countries are rather difficult due to the high complexity of the issues analysed. On the other hand, almost all the countries had key issues in common, which implies that learning may occur. In other words, good or bad practices can be shared or re-used to improve domestic regulatory frameworks. These findings set the foundations and motivation for the present research.

In the context of the WinWind project, a "good practice" refers to measures either taken by the wind industry (project developers/planners, operators, investors) or by public/policy actors to enhance community acceptance and to address community acceptance barriers [13]. A good practice, therefore, encompasses a process of carrying out a task using recommended methods. Documentation of procedural manuals, guidelines and codes of practice are often required when implementing good practices. According to the Food and Agriculture Organisation (FAO) of the United Nations, a good practice is "not only a practice that is good, but a practice that has been proven to work well and produce good results and is therefore recommended as a model. It is a successful experience, which has been tested and validated, in the broad sense, which has been repeated and deserves to be shared so that a greater number of people can adopt it" [14].

On the other hand, "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 recognised as best by peer organisations. This approach focuses on developing improvements and promoting continuous learning—good practices are considered more static and procedure-based. Best practices are means to provide guidance. Through trial and error, best practices provide the framework to help guiding policies and measures to be implemented. The Merrian Webster Dictionary defines best practice as "a procedure that has been shown by research and experience to produce optimal results and that is established or proposed as a standard suitable for widespread adoption" [15]. According to the Business Dictionary best practice is a "a method or technique that has consistently shown results superior to those achieved with other means, and that is used as a benchmark" [16]. Best practice cases can therefore be proposed for widespread adoption.

The WinWind project developed a typology to characterise and explain different measures across Europe for addressing this issue. This involved the development of 30 good practice measure fiches from the six WinWind project partner countries (Germany, Italy, Latvia, Norway, Poland and Spain). Upon a collection of these 30 cases, a process of characterisation, analysis and assessment was carried out [17], which led to the development of typology to represent the variety of different measures which exist in Europe for improving community acceptance. These six categories are elaborated below:

1. Formal and informal participation in planning and permitting procedures: Such measures seek to enable citizens and local stakeholders to influence planning and permitting processes. This is done with the aim of increasing community acceptance at the planning/permitting stages whilst also attempting to improve the planning and permitting process itself.

2. Active and passive financial participation of communities and citizens: This category describes the financial engagement of local communities/citizens. Active financial participation is to be found where citizens/communities are shareholders or members, for instance through energy cooperatives. Passive financial participation means that citizens do not directly participate with the profits or losses of the operating company/co-operative, but rather indirectly through loans, bonds and/or crowd investing. Table 1 below elaborates on this distinction:

Table 1. Types of financial participation of citizens in the operation of wind farms [18].

Active Participation of Citizens	
Direct	Citizens as owners/stakeholders of the plants (e.g., co-operative, limited liability company, other legal forms etc.)
Indirect	Citizens as creditors/lenders/financers
Passive participation of citizens	
Individual residents	Land lease payments for landowners, bonus payments for local residents, special electricity tariffs for local residents
Community level	Community foundations/trusts, community associations, compensation payments for the community, in-kind benefits for the community Municipality as owner of the plant Tax revenues from the operation of wind plants

3. Measures addressing distributional justice and the promotion of regional co-benefits: Given that distributional justice regards the fairness of how benefits and costs are shared/distributed across various groups, measures within this category seek to promote a fairer distribution of costs and benefits of renewable energy production. This category contains measures aiming to achieve a fair level of local benefits, preferably among all residents without any direct financial involvement. These kinds of measures are connected with the usage of public utility facilities developed by wind project developers. Thus, this category mainly relates to additional activities/developments conducted by developers.

4. Measures to reduce environmental and landscape impacts of wind energy: The measures within this category are fairly self-explanatory—they seek to minimise the impact that the installation of wind farms causes to the landscape and the natural environment.

5. Measures enhancing communication strategies and building of institutional structures including voluntary agreements and industry self-commitment: Such measures promote the establishment or development of institutions which act in many ways and functions. Key areas include consulting and advice, provision of neutral information and in some cases mediating conflicts, but also technical assistance services for citizens, municipalities and developers. This category also encompasses voluntary self-commitments by industry (e.g., codes of conduct), voluntary agreements and labelling initiatives.

6. Multi-measure approach: This describes measures which entail a combination of many different measures, making it difficult to identify a single leading measure to define and explain the action.

In sum, the developed typology, which is to be tested, suggests that the first five categories of measures for improving community acceptance are characterised by a single type of driver which is by itself the instrumental causal factor leading to community acceptance of wind energy, whereas the final one is characterised by having more than one driver for achieving such acceptance. In this regard, a "driver" is a factor, applicable and/or present in multiple contexts, which positively influences the community acceptance of wind energy projects. It can be regarded as a causal mechanism which leads to community acceptance and as a necessary but not a sufficient condition for community acceptance.

3. Materials and Methods

3.1. Case Study Selection

Following Gerring [19], the WinWind project understood a case study as the "intensive study of a single case where the purpose of that study is—at least in part—to shed light on a larger class of cases". The WinWind project analysed and compared ways of enhancing the socially inclusive and environmentally sound market uptake of wind energy and increasing its community acceptance with a focus on "wind energy scarce regions". The cases are thereby selected from the six countries participating in the WinWind project (Germany, Italy, Latvia, Norway, Poland and Spain). The selection of the countries provides broad representation of Europe in terms of geographical spread, economic development and total levels of wind energy generation.

The WinWind project compiled 30 good practice measure fiches for improving the community acceptance of wind energy [17]. From each participating country, between four and seven measures were identified and assessed by the project partners. As remarked above, in order to arrive at a smaller and more representative sample of 10 best practices, which were to be examined in-depth, the 30 good practice cases were analysed to develop a typology of measures. Using this typology, each good practice case was categorised. Each good practice fiche was complemented by a self-evaluation matrix, which also provided indications on the extent to which the good practice could be considered as a transferable best practice case. Using all this information, the WinWind project partners, as a collective exercise, mutually agreed on 10 best practice cases based on a specific set of criteria. These criteria required the best practice cases to,

- Possess an innovative, testable, and replicable approach;
- Have strong potential to be transferred to other regions and countries;
- Ensure an overall good qualitative balance between the project countries;
- Ensure an overall balance of the types of measures.

Table 2 (below) exhibits the final selection of the best practice cases (the country and region which they are from as well as the name of the measure):

Table 2. Selection of best practice cases for improving community acceptance of wind energy.

	Formal and Informal Participation in Planning and Permitting Procedures	Active and Passive Financial Participation of Citizens & Communities	Measures Addressing Distributional Justice and Promotion of Regional Co-Benefits	Measures to Reduce the Environmental Impacts of Wind Energy	Communication and Building of Institutional Structures + Voluntary Agreements	Multi Measures Approach
Germany		Schleswig-Holstein community wind farms			Thuringia service unit	
Italy			Sardinia tax cuts			Abruzzo re-powering
Latvia				Vidzeme pro-active landscape planning		
Norway	Fosen community dialogue		Birkenes innovation house			
Poland						Kisielice municipality investments
Spain		Som Energia-Energy Cooperative				Gran Canaria Wind and Water

3.2. Data Collection

Desk research and semi-structured stakeholder interviews were carried out in order to develop the best practice case studies. The responsibility of elaborating the best practice cases was entrusted to the project partners from each relevant country. Their awareness of the most relevant and reliable sources of information (such as local official reports, local newspapers, commentary, opinion, etc.) ensured that only the most appropriate sources of information were included.

Secondly, given the linguistic obstacles as well as the sensitivities surrounding acceptance in the communities, national and pre-engaged experts commanded the trust and openness of the stakeholders interviewed.

Each of the responsible partners were provided with a common template and guidance with the purpose to harmonise data collection. The template included common items and criteria to be addressed through the research. This placed particular focus on the barriers and drivers of community acceptance, the effectiveness of the measure and the potential for transfer to other regions and contexts. Additionally, a topic guide and questions were also provided in order to facilitate the semi-structured interviews with relevant stakeholders (i.e., developers, local "champions" and/or policy makers).

3.3. Synthesis and Comparative Analysis

In order to facilitate the synthesis of the results of the case studies, executive summaries were drafted in to provide a concise overview of each measure. Crucially, these summaries payed particular attention to the existence of specific drivers of community acceptance within each of the measures.

Based on these summaries, a truth table was developed, as shown below (Table 3). This table transparently and comprehensively mapped the existence of drivers in each of the case studies (i.e., illustrating which causal mechanisms were in operation in each case). This was an important exercise to test the validity of the typology created, as the mapping on the table was carried out independently of the initial categorisation. Specifically, it allowed for a clear overview of the various different drivers which would explain any individual measure. A key practical addition of the table has been to detail the significance/importance of the drivers on a scale of 1–3 (1 being low significance, 3 being high significance). This exercise was carried out by expert judgements of actors closely involved in the design and implementation of the measure. This has helped to more succinctly determine and explain the significance of the role that the driver has played in driving community acceptance in the given case. Indeed, the practical value of this exercise, as will be specifically demonstrated in the analysis, is the fact that a multitude of drivers have been at work within each measure to enhance community acceptance.

The comparative analysis of the drivers which follows provides an overview of the similarities and differences in practical application of certain drivers in various contexts. This also feeds into the lessons learnt and recommendations for future action. Importantly, the lessons learnt are differentiated between those for policy (i.e., local, regional and national authorities) and those for developers. Although there is often an overlap in the recommended activities for both parties, this distinction is made due to the fact that it is better to specifically prescribe how these actors who differ in roles, motives and nature can practically support the achievement of a greater community acceptance.

Table 3. Truth table on the different drivers of community acceptance as identified in the best practice cases.

	Technical Characteristics of Project	Impact on Environment			Financial Impact and Participation			Individual Characteristic	Procedural Participation in Planning and Permitting			Market	Governance	Trust
	Technology Innovation	Impact on Landscape	Impact on Biodiversity/ Wildlife	Reduction of GHG Emissions	Positive Effect on Local Economy	Active (Direct/ Indirect) Financial Participation of Citizens	Passive Financial Participation/ Community Benefits	High Level of Identification with Wind Turbines ("Emotional Ownership")	Transparent Communication	Effective Formal Procedural Participation of Citizens	Effective Informal Procedural Participation of Citizens	Security of Supply (Energy, Water)	Political Commitment, Leadership	Credibility, Trustworthiness of Key Actors
Schleswig-Holstein Community Wind Farms (DE)	X	XX	X	X	XXX	XXX	XX	XXX	XX	X	XX	X	XX	XXX
Thuringia Service Unit & Label (DE)					XX	X	XXX		XXX	XX	XX		XX	XXX
Abruzzo Repowering (IT)	XXX	XXX	XX	XX	XX					XXX			XX	XX
Sardinia Tax cut & planning (IT)		XX	XX		XX		XXX				XXX		XX	
Vidzeme Proactive Planning (LV)		XX	XXX						XXX	XXX	X		XXX	XX
Birkenes Innovation house (NO)				X	XXX		XXX		X		X			
Fosen Community Dialogue (NO)					XXX		XXX		XX	XXX	XXX	XX		X
Kisielice Energy self-sufficiency (PL)					XX		XX		XXX	XX	XX	X	XXX	XX
Gran Canaria Water & Wind (ES)					XXX	X	X	XXX	XXX			XXX		
Energy Co-op (ES)						XXX		X	XXX	XXX	XXX			

Significance of the role of the driver for achieving community acceptance: xxx Highly important; xx Important; x Relevant.

4. Results

4.1. Brief Overview of the 10 Best Practice Cases

Based on the full set of best practice case elaborations and analysis carried out [20], in Table 4 below, we provide a short overview of the motivations, narratives and characteristics of each of the case studies.

Table 4. Summaries of the best practice cases.

Name of Measure	Summary of Best Practice Case
Schleswig-Holstein Community Wind Farms (DE)	In the case of three community wind farms in the state of Schleswig-Holstein, which are mainly in the ownership of local farmers, landowners and citizens, land lease pooling models were developed allowing also landowners, whose land was not identified for turbine installations to benefit from land lease payments. In one case, a system was set up to feed 1% of the annual remuneration to a local non-profit organization. In the other cases, a community foundation was developed to support energy-saving measures for the local community and other measures.
Thuringia Wind Energy Service Centre (DE)	The centre supports landowners and affected municipalities as early as possible in the planning process by providing advisory services free of charge. It de facto facilitates the acceptance of wind energy by ensuring widespread access to information, and by encouraging the development of benefit sharing mechanisms. In Thuringia, approximately 3000 new jobs have been created in the wind sector between 2014 and 2018. While job growth can be more accounted to effective state planning, the Service Unit is considered to have an indirect effect on job creation.
Abruzzo Repowering (IT)	In the Italian region of Abruzzo, a voluntary code of conduct agreed among developers, sets out key considerations and principles to be respected for the development of local wind projects. This served as a reassurance to the local community that many of their concerns would not be ignored. The repowering process could be carried out smoothly and resulted in the old wind turbines, each between 0.6–0.7 MW, having been replaced with new turbines with a capacity between of 2–4 MW each.
Sardinia Tax Cuts & Landscape Commitments (IT)	In a highly participatory approach, the developer, local authority and the local community have come together to ensure that 2% of gross annual revenue for every kilowatt hour fed into the network is given to the local municipality. This has enabled more than 20 types of local social interventions. Citizens were able to decide directly on the allocation of funds.
Vidzeme Proactive Landscape Planning (LV)	In the biosphere reserve of North Vidzeme in Latvia the local communities were able to object to the development of wind energy in specific areas by being included in public consultations and participating in a public survey (among the inhabitants residing in the area) about what should be considered as a characteristic "Latvian" landscape. This has resulted in an effective planning process in which socio-cultural values have been effectively integrated.
Birkenes Innovation House (NO)	In the Norwegian municipality of Birkenes, a wind developer, as part of a broader voluntary agreement, offered to build a local maintenance and educational house, labelled the 'innovation house' in Birkenes. Local workers and materials were used to build the house, which serves as a local educational centre, promoting understanding and social acceptance of wind energy.
Fosen Community Dialogue (NO)	In the Norwegian town of Fosen, the regulator effectively merged the consultation process for four wind projects and considered their advantages and disadvantages against each other. The concession process has included several opportunities for affected parties to provide feedback through public hearings. In addition, the national permitting authority NVE arranged about 30 public meetings, and approximately 35 meetings were held with local and regional authorities. The purpose of those meetings was to give the public an arena for expressing its views and to address which areas should be investigated to decide whether a project is feasible.
Kisielice Municipality Investments (PL)	In the Polish town of Kisielice, the mayor had a clear vision for a better future for the local economy and residents. The mayor acted not only as local leader, but also a mediator between developers and residents, becoming instrumental in finding ways to finance, implement and internationally promote the local wind projects.
Gran Canaria Wind and Water (ES)	In Gran Canaria, where electricity from a wind farm powers a desalination plant, the developers and local authority used existing educational institutions to build understanding and explain the need for the wind farm. Schools were provided with a multitude of materials, such as posters and assignments, in order to allow young children to research and engage further with the wind farms.
Som Energia Cooperative (ES)	With over 50,000 members, Som Energia is the first and now largest energy cooperative in Spain. It provides a 100% guarantee to its members that the energy which members purchase comes from renewable energy production facilities and provides opportunities for members to collectively invest in wind farms. On top this, it has engaged in various different communication and engagement measures with local groups and civil society organisations.

4.2. Assessing the Usefulness of the Typology of Measures

In Section 2, we proposed and elaborated on six categories of measures for improving the community acceptance of wind energy. For each measure, it was expected that there exists one key type of driver (i.e., causal mechanism) which is the key factor to bring about community acceptance.

However, the process of analysing the case studies (with a particular focus on the drivers for community acceptance) and mapping the drivers (and their significance) in Table 3, showed that none of the 10 measures can be explained by a single driver of community acceptance. Although it was found, in all the cases, that the type of driver which was used to initially characterise the measure in the first place was confirmed to be of high importance, what is observed is the fact that all the measures are explained, to greater and lesser extents, by a number of different types of drivers.

In fact, in each case study, at least two drivers from different categories of measures are shown to be of "high importance". For example, the results show that drivers from a number of different categories (e.g., positive impact on the environment, a positive impact on the economy, as well as entailing participatory planning and permitting processes) have been present in every single case study.

Following from the above, even cases which are initially characterised under a specific type of measure and thereby share the same core driver for community acceptance (e.g., Sardinia tax cuts/planning and Birkenes Innovation House which are characterised as cases to address distributional justice and promote regional co-benefits) are not necessarily explained by the same combination/variety of drivers. For instance, in the Sardinia case, various drivers relating to the impact of the environment were very much important, whereas in the Birkenes case, no such drivers were even relevant.

These findings suggest that, within the typology created by this research, all measures in all case studies can be in practice characterised as multi-measure approaches. In other words, that community acceptance of wind energy is generated by a combination of different types of drivers. Moreover, even if certain measures have the same core basis (i.e., approach to achieving community acceptance), there can be significant variation on the question of which other types drivers characterise those initially comparable measures.

This has significant implications for the first research question, in that it shows that the typology of measures characterising the measures according to one key driver is only an indicative explanation of how obstacles of community acceptance can be overcome. It does not provide a detailed, fully accurate and comprehensive explanation of the success factors and drivers which explain that particular measure. Thus, although a measure can have a certain approach/action/activity at its core, this by itself neither explains nor achieves community acceptance. Rather, the measure must be complemented and characterised by a set of other drivers, the selection of which must tailored to the local circumstances.

4.3. The Most Common Success Factors (Drivers) for Community Acceptance

What is overwhelmingly evident from the summaries and from Table 3 is the presence, as well as the significance (according to the degree of significance assessments), of drivers which relate to either financial or procedural participation in every single one of the cases. Table 3 above illustrates and maps the drivers, which have served to contribute towards community acceptance, with the presence and degree of significance of each driver being allocated a certain number of "x" depending on how significantly they have contributed towards achieving community acceptance (as explained above Section 3.3). Of the total of 161 "X"s tallied on Table 3, 94 "X"s (58%) fell under financial or procedural participation. This is illustrated in the Table 5 below; yellow and orange sections represent financial participation and procedural participation, respectively.

Table 5. Comparative representation of drivers in the best practice cases.

Category	Driver	Frequency	Percentage
Technical Characteristics	Technological Innovation	4	2.5%
Environment	Landscape	9	5.5%
Environment	Biodiversity	8	5%
Environment	GHG emissions	4	2.5%
Financial Participation	Effect on local economy	18	11%
Financial Participation	Active financial participation	8	5%
Financial Participation	Passive financial participation	17	10.5%
Individual characteristics	Identification and ownership	7	5%
Procedural participation	Transparent communication	20	12.5%
Procedural participation	Formal procedural participation	14	8.5%
Procedural participation	Informal procedural participation	17	10.5%
Market	Security of supply	7	4.5%
Governance	Political leadership	14	9%
Trust	Credibility/trust	13	8.5%
		Total: 161	

Further underlining the importance of financial and procedural participation is the fact that in every case, drivers falling under both these two categories have been identified. Not only are these types of drivers relevant in all cases, but at least of driver from the two groups is also labelled as "highly significant" for achieving social acceptance, lending further support to the centrality of these types of drivers.

Thus, to directly answer the second research question posed by this article, it is clear that drivers relating to financial participation (i.e., effect on local economy, active financial participation and passive financial participation) and procedural participation (i.e., transparent communication, formal procedural participation and informal procedural participation) have been the most common success factors (drivers) for community acceptance across our case studies.

4.4. Comparative Analysis of Drivers for Community Acceptance

The comparative analysis of the drivers which then follows provides an overview of the similarities and differences in practical application (and thereby success and effectiveness) of certain drivers in various contexts.

4.4.1. Financial Participation

Positive impact on local economy: This driver refers to the creation of regional/local added value in the form of tax revenues for municipalities, increased activity for local businesses and local employment. This has been the second most common driver for community acceptance, being present and significant in 8/10 of cases.

In all these cases, a key acceptance driver has been the creation of jobs in the local economy. It must however be noted that the significance of this driver has varied to a fairly large extent, namely due to the number of jobs created. For instance, in the Thuringian Service Centre and Label case study it was reported, 300 new jobs have been created in the Thuringian wind energy sector since 2014. This generated revenues for the municipalities to realise infrastructure projects. Although there is no evidence for any direct employment effects evoked by the service centre (except the jobs created in the service centre itself), there might be certain positive indirect or induced employment effects. In general, job creation through wind energy constituted a significant driver for community acceptance.

Improvement to local infrastructure has also been another important way in which these practices have contributed to the improvement of community acceptance. This has come in the form of the construction of new/ improvements of local roads (Abruzzo and Kisielice) as well as additional or improvements to local power lines (Fosen, Kisielice and Gran Canaria).

Active (direct/indirect) participation of citizens: This driver was explained in Table 1 and has been one of the least common drivers among the cases, only being present in 4/10 cases. This is explained by the fact that it requires much more positive and burdensome responses/action by the local citizens, therefore it is a difficult driver for universal use. Another reason is that community energy with active financial participation of citizens is not equally developed in the countries/regions under investigation.

Passive (individual or community level) financial participation: This driver was also explained in Table 1. On the individual level, both the Schleswig-Holstein and Kisielice cases have involved land lease payments using pool models which seek to achieve a fair distribution of land lease payments among different types of landowners affected by the construction of the wind turbines. Given that these have been highly rural places where farmers play an influential role in the local community, these have been particularly significant drivers for community acceptance. In the case of the community wind farms in Schleswig-Holstein, land lease pool models contributed to avoid or reduce envy and conflicts among landowners.

On the community level, in the Schleswig-Holstein case, Sardinia tax cuts/planning case and the Gran Canaria wind and water case, a certain proportion of the incomes or profits from the wind energy generated was given to the local municipality. These proportions have depended whether public land has been used or not, with much greater contributions if the land belongs to the local municipality (e.g., Gran Canaria). The incomes were thereby used for and distributed among the local community in the form of additional/better services, municipal tax cuts, or the creation of civil associations to redistribute some of the revenues. A key observation here was that in Sardinia, this was highly significant in driving community acceptance because the determination and distribution of the income was done in a highly transparent and participatory manner with local citizens, whereas in the other two cases this was not the case and thereby the driver was considered less significant for bringing community acceptance.

4.4.2. Procedural Participation

Transparent communication: This driver concerns the activities and actions taken by wind project developers and other responsible stakeholders in ensuring the provision of readily available, objective and reliable information about the wind energy projects (i.e., implications, benefits, costs). It is one of the most commonly present drivers for community acceptance (8/10 cases)—as well as being one of the significant drivers for community acceptance in the case studies (highly significant in 5/10 cases). In the case of Thuringia, the availability and provision of detailed and objective information on wind farms formed the central and most notable basis of the measure. In Gran Canaria, this was argued to be the most significant driver.

What seemed to be a reliable indicator of how significant the driver was in the case was the extent and ways in which such detailed and objective information would be disseminated. For instance, educatory methods were used in the Birkenes, Gran Canaria and Som Energia cases—whereby those responsible for carrying out the measure sought to educate young people (and indirectly their families) about the benefits of wind energy. In Gran Canaria, the developers and local authority used existing educatory institutions to do so, whereby schools were provided with a multitude of materials, such as posters and promoting/facilitating school research projects, in order to allow young children to research and engage further with the wind farms. Often non-conventional or innovative methods were used for this purpose. In Birkenes, this was done through the provision of venue and trained personnel in the proximity of a wind farm to host school children and give them classes. Similarly, Som Energia organises an annual summer school, whereby young and old people are given the opportunity to learn about sustainable energies. These educatory methods have been a highly significant and effective driver for community acceptance.

Additionally, more general public dissemination activities have been exploited to disseminate information about wind energy projects. In Kisielice, public meetings were hosted by the municipality to clearly break down and explain information to local residents. Moreover, in the Gran Canaria

case, specific promotional information for the radio and television were created and sponsored. Moreover, in the case of Som Energia, the cooperative proactively engaged with other co-operatives and progressive organisations to further disseminate their work. They also shared their experiences and expertise in universities, as well as participating in public discussions and debates. Finally, we would like to emphasize that the cases have demonstrated that transparent communication is particularly successful when achieved from the very beginning of the project planning process. This was particularly emphasised in the Polish case. The former drew light on the fact that the lack of such proactive and transparent communication can create more significant barriers.

Effective formal participation: This driver concerns the opportunity of local communities, citizens and relevant stakeholders to engage, as prescribed specifically by statutory regulation, with the process of wind farm planning procedures. Importantly, the legal framework regulating formal participation differs between countries. However, similarities do exist. For instance, almost all WinWind countries involve the public in consultations during the authorization/licensing process. Formal participation possibilities in the authorization/licensing processes often depend on whether an Environmental Impact Assessment pursuant to European and national legislation has to be carried out. In some countries, the public is involved already earlier. In Norway, formal participation possibilities exist already in the pre-application stage. In countries where wind energy zoning takes place in the context of spatial planning, there are also provisions ensuring formal participation. In Italy, the public is not involved in the general permitting/concession procedure, unless the regions establish public consultation procedures (as has been established in both Italian cases).

Effective formal participation as a driver was present in a large proportion of the cases (7/10), and it was a significant driver in almost all of those cases. Formal participation embraces different forms including local referenda, public consultations and hearings (Schleswig-Holstein), public meetings (Abruzzo, Vidzeme, Fosen), public surveys (Vidzeme) and public hearings (Fosen). It was stressed in a number of cases (Abruzzo, Vidzeme, Fosen, Kisielice) that effective formal participation becomes a highly significant driver for community acceptance when such participation is promoted constantly throughout the whole process of the project proposal and development (planning and implementation).

Another particularly important consideration which was stressed within many of the cases (particularly Abruzzo, Fosen, Vidzeme, Schleswig-Holstein) was that such formal participation should be a "genuine" rather than simply a sort of pro forma or alibi consultation. In other words, those who participate must have a chance to influence decision making. For instance, concerning the design of the project, the participation was highly influential in Abruzzo—whereby changes were made to the technical specificities (layout design to reduce visual impact and acoustic emissions) —and consequently served as a strong driver for community acceptance. In Vidzeme and Fosen, the participation of local communities and the consideration of their concerns about the siting of relevant wind farms resulted in amendments to the locations of the plans for wind farms. Importantly, such "genuine" participation is equally important for the effective informal participation as a driver for community acceptance, which is discussed in more detail below.

Effective informal participation: This driver is considered as highly similar to effective formal participation; however, it differs in the fact that this type of participation comprises voluntary arrangements going beyond formal statutory participation. This has also been one of the most commonly present drivers of community acceptance—existing in 8/10 cases—however, its significance has not been as consistently strong in all cases.

In sum, informal participation formats include community meetings (Schleswig-Holstein, Thuringia), persistent dialogues and hearings with the opposition and concerned groups (Fosen), discussions and information sessions for affected stakeholders (Kisielice), and workshops/conferences with stakeholders to shape the priorities and the design of the projects (Som Energia). As noted above, like in the case of formal participation, for informal participation to be an effective and significant driver, it needs to be "genuine". It is also necessary for such participation to be constant and throughout the project's planning and implementation process.

4.4.3. Impact on the Environment

Impact on landscape: This driver concerns activities undertaken to protect the local landscape, both its physical and socio-cultural value, from the potential negative impact caused by wind farm developments. Although it has only been present as a driver for community acceptance in 4/10 of the cases, in each of the cases, this has been a significant or highly significant driver for community acceptance.

The most common activity to promote an impact on the landscape (as seen in, Abruzzo and Sardinia) was focused on efforts to reduce acoustic emissions of wind turbines. This is explained by the fact that there is a significant amount of technological innovation readily available to be used in this regard. Similarly, another common activity to minimise the impact on the landscape has been the repowering of wind farms (Schleswig-Holstein: Ellhöft and Abruzzo), whereby the installation of modern, more efficient and less environmentally intrusive wind turbine components on existing wind turbine instalments has served as a successful driver for community acceptance.

Additional activities in this regard have included the development of outdoor recreational spaces (e.g., walking and cycling paths) in the proximity of the wind turbines (Schleswig-Holstein: Ellhöft). However, it seems that such activities which serve to compensate in another form the intrusion of the landscape is a less successful driver for community acceptance than those mentioned above, which serve to minimise the impact on the landscape of the wind turbines.

Impact on biodiversity/wildlife: This driver concerns activities undertaken to protect the local nature, wildlife and biodiversity, both its physical and socio-cultural value, from the potential negative impact caused by wind farm developments. This has also been present in 4/10 of cases, acting as a fairly significant driver for community acceptance.

The primary concern in the cases (Schleswig-Holstein, Abr uzzo, Sardinia, Vidzeme) for biodiversity and wildlife has been the negative effects of the wind farms on avifauna. Consequently, activities to reduce these negative effects have been drivers for community acceptance. General and commonly used activities such as the use of anti-reflexive coatings to reduce the impact of glint and glare (Abruzzo) and reductions in the density of wind farms to minimise collisions (Sardinia) have served as significant drivers for community acceptance. However, more detailed and site-specific approaches seemed to be even more successful drivers for community acceptance. A key illustration of this is the Vidzeme case, whereby an assessment instrument was used to map local risks and to specifically identify the least damaging territories in the region for wind energy development. In Schleswig-Holstein (Grenzstrom Vindtved), it was shown that locally implemented measures compensating for the intrusion of landscape and nature can also help to increase local acceptance.

Reduction of GHG emissions: This driver concerns the way in the contribution of wind energy and wind farms to reducing GHG emissions has served as a way of promoting the community acceptance of wind energy. It has been one of the least present (3/10 cases) and least significant drivers for community acceptance (constituting only 4/161 total drivers). This perhaps lends support to the argument that to build local acceptance of wind energy, it is more important that activities and drivers are concerned primarily with local issues and concerns, rather than concerning globalised discourse, which is often too detached and irrelevant for citizens.

4.4.4. Governance

Political leadership and commitment: Political leadership and commitment refer to the positive role played, and influence achieved by elected local leaders, as well the local political commitments and motivations, in achieving community acceptance of wind energy. Inherent in this driver's definition is a differentiation between two levels. The more general level, whereby there is political commitment of regional/local government to develop legislation, programmes and plans aiming to raise community acceptance. On the other hand, the community level which involves the practical/facilitating role played by the local political leaders, who serve as mediators and visionaries. This driver has been present and significant in 6/10 of cases.

With regards to the more general level, this was particularly important as a driver in the Thuringia and Vidzeme cases. In both of these cases, the political commitments set the foundations and provided impetus for the activities and actions which followed (Thuringia: decision to set up the service centre for wind energy, Thuringian climate change law; North Vidzeme Landscape Ecological Plan). Both served as significant drivers for community acceptance.

On the other hand, the community level was most relevant in Abruzzo, Sardinia, Kisielice and Schleswig Holstein (particularly in the case of Neuenkirchen). In all these three cases, local "champions" like the mayors played a mediator/broker role, whereby they gathered opponents and proponents of wind energy together to engage in constructive dialogue. In addition, the reason why in Kisielice the mayor was considered to have served as a stronger driver for community acceptance (compared to Abruzzo and Sardinia) was the fact that the mayor was the instrumental figure in finding ways in which to finance, execute and internationally exhibit the wind energy projects.

4.4.5. Trust

Credibility and trustworthiness of key actors: This driver relates to the trust of citizens and local communities in key actors and processes of the planning and permitting process. It has been a fairly common as a driver for community acceptance, present in 6/10 of the cases and in 5/10 being a significant driver.

Trust has been achieved as a driver for community acceptance in a number of different ways. Although in general, the procedural participation of the local community and citizens has been strongly linked to (and perhaps to some extent caused) trust, trust has been particularly effective as a driver for community acceptance in certain instances. In these instances, it seems that some form of specific proactive commitments from the side of the developer and/or the responsible local authority is necessary to fully achieve the trust of the local community. These specific forms of proactive commitments varied in the case studies. For instance, the municipality of Neuenkirchen (Schleswig Holstein/Germany) invested a symbolic amount of 20,000 EUR of its own funds into the community wind farm project, to demonstrate both its commitment and the trustworthiness of the project. In Thuringia, the service centre for wind energy was proactively established by the regional government and capability was demonstrated to the public to provide objective and quality information about wind energy in the region. In Abruzzo, a voluntary code of conduct agreed upon by developers, which set out the key considerations and principles to be respected. This served as a reassurance to the local community that many of their concerns would not be ignored.

4.4.6. Market

Security of supply: Security of supply refers to the way which wind energy may contribute to securing the supply of an important resource such as water or energy. This has also been one of the least commonly present drivers (in only 4/10 cases) and in three of these cases (Schleswig-Holstein, Fosen and Kisielice) its role has been a rather insignificant one. The argument that local discourses and benefits are more likely to serve as significant and effective driver for community acceptance is demonstrated in the Gran Canaria case. In this case, wind energy would not only provide a significant level of renewably sourced energy, but it also fundamentally provides a much higher (and therefore sufficient) supply of energy locally, in an area with scarce local energy resources. Consequently, the dramatically positive change in the supply of energy in the locality caused by the existence of wind energy represented a highly significant driver of community acceptance. But naturally, it is not so common that any such situation would exist for wind energy could provide such a significant contribution to the energy supply of a community.

4.4.7. Individual Characteristics

High level of identification with wind turbines: This driver reflects on how individuals and local communities feel ownership and closely identify with the wind farms. It has only been present

in 3/10 of the cases—being highly significant in two (Schleswig-Holstein and Gran Canaria) and significant in one (Som Energia). Fundamentally, what determines the significance of this driver is the extent to which individuals and local communities do indeed have some form of financial ownership over the wind farms. For instance, in the Schleswig-Holstein, individuals and the municipalities have invested fairly substantial amounts of money into the community wind farms (in the case of Neuenkirchen with minimum shares of 500 EUR), particularly compared to those in Som Energia (100 EUR), helping to explain the higher significance of the driver in achieving community acceptance. An alternative explanation is the fact that the community wind farm buys electricity from wind farms which are located in the direct vicinity of the local community, whereas in Som Energia, this is not necessarily the case. Additionally, as noted above, the fact that wind energy has provided Gran Canaria with a secure supply of energy has meant that local communities have become highly dependent on this energy (for personal and economic activities), thus boosting the role of this driver in achieving community acceptance.

5. Lessons Learnt and Recommendations

We now turn to the final research question of this article, which relates to the lessons learnt for policy makers and developers. We extracted the lessons from the analysis of cases in order to optimise further activities and efforts to achieve community acceptance. The outcomes of the comparative analysis in Section 4.4 are interpreted and translated into recommendations for policy makers and developers.

5.1. Lessons for Policy

5.1.1. Financial Participation

Positive impact on local economy: The case studies have clearly demonstrated that the creation of local jobs is one of the most effective ways (ahead of improvements to local infrastructure) of bringing into effect this driver of community acceptance. Emphasis must be placed on the *locality* of the employment creation. Consequently, the lesson for policy is include a common criterion for the approval of planning proposal. This criterion should require that local developers demonstrate efforts to generate as significant positive impact on local employment as possible. In addition, the benefit of effective schemes to retain value for the local community should not be underestimated. Another promising option financing local projects with a certain percentage of finances generated, also via taxation, from wind energy development.

Active financial participation of citizens: Policy should provide a favourable regulatory framework and financial incentives for community energy projects, including community wind projects and renewable energy co-operatives. For instance, local/regional authorities should buy energy from these groups. Further options include investment support, tax relief, reduced loans, preferential treatment in auctions, or seed money for preliminary assessments, investigations and preparatory works for community energy projects. In particular, local governments are key to facilitate the creation of co-operative/participatory solutions by acting as informer, mediator and financial stakeholder. An effective enabling multi-level governance framework allowing local governments more capacity to support this process is of utmost importance.

Passive (individual or community level) financial participation: Two important lessons can be extracted here. Firstly, there is a need for policy makers to clearly and broadly emphasize that citizens and communities can passively profit from wind energy development. Secondly, allowing the local community and citizens to contribute towards the determination of how exactly they benefit from the wind farm developments (e.g., a participatory budget) can enhance community acceptance. On additional note, it can be useful to establish regulatory and policy frameworks enabling passive financial participation (e.g., special charges/local taxes benefitting host communities, special electricity tariffs, providing the possibility to municipalities to act as active shareholders etc.).

5.1.2. Procedural Participation

Early and transparent communication: Policy should facilitate the early provision and dissemination of transparent and objective information. This should be done from the very beginning of the project. The central lesson is that the enthusiasm of well-informed citizens is likely to have a highly positive spill-over effect on other segments of society. Policy should facilitate the provision of clear information from wind energy developers. Such information and dissemination should be required from the developers as a condition for obtaining permits for development.

Effective formal participation: It is imperative that policy promotes "genuine" and "systematic" participation of citizens and local communities in planning and permitting/authorization processes. However, instead of just providing clear information on the costs and benefits of wind energy, transparent communication extends to the planning process as well. This applies to both spatial planning bodies as well local governments. Citizens must be informed in a timely manner regarding the siting procedure and their opportunities voicing any concerns. This means that the contributions of local communities and citizens should be capable to change and actually to influence decisions made by the relevant authority in all project stages, thus also requiring to foresee and to accommodate for the financial and human resources necessary to enable these processes. Policy should fully exploit the possibilities provided by European legislation (e.g., EIA Directive) to enable formal public participation.

Effective informal participation: There are various forms of enabling informal participation of citizens. The most appropriate form may depend on the local context and practical dynamics as well as the availability of financial and human resources to carry out informal dialogues which are not part of the formal statutory process. Informal processes are important because they provide the opportunity to continuous voluntary dialogue between concerned citizens, public bodies and developers. Thus, they should be carried out frequently throughout a project's development. In light of successful past informal participatory experiences, and knowledge of its citizens, the relevant authority ought to support the identification of the most appropriate form of informal participation of citizens. Additionally, as noted above, such participation ought to be "systematic" and "genuine".

5.1.3. Impact on the Environment

Impact on landscape: The cases have proven that measures which minimise the visual impact on the landscape are more successful at driving community acceptance than those which compensate for the impact. Thus, policy must set up frameworks which either encourage developers, or favour developers, who minimise impact on the landscape—as opposed to those who propose to carry out alternative compensatory activities in the broader landscape. Assessment instruments should be used to map local risks and to specify the least sensitive territories in the region for wind energy development.

Impact on nature/wildlife/biodiversity: Public administrations and authorities should not only implement European minimum standards referring to environmental impact assessments (EIA) for wind farms, but it should consider going further and provide for more stringent requirements. Additionally, policy should better inform the public about existing environmental assessment and compensation requirements and criteria which developers already have to fulfil in order to obtain authorisation of the wind energy plants/farms. Moreover, policy should fully exploit the possibilities for formal public consultations provided in EIA legislation. Finally, it should be generally considered to require an EIA not only for larger wind energy projects, but also for projects with a smaller number of turbines.

5.1.4. Governance

Political leadership and commitment: Mayors, local champions, but also dedicated service centres/units often act as agents of change, mediators and visionaries for socially inclusive wind energy deployment. They have an important role in gathering together opponents and proponents of wind energy to engage in constructive dialogue. Having a local leader push for a project has proven

to be instrumental for overcoming potential setbacks and securing investment. Planning for wind energy projects should be embedded in the long-term political planning and strategy of the local authority and/or regional planning body. By doing so, not only are projects clearly linked to a political commitment, integrated planning in relation to other sectors is also made possible.

5.1.5. Trust

Credibility and trustworthiness of key actors: Local municipalities should proactively engage with and invest some of their own resources into wind energy developments as a way of leading by example and demonstrating confidence in particular project. This aspect relates to how "genuine" formal or informal participation procedures are being carried out. Good participation does go a long way towards establishing credibility of the planning and developing stakeholders and promotes trust between all involved parties.

5.2. Lessons for Developers

5.2.1. Financial Participation

Positive impact on local economy: Given that local jobs significantly drive community acceptance, developers should—as far as is practically viable—ensure that as many local (direct and indirect) jobs as possible are created in the wind energy developments. This can be achieved by contracting local firms, e.g., for planning, construction and maintenance services, by involving regional/local banks for financing and/or regional energy supply companies.

Active financial participation of citizens: The cases selected have shown that the broader the level of active financial participation, the more significant this driver is for achieving community acceptance. Thus, in order to ensure more citizens can participate, developers should lower and make more affordable the costs of citizens' participation in the developments. It is also recommended to actively cooperate with the local government to set up and inform citizens about financial participation formats.

Passive (individual or community level) financial participation: In order for the local communities to become aware of the way in which they passively benefit from the wind farms, developers—who have the best technical and financial understanding of their projects—must strongly disseminate to the relevant authority and the local community information on the precise benefits.

5.2.2. Procedural Participation

Transparent communication: Building on the above, developers must also provide comprehensive, clear and objective information about both the benefits and costs of their projects. This must be disseminated effectively too, both during the planning and implementation stages. The case studies have shown that there is not just one method which is appropriate to do so (e.g., schools, external education centres, tv/radio, conferences etc.).

Effective formal participation: It is crucial that project development proactively and meaningfully engages with the local community in all steps of the formal participatory process. This means being responsive to local concerns and making compromises to their proposed projects to appease local concerns.

Effective informal participation: Developers must work closely with the relevant authorities to uncover and carry out the most effective means of informal participation of citizens. In doing so, they must also show the willingness to listen, compromise and make clear and enforceable commitments.

5.2.3. Impact on the Environment

Impact on landscape: Many technologically feasible measures (e.g., repowering and visual intrusion reductions, etc.) already exist in the market, and thereby should be used to minimise the impact of wind turbines to the local landscape. These ought to be fully utilised, as minimal intrusion/interference is what local communities largely prefer over the provision of compensatory measures.

Impact on wildlife/biodiversity: Similar to above, many feasible technological and operational measures exist in the market to reduce the impact of wind turbines to wildlife/biodiversity (e.g., anti-flexible coatings, acoustic emissions, siting, reductions in density, temporary shutdowns to protect birds/bats etc.). Not only should these generally applicable technologies and methods be used, but complementarily, in-depth site-specific analysis and responsive measures should also be exploited.

5.2.4. Trust

Credibility and trustworthiness of key actors: Clear, voluntary and proactive commitments from the developer are key for achieving the trust of local communities (e.g., voluntary codes of conduct).

6. Conclusions

The present article has provided insights from a broad variety of existing measures—across six European countries—about how to achieve community acceptance. In doing so, a number of outcomes have been achieved and findings uncovered.

To begin with, it has been shown that creating a typology of measures which accurately reflects on different "comparable" measures across Europe only provides an indication of how the measure can be explained. Although certain measures may possess a shared core "driver", upon a detailed examination, they often are revealed to be rather different.

Furthermore, the key success factors (drivers) from the cases selected were identified. In this regard, our research has found that drivers promoting procedural and financial participation are very often a key component of any sort of measure to improve the community acceptance of wind energy. Nevertheless, there are significant variations of how these drivers combine with other types of drivers to achieve community acceptance. The WinWind project has shown that the acceptance of wind energy projects depends on the local context and that the key drivers vary slightly from country to country. Nevertheless, a conclusion that applies across countries is that acceptance can be promoted by a transparent, open and fair planning process and by the participation of local communities and citizens in the benefits of the wind energy projects.

A key lesson for policy is that the active involvement of local people, both in terms of ownership and financing of wind energy projects should be promoted through appropriate regulations. Citizens' foundations and local trusts can be efficient solutions to channel additional revenues to the local community and this improves the acceptability of the wind energy development. In addition, opportunities for indirect participation, for example through land leases and reduced electricity tariffs, should not be lost sight of. As far as social and political factors are concerned, the WinWind project has shown that early information and participation are important, but the timing and forms of citizens' involvement vary from country to country. In some countries the public must be informed about a project at an early stage, while in others there is no mandatory information or consultation process. An open question remains in what way the civil society is included in these processes. Thus, the main findings of the WinWind project are: (1) Local acceptance and opposition are correlated to direct involvement. (2) Civil society is interested to take part in the transition and is highly motivated. They contribute with human resources, money and creativity. (3) Residents and local stakeholders want to make use of their local resources (wind, sun, biomass). There is therefore a clear need for effective and institutionalised public participation. Mayors and "local champions" can act as "change agents", mediators and visionaries for a socially acceptable wind energy expansion. They play an important role in bringing together opponents and supporters of wind energy in a constructive dialogue. If a local advocate drives a project forward, this can help removing obstacles. However, the situation is often characterised by frustration due to bureaucratic burdens. For example, one of the main obstacles for wind energy remain the distance regulations which envisage a general setback distance between turbines and buildings." This is particularly problematic in Poland, where the setback distance corresponds to ten times the turbine height from nearby communities.

Summarising, the lessons learnt and the actions to be taken by developers and policy makers differ quite considerably, although the target groups (i.e., local residents) of their actions are ultimately the same. For both, the objective is to design and implement project proposals so that any such development confers as much benefit (directly/indirectly) as possible on the local communities, or alternatively to ensure that "intrusion" to the local community is minimised and/or compensated. From a policy making perspective, this can be either achieved through guidelines and standards for developers to follow, or alternatively through incentives and favourable regulatory conditions which help realise the abovementioned objectives. Crucially though, policy makers must be honest brokers between the developers and the local communities. For developers, a co-operative and compromising approach towards engaging with the local communities and municipalities throughout the whole process (proposal and implementation) is paramount. Doing so in a voluntary, proactive and meaningful way can go a long way to improving the community acceptance of any such proposal.

Finally, perhaps the key takeaway point from this research is that, although the determinants of community acceptance will to some extent vary from place to place, there are very often common ways to ensure that such acceptance is achieved despite the local individual characteristics. In other words, in order to overcome certain obstacles for community acceptance, the employment of certain drivers is highly likely to lead to a successful outcome. This underlines the practical value and transferability of best practices for achieving community acceptance.

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