

WISE Power result-oriented report

WISE Power project – Fostering social acceptance for wind power

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1 Executive Summary

As the most mature of the existing renewable energy technologies, wind energy is expected to continue playing a fundamental role in the current transition of the energy system. Social acceptance of the sector and community engagement and public participation in wind energy projects, particularly onshore, remains a continual key challenge for all stakeholders fostering this transition. This report summarises the WISE Power project¹'s main methodology and key findings with regard to social acceptance status quo, innovative financing models, improved local engagement and support for wind turbines, while enhancing local community participation in the planning and operation phases of wind energy projects.

Status quo of social acceptance at project start: Although some kind of public participation activity is frequent in most wind energy projects, many organisations involved do not have a standard procedure to deal with it; guidelines and other advisory documents are often unknown or not used in a strategic way. Where this knowledge exists, the main barrier encountered in applying it consists of difficulties of transferring it to the specific conditions of a project in another country or region, very often accompanied by the lack of an adequate legislative framework.

Regarding different levels of public participation, the WISE Power project found in its initial analyses that project developers in the wind power field are more in favour of consultation and dialogue as well as informational measures; empowerment of the public is evaluated differently. So far, recent experience with public participation focuses on the phases of permitting, construction and operation. Thus, extending public participation to the preparation phase or later project phases (decommissioning; repowering for example) is an issue that requires further attention.

Innovative financing models: Internationally and within Europe, there seems to be a growing consensus that the involvement of citizens and communities in the vicinity of projects during their development will make the planning, construction, operation and decommissioning phases easier. WISE Power findings with regard to these new models concluded that partnerships, either private or with at least one cooperative or public private ones, are considered to be the most promising innovative financing measures. They are expected to have the best (positive) impact on social acceptance in the short and long term, to make the projects bankable and transferable. Less is expected from donation based crowd funding.

Interactive engagement pathways: To support stakeholders in fostering social acceptance for wind power projects, the WISE Power consortium developed and tested an interactive tool encompassing all engagement measures and addressed to all stakeholders, including local communities. It is designed to provide guidance on effective and meaningful dialogue with concerned stakeholders: developers, transmission network operators, communities, local authorities and other stakeholders

¹ The **WISE Power** is a European project about **social acceptance of wind energy**, aiming at significantly improving local engagement and support for wind turbines while enhancing local community participation in the planning and implementation of wind energy projects. More information on the project structure rationale and structure can be found under the project website: <http://wisepower-project.eu/>

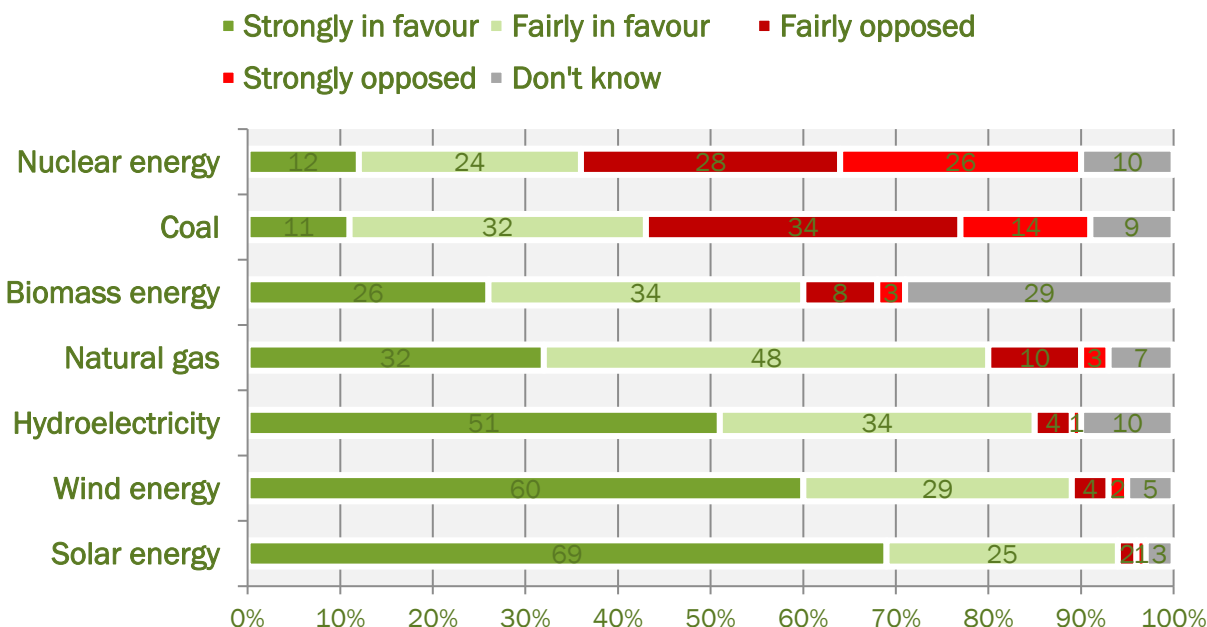
who can use the tool and adapt it to the specific needs of a given project. The toolkit is an innovative and interactive tool, and also relies on input from users by building a bank of case studies from across Europe, showing good practice and learning points from real life experience.

The findings and the approach undertaken within this project are explained in detail in the chapters below.

2 Foster social acceptance for wind: introduction and objectives

For the EU to meet its 2020 climate and energy security targets, an increased deployment of renewable energy generation and integration to electricity grids are needed. Of the existing renewable energy sources (RES), wind is expected to play a fundamental role if the EU is to reach its 2020 climate and energy targets. Moreover, beyond 2020, wind energy is expected to be the key technology as predicted in all EU energy scenarios². From a societal point of view, European citizens are in favour of wind energy (*Eurobarometer, 2007, Eurobarometer, 2011*).

Generally speaking, European citizens are mostly in favour of wind energy (*Eurobarometer, 2007, Eurobarometer, 2011*).



Source: Eurobarometer 364/2011 Public Awareness and Acceptance of CO2 capture and storage;

² http://ec.europa.eu/energy/energy2020/roadmap/doc/sec_2011_1565_part2.pdf.

They also support the EU's goal of moving away from conventional electricity generation towards renewable power. This energy transition leads to renewable, and 'singularly', wind energy projects that are being developed in areas where, previously, energy generating assets did not exist. Moreover, the transition to a renewable power system requires upgrades, reinforcements and, where appropriate, development of new grid infrastructure.

Despite the acceptance of the EU's broad renewable energy objectives, local communities and their inhabitants sometimes perceive wind farms, their overhead lines and other grid infrastructure, as intrusive and of limited value to the community. The reasons for and the scale of opposition may, however, vary, from issues ranging from *'concerns for local flora and fauna, noise, landscapes pollution'* to concerns related to *'a feeling of identity loss stemming from rural surroundings'* (the RESHARE³ study, WISE Power results etc.).

The WISE Power project financed by the former Intelligent Energy Europe programme (currently part of the H 2020 funding scheme) was developed to tackle the above issues by increasing social acceptance of wind energy where needed. The project aimed to improve local engagement by wind energy project developers, while enhancing local community participation in the planning and implementation phases of wind energy projects.

Since the key to a successful onshore wind development lies in effective and meaningful dialogue with concerned stakeholders, the project promoted what we named social acceptance pathways (SAP) (engagement pathways). These SAPs demonstrated how processes for active community engagement and ownership work and how they can be applied. The final version of the engagement pathways is an online tool available to all stakeholders for free in six languages called the WE Engage toolkit⁴.

The WE Engage Toolkit was designed to help all stakeholders build, implement and deliver effective and meaningful social engagement strategies for onshore wind farms. The toolkit has been split into user groups - developers, transmission network operators, communities, local authorities and other stakeholders - so that they can use the tool in the way best suited to their specific needs.

Overall, with the support of the engagement pathways, the project aimed to increase local awareness and participation during planning, development and operation phases of wind power projects and, consequently, shortening the lead time of the prior administrative processes by reducing resistance and appeals.

The project also had a strong focus on alternative measures of funding such as community and cooperative funding of wind farms. These schemes usually aim at involving local communities and to

³ RebelGroup 2011, "Benefit Sharing Mechanisms for Renewable Energy Sources" (RESHARE), final report 2011, http://www.reshare.eu/athena/site/file_database/Reshare_outlinenewFINAL.pdf

⁴ The WE Engage Toolkit is available for free consultation and download at <http://www.we-engage.eu/>

involve to involve citizens living near project sites in the project and to share some of the benefits and revenues with them.

3 Foster social acceptance for wind: approach and methodology

According to representative surveys wind energy is – next to solar – the second most preferred option to produce energy amongst the European population (Special Eurobarometer 2011⁵, Eurobarometer on Energy Technologies, 2006). Nevertheless, on a local level, project developers are repeatedly confronted with criticism and opposition to wind energy projects. One indication from the WindBarriers project⁶ was that over 20 % of wind energy projects are delayed and nearly 20 % are seriously threatened due to appeals from local communities.

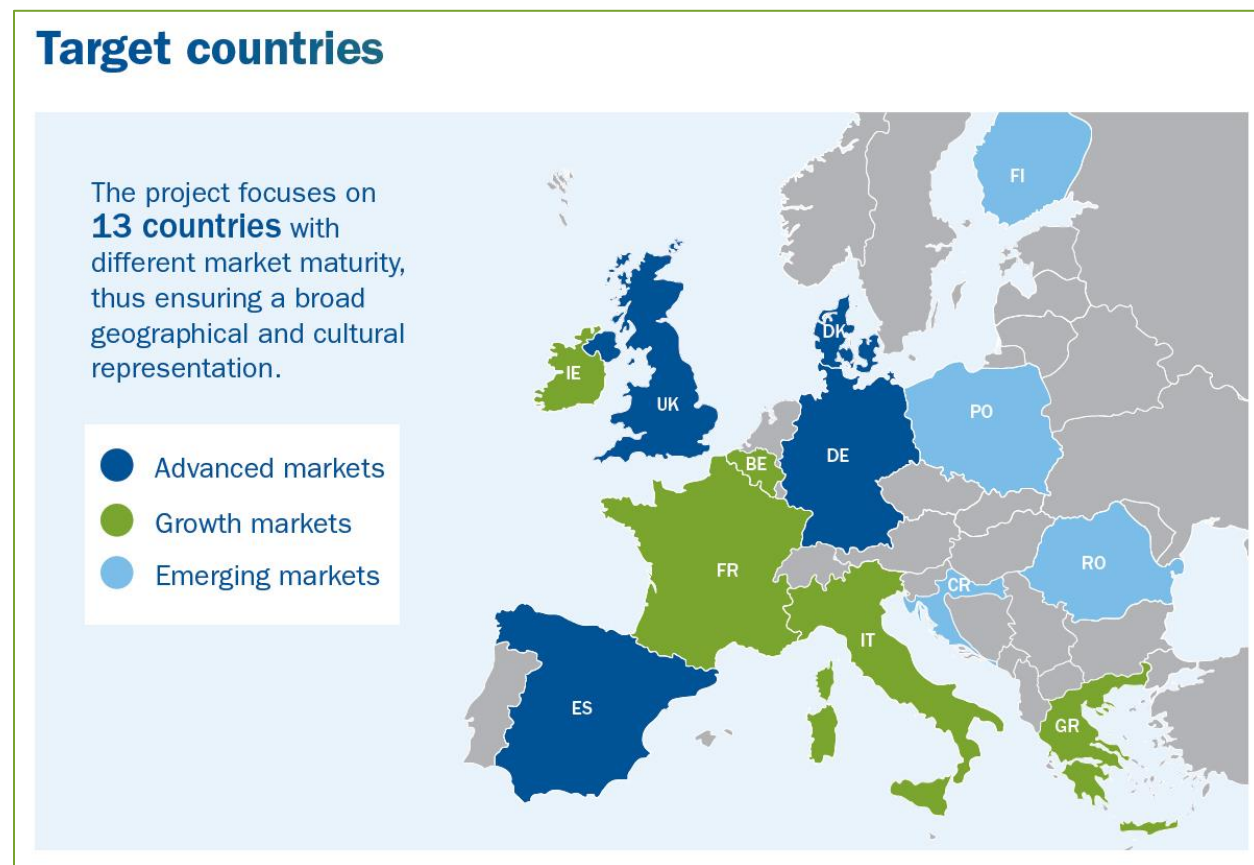
Community criticism of projects is voiced either in relation to the wind farm itself or in relation to the necessary installations which connect the wind farm to existing electricity grid. In general, next to public resistance to wind farms, long administrative procedures and high grid connection lead times are also reported as playing a role in delaying the development of wind power projects. These further inhibiting factors are sometimes also related to acceptance issues.

The WISE Power project dealt with social acceptance by enhancing local support and citizen participation in the planning, implementation and operation processes of wind power projects. The project focused on 13 European countries, divided into three categories, according to the maturity of their local wind energy market. The picture below shows the countries which were part of the analysis.

⁵ Special Eurobarometer 2011 Public Awareness and Acceptance of CO₂ capture and storage.
http://ec.europa.eu/public_opinion/index_en.htm

⁶ WindBarriers is a European (IEE) funded project ended in 2011, which aimed at gathering up to date and comprehensive information on the administrative and grid access barriers that obstruct the development of wind energy in Europe. The project quantified lead times for projects installed in 2007-2008, both onshore and offshore, across the EU-27.

Figure 1: WISE Power target countries



Coordinated by WindEurope, the project was supported by a large consortium which consisted of European and national wind energy associations - the Spanish Wind Energy Association, The Association for the promotion of the renewables in Belgium - wind energy developers - Acciona Energia and Terna Energy - local and national planning authorities and decision-makers - Comhairle nan Eilean Siar, Regional authority of the Outer Hebrides in Scotland, Municipality of Guldborgsund, Provincia di Savona, The Regional Development Agency Dubrovnik Neretva County, The Scottish Government - an international organisation with experience in capacity-building - The United Nations Development Programme in Croatia, a renewable energy cooperative - REScoop.be, energy agencies - German Energy Agency and a scientific partner - Fraunhofer ISI (the partners are listed in Annex I).

A General Advisory Board comprising representatives of wind project developers, TSOs, national wind energy associations, was set up to provide guidance and necessary input for relevant activities in the project. Moreover, a Financial Advisory Board provided supported to the research on alternative financing and innovative financing models.

Assess and understand: Firstly, the project did an analysis of the status quo which consisted of two parts. On the one hand, the available literature, i.e. best practices, guidelines and toolkits on social acceptance in the wind energy sector, was reviewed to define main gaps and shortcomings. On the other hand, it was examined_in how far this existing knowledge is in fact being exploited by the wind

industry and local project developers as well as communities and local authorities. This was done by executing an expert survey in all WISE Power countries.

Secondly, the project analysed the existing types of alternative/innovative financing measures. Also based on the results of the expert survey, the above analysis suggested innovative financing models capable of improving social acceptance. These models involve various stakeholders, such as alternative and ethical banks, citizen cooperatives, and public and other financing institutions, municipalities, and renewable energy project developers. Furthermore, through questionnaires and interviews we validated the most promising innovative financing models and verified to what extent they can improve social acceptance and secure project bankability. Within this process, WISE Power also evaluated the transferability of these approaches to other countries (conclusions in chapter 3).

Validate engagement measures: Thirdly, another set of activities was undertaken aimed at specifically closing the gaps between theory and practice by putting in place new appropriate measures and actions. These measures, called the ‘Draft social acceptance pathways’ (SAP), were tested in ten countries through thirteen validation workshops and four test exercises to obtain feedback and to ensure their application was feasible and worthwhile, and to identify opportunities for improvement. Four of these validation meetings were held as “e-conferences”, using a conference call facility and PowerPoint slide pack. The meetings were structured using a standardised invitation, agenda, facilitator notes and feedback forms. Due to regional contexts, there were variations in specific format, length, attendees and other aspects necessary to hold the most effective meeting for each country.

The standardised approach worked well to give coherence to the meetings overall. Generally the feedback from the meetings was positive, and the majority of participants found it valuable to hear about the WISE Power findings and the draft SAPs, as well as having the opportunity to interact with other stakeholders.

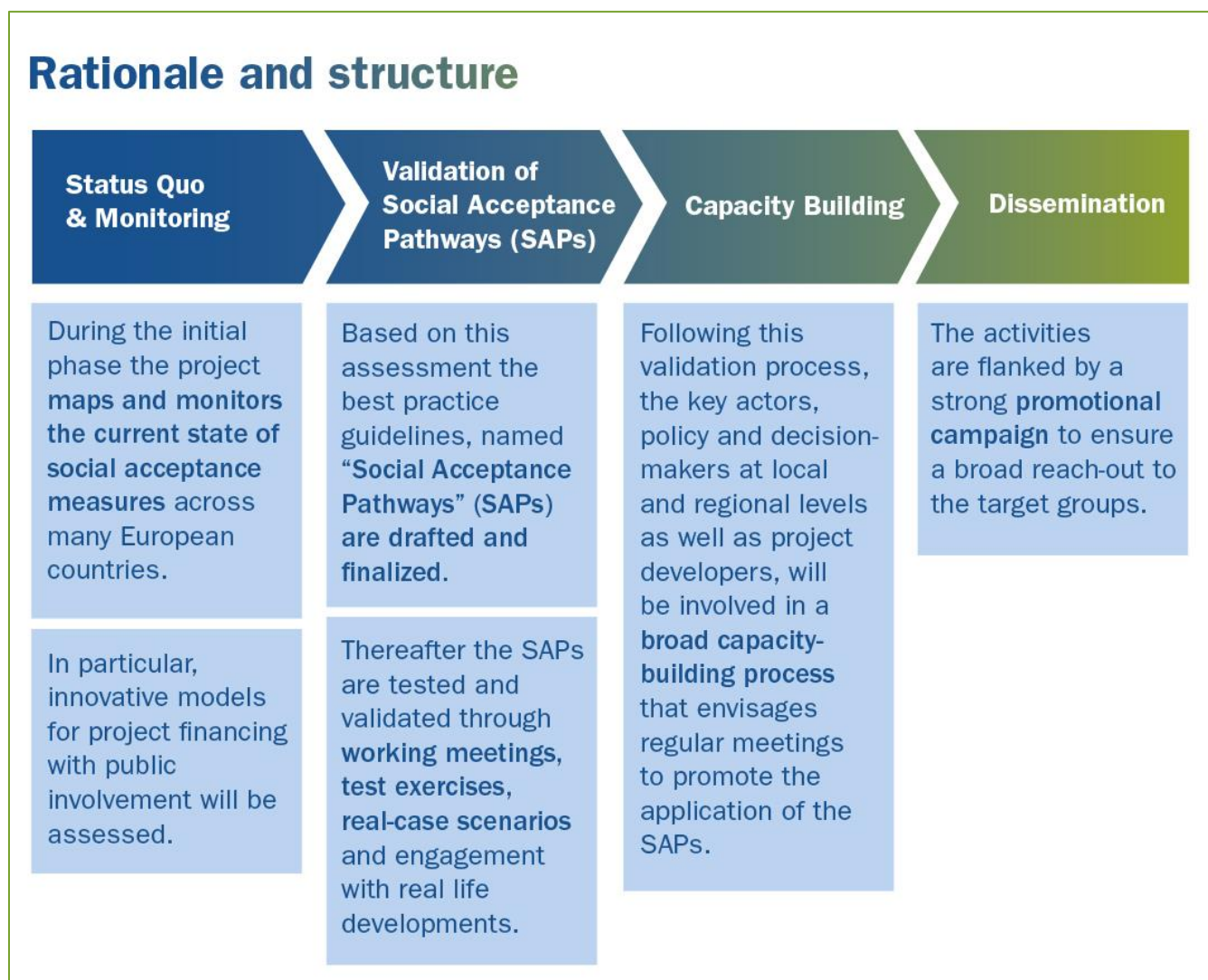
The social acceptance draft pathways (SAPs) were available as an interactive PDF file, translated into the appropriate language for each country. The intended audience for the working meetings were therefore developers, Transmission System Operators (TSOs), local authorities, community representatives and others.

Recommend and apply new engagement measures: Together with the test exercises, the results of these meetings formed the basis for the WE Engage Toolkit, the online tool designed to help all stakeholders build, implement and deliver effective and meaningful social engagement strategies in relation to onshore wind farms. The toolkit has been split into user groups - developers, transmission network operators, communities, local authorities and other stakeholders can use the tool in the way best suited to their specific needs. The toolkit is an innovative and interactive tool; it also relies on input from users by building a collection of case studies from across Europe, showing good practice and learning points from real life experience.

Through capacity building meetings, meetings were held with representatives from national and European stakeholders and decision-makers to mobilise support and promote the application of the WE Engage Tool as well as its dissemination.

The figure below illustrates the project structure and rationale.

Figure 2: Project rationale and structure

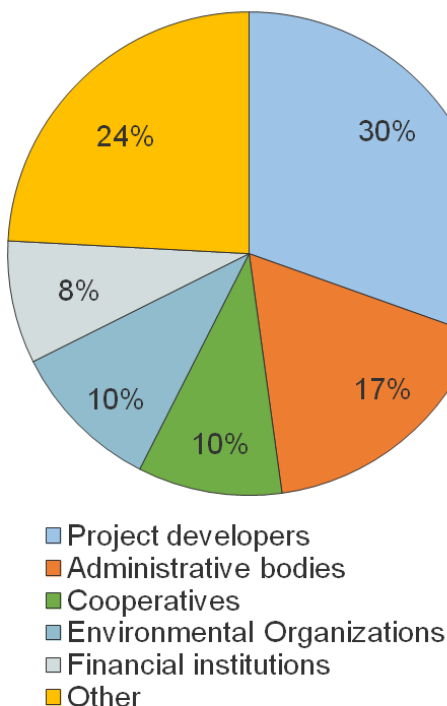


4 Main findings of the project and their impact

The WISE Power project conducted new empirical research to create a firm foundation for the projects. The findings from this research will be referred to in the following sections. The figure gives an overview how this research was structured.

European stakeholder and expert survey

- 207 participants (response rate 44%)
- Experts with different backgrounds involved in wind energy projects.
- Respondents from 13 countries (BE, DE, DK, EL, ES, FI, FR, HR, IE, IT, PL, RO, UK).
- Data collection: Winter 2014



Advanced markets
(Scotland UK, Spain, Denmark,
Germany)

• 55 questionnaires filled in

Growth markets
(Ireland, France, Belgium
(Flanders and Wallonia as 2
separate regions), Italy, Greece)

• 92 questionnaires filled in

Emerging markets
(Croatia, Poland, Romania,
Finland)

• 62 questionnaires filled in

4.1 Main findings on social acceptance status

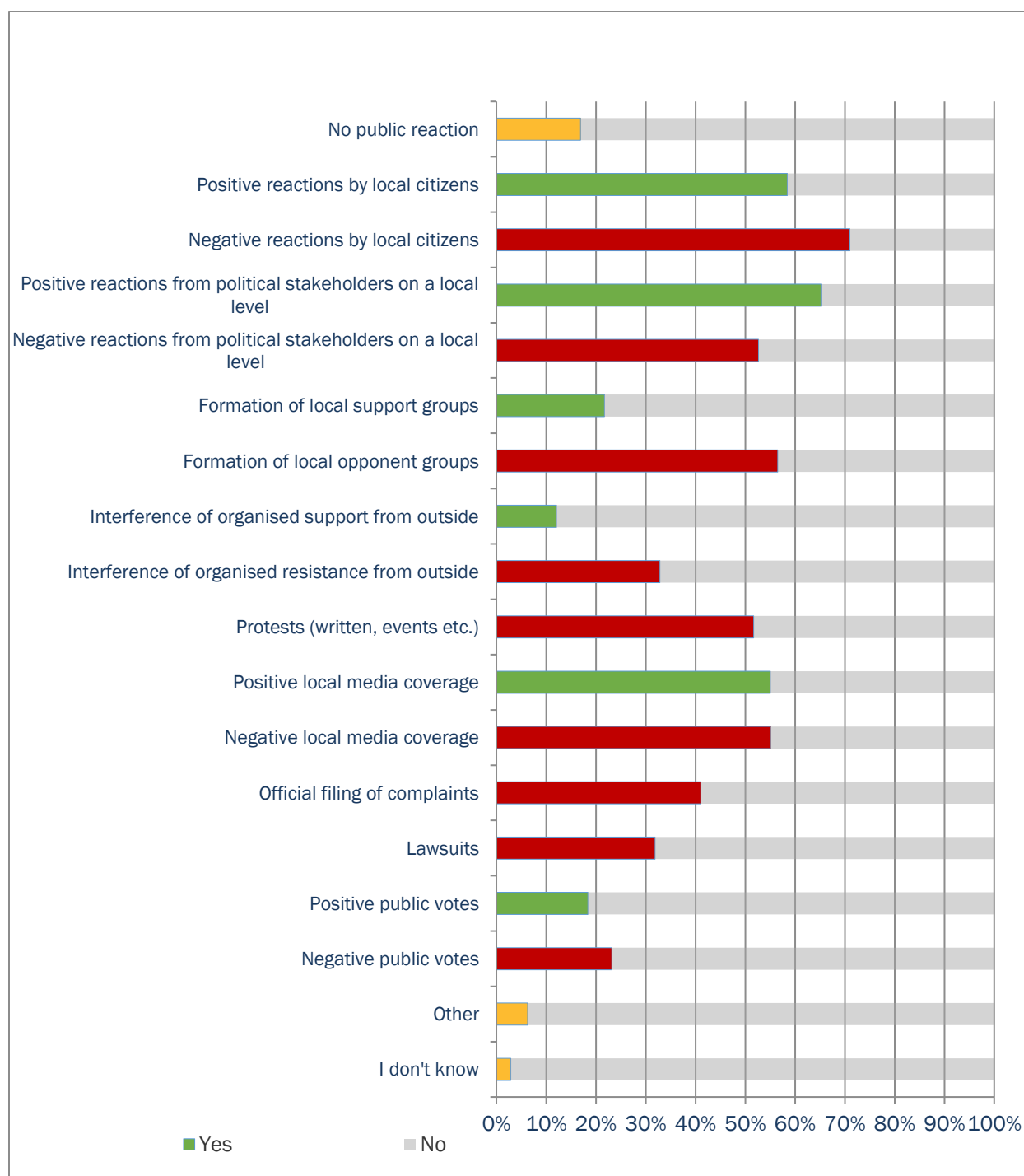
Through the WISE Power project⁷, an overview of social acceptance for wind farms with a special focus on best practices, strategies and toolkits was produced in order to identify **needs**: a) for further social acceptance development pathways and b) existing knowledge of relevant stakeholders. As a first step, a review of best practices, guidelines and toolkits on social acceptance in the wind energy sector was done. This phase included an analysis of 55 publications providing advice on social acceptance, which ultimately formed the background material for a survey addressed to 207 experts (for more details see figures above).

Furthermore it was intended to analyse the data according to the stage of market development. However, very little difference between mature, growth and emerging markets were found in the data set analysed for this report. Due to this fact, differentiations according to market maturity will not be displayed within this report.

First of all, the majority of study participants had experienced stops or at least project delays due to a lack of social acceptance. Furthermore, many more negative than positive reactions to wind farms are reported by the respondents. These findings underline, as expected and already shown by the WindBarriers project, the relevance of social acceptance issues. This is also already common knowledge in wind farm project development, as two thirds of the respondents claim that elements of public participation are part of the usual procedure during planning, building and operating wind farms. While many respondents report that integrating elements of public perception are obligatory in their country, the percentage of those stating that they are also part of usual project management is even higher. This indicates that it is the usual case to go beyond what is mandatory.

⁷ <http://wisepower-project.eu/>

Figure 3: Reactions to windfarms. Green = positive reactions; red = negative reactions; orange = other



Opposition to wind farms seems mostly specific, i.e. against a specific installation: the survey shows that the main negative issues mentioned in relation to wind power projects are the visual impact on landscapes followed by noise and the impact on the local ecosystem and wildlife (cp. Hübner & Pohl 2014 for similar results). Arguments that question wind energy on a more general level, e.g. whether it contributes to mitigating climate change, are less frequently reported to play a role. This is in line

with the findings from Eurobarometer that were cited in the introduction that Europeans are generally in favour of wind energy as a concept. This is further confirmed by the finding that on the positive side, respondents report that the reduction of CO₂ emissions and enhanced air quality are often raised in discussions around wind farms. Taken together, however, this shows that criticism is mainly manifested on a local level while the advantages of wind energy are perceived to be more relevant on a national or global scale. On a local level, economic benefit is the argument that comes up most frequently as a positive aspect of wind power. However, it may not be sufficient alone. Thus, it seems important to further highlight a broader line of arguments why a wind farm is necessary and useful in a specific area.

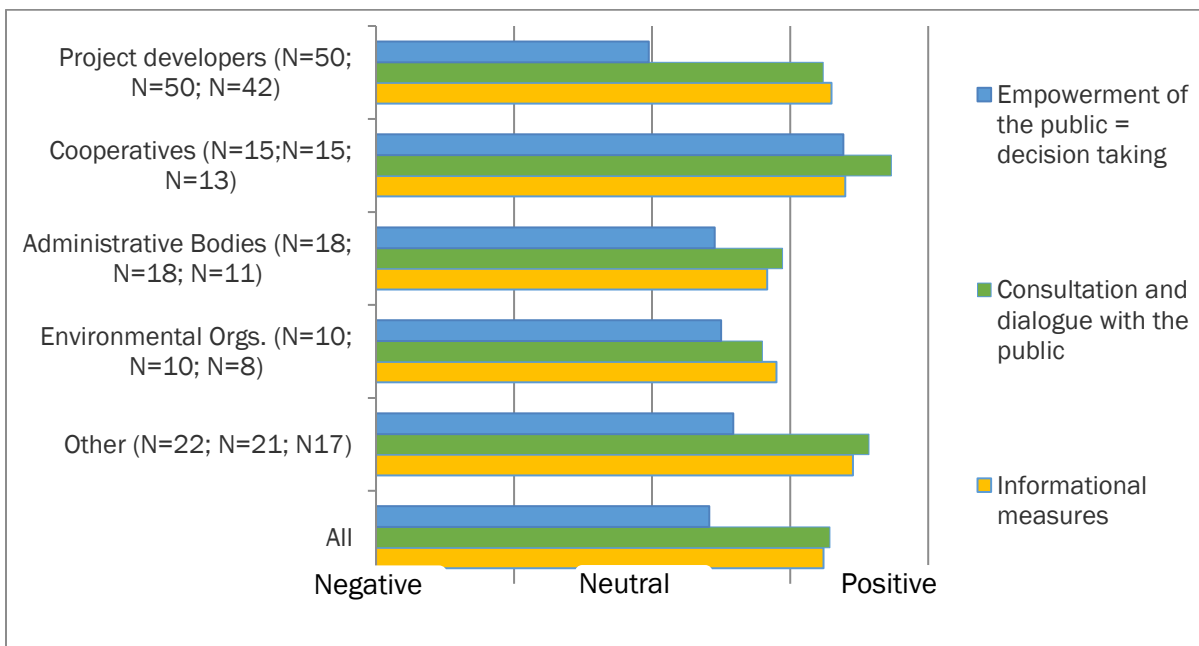
It is also noteworthy that only about 25 % of the respondents mention a lack or late information measures as an issue. Thus, this does not seem to be frequent in discussions around wind farms; nonetheless, providing information is very often seen as a prerequisite but may not be sufficient to gain acceptance.

Shared ownership, community benefits and involvement of the community in the design process are all perceived as helping to foster social acceptance across all respondents, independent of market maturity. However, the problems of these approaches were also mentioned. These include in case of shared ownership for instance the risk of splitting the community between those who are affluent enough to purchase shares and others who are not. The main challenge related to community benefits was that they need careful implementation in order to avoid the impression of corruption or bribery.

Despite the fact that public participation is frequent in wind energy projects, many respondents (39 %) state that they do not have a standard procedure for public participation activities in their organisation. Likewise, allocating resources for these activities does not seem to be part of the usual procedure for some organisations. Additionally, the published advisory literature is not widely known and hardly applied. If these findings are taken together, they point out, that although the awareness for social acceptance and public participation is high there may be a lack of professionalism, i.e. standardisation and knowledge management, in this regard. The respondents, however, also point out the reasons why it is difficult for them to make use of existing knowledge, meaning that the main challenge seems to be to transfer this knowledge to the conditions of a specific project.

With regard to different levels of public participation, respondents are more in favour of consultation and dialogue in addition to informational measures. Empowerment of the public, where the public has the possibility to get involved in the decision itself, is evaluated less positively. This finding is due to the fact that the surveyed project developers are less enthusiastic about this issue. The cooperatives are very positive about this high level of public involvement which hints that it may be feasible in practice. To leave the decision to the local public is probably not a practical approach for every wind farm, but an approach that is worthwhile to think about for certain projects. Besides, combinations of these two approaches may be advisable.

Figure 4: What is your experience with the three different levels of public involvement with regard to social acceptance?



Furthermore, our findings point out, that recent experience with public participation concentrates on the phases of planning, permitting and construction. This points to the fact that more knowledge is needed on how to deal with social acceptance when repowering or decommissioning is intended. This finding is in line with the analysis provided based on the literature review (Wind-Acceptance, A user guide for developers and municipalities, Fraunhofer ISI, 2014⁸ and the Status quo of social acceptance strategies and practices in the wind industry, Fraunhofer ISI, 2015⁹) where this gap was pointed out as well.

The fact that WISE Power data that public participation mainly starts during the permitting process is not particularly surprising, as this is often the most complicated part of the process accompanying the issuance of a permit. However, especially in cases where resistance to a planned installation is very likely, it could be advisable to start earlier.

According to the data, four groups are currently most often integrated into participation and communication processes: local political authorities, local administration, permitting authorities and the local public. Financial institutions and members of the local economy are less regularly considered. Securing their public support may, however, be worthwhile as this could positively influence other local stakeholder groups. In addition it is suggested by the interviewed experts that actions involving the

⁸ http://wisepower-project.eu/wp-content/uploads/2014_08_Deliverable_2_1_final_version.pdf

⁹ http://wisepower-project.eu/wp-content/uploads/20150319_WISE_Power_Deliverable_2-2_final.pdf

newly integrated community may be steered by the municipalities as neutral institutions rather than by project developers.

Respondents were also asked how useful they consider a variety of related and potentially supporting measures. It was found that all kinds of information and learning opportunities were generally valued to be useful, most concrete measures were assessed positively. Respondents were interested in receiving information from the WISE Power project how to deal with all members of the public – those opposing a project, those in favour and those not interested. As pointed out in the Wind-Acceptance, user guide for developers and municipalities developed under the framework of the WISE Power project most earlier published guidelines deal with negative reactions and give advice on how to respond to them. So far little knowledge is provided on how to make use of supporters or how to mobilise those not interested. Furthermore, respondents identify their greatest need in the area of providing balanced information about a project and in learning more about the benefits of working with communities. They are less interested in means of online engagement.

4.2 Main findings on alternative financing and innovative financing models¹⁰

One of the further objectives of the WISE Power project was to focus on innovative financing models in order to determine to what extent these funding schemes have proven effective in helping wind energy projects to have access to alternative solutions more rapidly, and, by doing so, enhance social acceptance.

Innovative funding models are mechanisms enabling the finance of all or part of a wind farm project, other than by the usual bank loans or long-term credits granted by financial institutions. Often these innovative models are set up by actors who are not traditional actors within the financial sector. Besides contributing to funding the wind farm they are also often seen as a means to support social acceptance.

As a first step, five different innovative models were identified by the respondents, as being used in the projects these respondents were involved with:

1. **Private partnership:** type of financing between a private structure and a private developer where each party commits funds. Main mechanism used to include citizen co-operatives.
2. **Public Private Partnership:** type of financing (mainly) between one or several municipalities and private developers, where each party commits funds. This structure may have various forms, as it can include citizen co-operatives, local TSOs, public institutions or even investment funds.
3. **Crowdfunding:** participative mechanism of funding a project by raising monetary contributions from a large number of people, typically via the internet. The contributions can be rewarded or not. The rewards can bear various forms, described below. There is no automatic obligation of result in terms of amount collected.

¹⁰ http://wisepower-project.eu/wp-content/uploads/20150401_WISEPower_Deliverable_3-3_Final1.pdf

4. **Bond issue:** issuance of bonds by the developer or the cooperative.
5. **Investment fund:** funding mechanism which aims at providing support and/or bridge financing for the development of wind power projects. The difference to traditional investment funds can be found in the diversity of fund providers which consists of citizens, public institutions and/or ethical alternative banks.

These financing models involve various stakeholders, such as alternative and ethical banks, citizen cooperatives, public and other financing institutions, municipalities and renewable energy project developers. A Finance Advisory Board (FAB) was set up to provide input and expertise. The FAB consisted of banks investing in a range of sustainable energy projects, alternative and ethical finance institutions as well as cooperatives across Europe.

In a second step, the efficiency of the different financing models identified in the light of the following six criteria was analysed through a questionnaire (see figures at the beginning of the chapter for details):

- Impact on financial conditions
- Relevance for securing funding
- Effect on social acceptance
- Effect on bankability
- Effect on support for a successful implementation
- Effect on social acceptance

The compilation and analysis of the answers of the questionnaire on financing measures allowed to analyse the key strengths and weaknesses of these models and to highlight innovative solutions.

From there, promising measures and solutions for alternative financing were identified on the basis of their replicability to the target countries (financial/juridical/technical analysis).

4.2.1 Results on financing mechanisms that best contribute to enhancing social acceptance

Most of the stakeholders involved in a wind farm perceive that the social dimension of wind energy projects has become a key factor in the implementation of new wind farms.

The data collected from the survey seems to show that the more stakeholders there are in the financing structure, the more positive the impact on social acceptance of the project. Consequently, lack of transparency in the financing mechanisms is immediately translated into reluctance from citizens towards the project. Transparency is not directly linked to the complexity of the project, nor to the number of different stakeholder categories that play a role in the structure (cooperatives, municipalities, TSOs) but to the quality of information citizens will receive about how the money they invest will be managed and allocated to the final project.

However, defining one single innovative financing mechanism that, at the same time, contributes to enhancing social acceptance of wind energy, improves bankability of projects, ensures successful implementation of wind farms, and offers attractive financial conditions, is a complex exercise as all of them have advantages and disadvantages.

Private partnerships

Private partnerships are widely present and concentrate many of the best scores, among others, in terms of securing good financial conditions and relevance for securing funding. Private partnerships are clearly the most frequently used innovative form of funding a wind farm, as they are said to be used by 34% of respondents.

When a citizen cooperative is included in the scheme, the survey shows that private partnerships appear to offer a good compromise between successful implementation, bankability of the project and probably social acceptance.

But the analysis is complex, because one single project can include several partners, and therefore different funding models. One developer may be granted a bank loan from an ethical bank and issue bonds, while an institutional fund offers a bridge-financing to a cooperative which might raise additional funding through a crowdfunding operation.

Moreover, although perceptions are slowly changing, we still observe a lot of reluctance from private developers towards cooperatives. These are generally regarded as groups of citizens with little expertise in project development, who delay the development process and bring little added-value to the project.

It is not clear enough yet to private developers to what extent involving the local community is fundamental to social acceptance, and whether it is essential to minimise risks of juridical appeals and maximise the chances of having projects accepted.

Crowdfunding

Crowdfunding is a rather new financing mechanism. We assume some of the respondents have had little experience so far with this form of fund raising. Moreover, crowdfunding exists in different forms: it can be rewarded (with dividends, shares or interest rates) but is most commonly used without rewards as a way of raising funds (donation-based crowdfunding).

Crowdfunding is perceived as having a potential positive impact on social acceptance probably because it is expected to involve a large number of people. Social networks and modern means of communication play an important role in this regard. Indeed, the information relative to a fund raising campaign can rapidly spread to different communities.

Underwriter fund

When a crowdfunding operation is set up by a cooperative or a citizen association, the publicity made about the operation is key for a successful operation, and for the citizens' ability to raise the targeted amount of money. If the communication network around the crowdfunding transaction is insufficient, the operation fails to reach its objective.

An **underwriter fund** offers the guarantee of reaching the targeted amount of money by providing supplementary funding if the objective of the fund raising campaign is not reached. Thanks to such a

fund, the fund raiser (citizen cooperative or private developer) can be assured of a successful financing operation.

The underwriter fund can be constituted in different forms:

- by public institutions
- by a cash-pool from cash-rich cooperatives (in excess of treasury)

The idea of an underwriter fund set up by cooperatives through a vehicle acting as a cash-pool, i.e. that would distribute excessive treasury from cash-rich coops to cooperatives in need for cash, is a concept that would combine many of the positive aspects of the different formulas: gathered together, cooperatives would be financially stronger to negotiate with private developers larger shares of the wind farms. Social acceptance of wind energy could be reinforced as cooperatives would be more present in most of the projects, which would lead to a higher involvement of citizens in the development process of wind farms. Cooperatives would therefore be considered as key players in wind energy development, and this solidarity engagement between cooperatives would give more comfort to banks.

One single European mechanism?

Through the different innovative financing mechanisms we have analysed, some of which have already been utilized, a certain number of common characteristics to make a successful financing model can be highlighted, not only in terms of social acceptance, but also in terms of rapid implementation and bankability of the projects:

- Underwriter fund:
 - with public institutions: increases trust and credibility.
 - with cooperatives: can reach large number of citizens, and can mobilize funds rapidly through cash-pooling system.
- Well-balanced level of interest rates enabling borrowing cooperatives to enjoy competitive financial conditions, and enabling the fund to remain attractive through distribution of dividends.
- Quality of projects assessed by expert committee in order to concentrate financing on quality projects and ensure rapid implementation of projects.

As challenges in terms of social acceptance are similar from one country to another, it would make sense to study the relevance of implementing such a financing mechanism at a European level. Setting up an underwriter fund that would invest in wind farms across national borders in all European countries and help citizen cooperatives to share wind turbine ownership with private developers could combine many advantages:

- more comfortable position of citizen cooperatives to negotiate a share of wind farms with private developers;
- sufficient funding and sufficient expertise to develop 100 % citizen projects, and increase social acceptance of wind energy;

- market liquidity thanks to the number of investors and the size of the fund, enabling flexibility of sale and purchase transactions (shares held by citizens could be sold and purchased rapidly);
- high diversification of investment formulas thanks to the high number of projects financed;
- competitive financial conditions : stable rate of return or dividends;
- low risk of bankruptcy
- high bankability of projects: quality of projects validated by a committee of engagements
- successful implementation of projects.

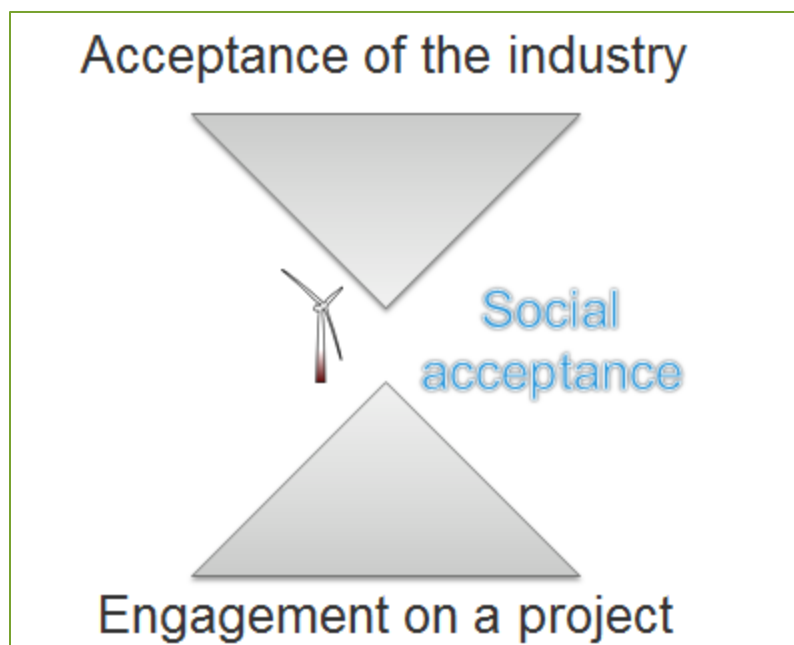
4.3 Main findings on the draft social/interactive acceptance pathways¹¹

The WISE Power project built on the findings of previous work packages to incorporate technical and financial learnings and best practice from across the WISE power network.

One of the main project outcomes was to develop ‘interactive engagement pathways’. The aim was to introduce pathways that are considered useable, helpful and informative. Following the early research work of the project and two test exercises, the draft Social Acceptance Pathways (SAPs) were developed in May 2015. The interactive pdf document was translated into 13 languages and was then used as the basis for working meetings in partner countries and two further test exercises.

The meetings reinforced much of the information written in the draft pathways. It also provided insight on how the information should best be presented in order to be easy to use and to be of maximum help to different stakeholders. A full report was written on the working meetings along with a report on each of the test exercises. The findings from these meetings improved the usability of the final revised pathways and confirmed that the document was meeting the expectations initially set in the final revised pathways. In line with other findings through WISE Power, the meetings addressed the fact that there is a requirement social acceptance around the industry as a whole, and of individual projects. Project developers must be aware of this distinction and must understand where to focus their efforts. As discussed previously, social acceptance of the industry is generally positive, therefore developers should aim to address project-specific concerns.

¹¹ <http://www.we-engage.eu/about-the-project/>



Feedback strongly suggested that the pathways should be an interactive online tool available in multiple languages. Usability, up-to-date information and flexibility of the tool were all deemed fundamental in the design and appearance of the pathways.

In terms of content, the draft pathways included a large amount of information. The draft SAPs are a 20 page PowerPoint document with comprehensive information on building and applying social acceptance measures. Along with the draft SAPs a glossary explains all technical and financial terms used. Through thorough and extensive research all the necessary details were provided. However, one of the main findings from the research was that the pathways should be tailored to the individual users to ensure that they receive the right information for their specific needs.

The key findings from developing the pathways centred on the following topics.

Transparency

Transparency between communities and developers was identified as a necessity for good practice. Honesty and openness between partners was essential for a successful relationship and for social engagement and acceptance.

Clarity

Communication must also be consistent, clear and easy to understand. Information should not be open to interpretation and should not be emotive or misleading.

Early engagement

The timing of communication was found to be as important as the content and method of delivery. It is essential for communication to begin at the very early stage of development as information can become available over the course of the project development. It is therefore important to make sure

stakeholders to not get the impression that there has been no provision of appropriate discussion formats to answer any questions in due course.

Inclusive

Our findings identified good practice where there were inclusive engagement procedures and all individuals in the local area were able to engage and participate. The pathways therefore sought to promote methods which reach the widest number of local residents to inform them of potential opportunities.

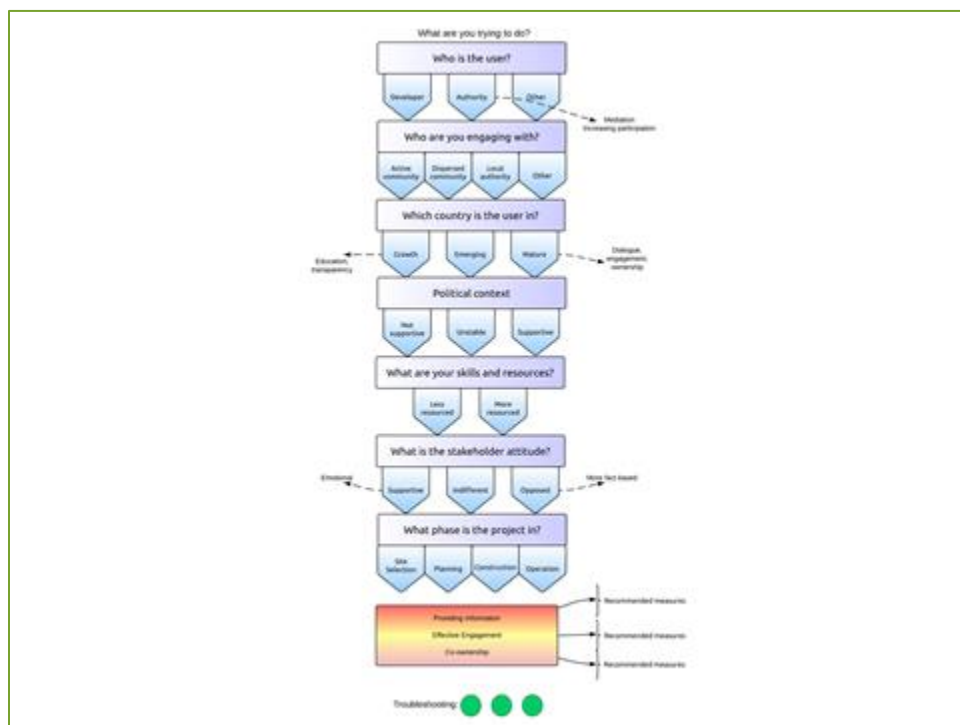
Trust

It was identified that social acceptance will be most likely where genuine trust exists between all parties. The measures proposed in the interactive pathways therefore seek to build trust and develop relationships of mutual benefit.

Flexibility of pathways and developers

The need of flexible measures was also highlighted by all users. Developers' flexibility as to applying these measures is another key point put forward in the meetings. In developing a wind project, developers and TSOs may wish to consider how to provide information to communities, how to facilitate engagement and dialogue, and how to explore the potential for a financial partnership with a community organisation.

A number of factors for inclusion in the tool were identified by these engagement exercises, and the need for a bespoke, interactive tool was recognized. The following image shows the factors which were identified for necessary filtering of the user journey.



The finalised tool, WE Engage was published online in January 2016 and subsequently translated into additional languages to allow maximum engagement from users across the European network. The tool has its own url, www.we-engage.eu and has all the information presented in a logical and easily digestible format. This is in line with the feedback received throughout the project.

The tool offers users the ability to tailor the results to best suit their specific project needs, and then to download or print the webpage, which increases the likelihood of measures being incorporated into longer-term strategies and discussed offline.

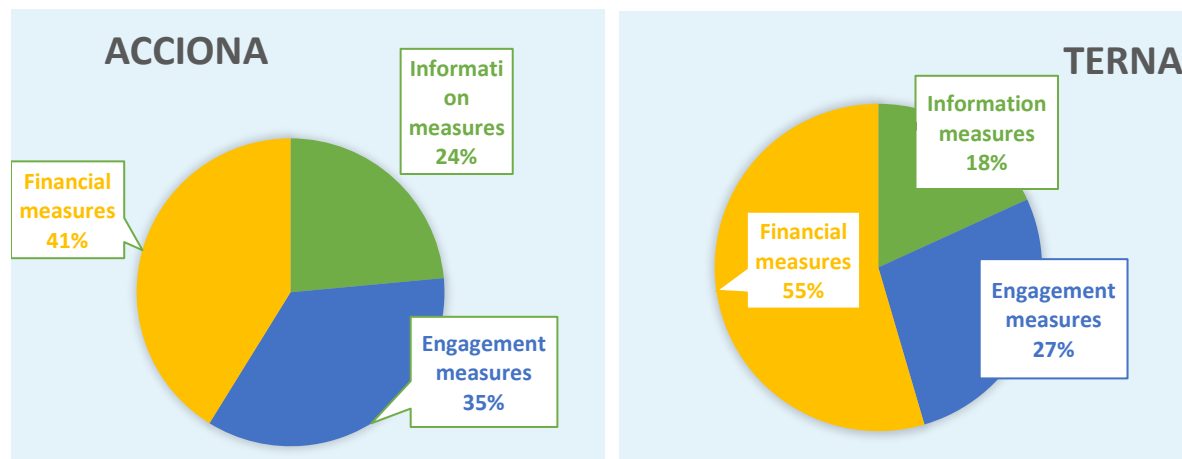
4.4 Main findings on real case scenarios

The real life scenarios consisted of engaging with ‘real life’ wind farm projects and other potential stakeholders (such as TSOs, local communities’ owned projects) once the WE Engage Toolkit was finalised. The scope of this activity was to apply and test the measures provided in the WE Engage Toolkit either on real life wind farm projects or on projects already ended in order to do an ex- post evaluation. Five case studies have been chosen within this task: two case studies from the main project developers of the WISE Power project, Terna Energy and Acciona, one ex post evaluation of a grid project and two projects where communities were involved.

Case study 1: Terna Energy and Acciona

In the framework of the WISE Power project, two project developers: Acciona and Terna Energy agreed to apply a set of measures suggested by the WE ENGAGE toolkit to real life projects. Acciona applied the measures to an operational wind farm of 30 MW of capacity located in Poland, while Terna Energy applied the measures at three operational wind farms, totaling 98 MW of capacity and at a project site under development of 47 MW, both projects situated in Greece.

Figure 5: Type of measures implemented at real project sites (% relative to the number of measures)



NOTE: the above percentages are calculated based on the number of measures reported by each company as implemented.

Figure 1 shows the proportion of each type of measure utilized by the two companies; we can see that Acciona has a more balanced approach in the split of type of measures that were used, with 24 % information measures, 35 % of engagement measures and 41 % of financial measures implemented. Terna Energy, on the other hand applied 18 % and 27 % of information and engagement measures

and as high as 55 % of financial measures. The split above shows that every social acceptance strategy is unique and designed for each specific project taking into account the local socio-economic context and the needs of the community.

A concrete example of **information measures** that both Acciona and Terna Energy implemented is the creation of a **dedicated website** and blog that offers targeted information about the wind farms to all interested stakeholders.

Guided visits or open day visits to the wind farms are also ways of informing the citizens about future projects and their benefits. On one of these visits organised by Terna Energy, a group of students of the Technological Education Institute of Piraeus visited the W/F cluster of Dervenochoria. The students were guided around the operating wind farms and the respective substation by the company's site technicians, they were informed on the benefits of wind power and on technical aspects, namely on the principles of wind turbine operation, electricity production and distribution through the electric power transmission network. Such educational activities contribute to increasing awareness and acceptance of wind farms in general, especially among the young people, while at the same time they give people the opportunity to firmly express their views with regard to the specific projects. Given the success of this activity similar school visits, open days and exchange of views between the experts working at the wind farm and the students and citizens are envisaged in the near future.

Photo 1 and 2: Open days at the Poniec wind farm in Poland



Photo courtesy Acciona

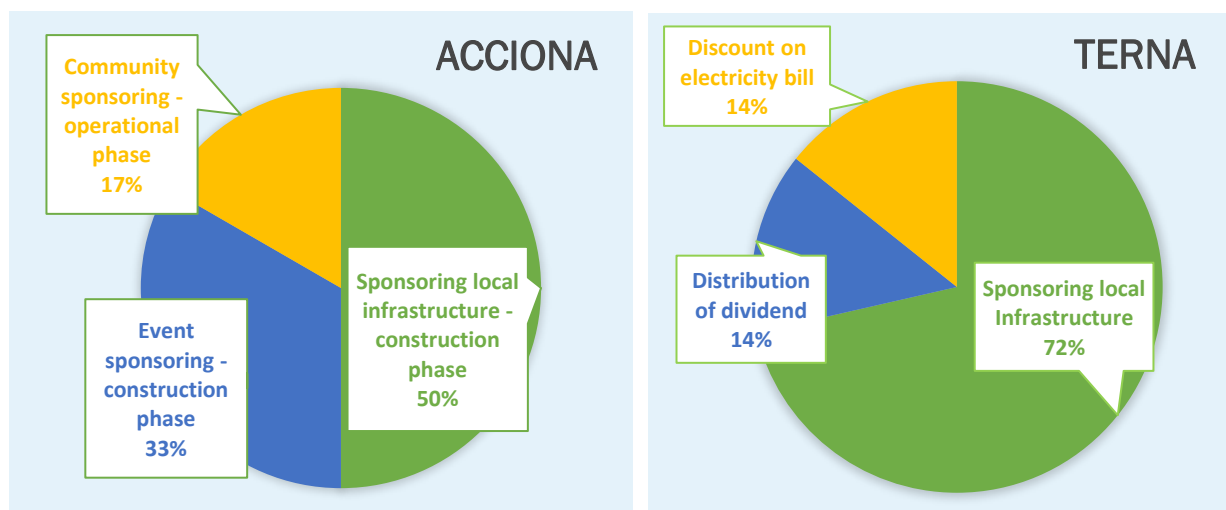
Photo 3 and 4: Open days visit/student visit at the Dervenochoria wind farm in Greece



Photo courtesy Terna Energy

Engagement measures: a good example of interaction with the local community is the set-up of a **grievance mechanism**, which is an instrument established to enable the local inhabitants raising concerns linked to the operation or construction of the wind project under development. In the same category of measures it is worthwhile mentioning the organisation of several meetings by Acciona with the local administrative bodies such as municipalities to decide together the best areas for social investments.

Figure 6: Financial measures - split of measures per category (% relative to the number of measures)



Concerning the **financial measures** adopted by each project developer, figure 2 above show us that in both cases more than 50 % of the financial measures constitute resources allocated to the construction, consolidation or renovation of local infrastructure, such as schools, children playgrounds, roads, pedestrian sidewalks or even churches. Money is furthermore given to sponsor social and cultural local events, for example, in Poland musical activities for children and the young people.

In the case of Terna Energy compared to Acciona, there is also a discount on the electricity bill, which is imposed by law and applied during the operation phase of the project, but it doesn't appear to be the case in Poland. Other country difference can be observed, for instance the fact that ACCIONA offers a certain percentage of its annual wind farm net profits – 0.2 %, to the community, while TERNIA offers 1.7% of the selling price of the electricity, in a share of 80% to the local authority within the administrative boundaries of which RES stations are installed and 20% to the local authorities through which grid connection lines transcends.

Conclusion

- An efficient social acceptance strategy must be tailored to each project and flexible to adapt to the community's needs; must be inclusive and apply both information and engagement measures and last but not least must be willing to share financial benefits with the local community.
- Both wind project developers involved in the Wise Power project stated that they would recommend the WE ENGAGE electronic toolkit to other developers and public authorities, so that they are fully aware of the measures that can be applied to raise awareness and increase social acceptance for wind farms.
- Generally local authorities are the link between the project developers and the community, therefore they play a very important role in the social acceptance strategy adopted. They are the ones that can help to adapt the information and measures to the real context, make suggestions to the developers and provide answers to the community, serving as a potential catalyst for a good engagement.
- The measures proposed by the WE ENGAGE toolkit aim at raising social acceptance of wind farms, therefore it is believed that they can contribute to shorter and smoother permitting procedures.

Case Study 3: Grid project led by a TSO

An in-depth structured interview was held with a TSO, namely Elia/50 Hertz, to examine a completed development of a grid project and see how and whether the WE Engage measures have been used throughout the process and where could it have added value, and ultimately increased acceptance.

The interview was structured around the types of measures used in the WE Engage tool: information, engagement and financial ones in all the planning phases, and focused primarily on the Stevin project.

The Stevin project is run by Elia (TSO) and they expect to start the project end of 2017. The project consists of 380kV AC line/cable, length: 47km (12km new overhead line, 10km underground cable, 25km upgrade of existing 220kV line). The project also formed a pilot activity within the BestGrid

project¹². The Flemish Federation for a Better Environment and Elia have retrospectively evaluated the stakeholder engagement and communication activities that Elia conducted between 2010 and 2015¹³.

As regards planning phases, TSOs might have an additional stage which is not listed in the planning phases of the WE Engage tool, which is actually the **“Needs assessment”**. This phase looks at

- Whether lines need to be built or not, given the amount of electricity that needs or not to be injected in the grid,
- The trajectory of the lines. The type of lines to be used: high or low voltage, buried or overhead line.

The discussions held showed that most of the **information measures** were used by Elia in the site selection, planning and operation of the project. Measures foreseen by the WE Engage tool such as letter notifications, creation of the website, social media, mail drops and contact persons in place for each project were used for the Stevin project and are considered very useful. They are positively evaluated by the TSO and they should be part of a stakeholder engagement strategy.

In terms of **engagement measures**, both Elia and 50 Hertz apply the measures from the WE engage tool: public meetings, town halls, street walls, mobile exhibitions where they bring along experts to provide necessary information for the communities to understand the project and its possible challenges. Another type of measure used by Elia and 50 Hertz are ‘world café’ meetings, meaning a group of people that would work and meet around round tables on several aspects of concerns for the citizens. In some of the meetings, for example for the electro-magnetic field and their potential impact, etc. 50 Hertz works with specialists from universities and research institutes – neutral to the project and independent – with a well-researched view. 50 Hertz involves also local authorities and communities as well as NGOs and other interested parties.

Some of the measures suggested in the tool are not used yet, namely the online consultations – they prefer instead public consultations so that all stakeholders have access to the documentation, and the house visits, the last ones being considered too time consuming and as having a limited impact, on just one person versus a group of people.

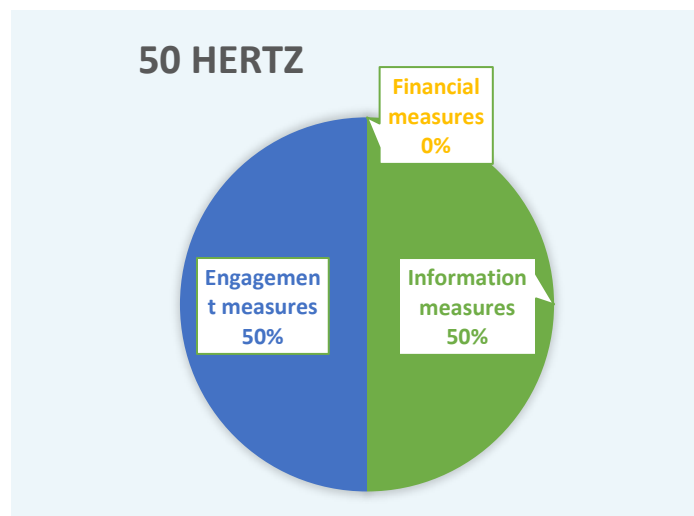
As shown above, the vast majority of information and engagement measures are applied and considered standard measures by Elia and 50 Hertz. Both the information and engagement measures

¹² Launched in April 2013, BESTGRID was made up of five pilot projects located in Belgium, Germany and the UK. During the project, TSOs and NGOs worked together to improve local and public acceptance for grid development processes. Objectives of the project were to enhance transparency and public participation, to speed up permitting procedures by proactively addressing or even surpassing environmental protection standards, and to encourage the implementation of constructive public engagement in permitting procedures for European energy infrastructure “projects of common interest.” Additional information can be found at <http://www.bestgrid.eu/project.html>.

¹³http://www.bestgrid.eu/fileadmin/user_upload/Deliverables/New_versions/D3.3_BESTGRID_Summarising_analysis_of_stakeholder_engagement_EN.pdf

have an impact on the permitting procedure, however, in the case of the Stevin project it did not translate into shorter permitting procedures.

Figure 7: Types of measures implemented by TSO (Elia/50 Hertz)



In terms of **innovative financing measures**, such as community ownership, TSOs are different from renewable energy suppliers/utilities in the sense that TSOs do not sell a consumer product or service. Hence, it is not evident to define a financial tool that allows for financial involvement and thus engagement of locals. The amount of money involved also tends to be significantly higher than that of decentralised renewable energy projects. TSOs do not have to be state owned. E.g. Elia group is stock market listed (with Belgian cities & towns owning about half of Elia's shares), as is for example National Grid. However, in recent years, some TSOs have started to experiment with "green bonds", as an illustration of their role in the energy transition. This may signal a slightly different type of financial involvement, nevertheless, it does remain far from community ownership.

Case Study 4 and 5: Projects where communities have participated financially

This case study focused on projects where communities have participated financially.

The first project Stewart Energy Ltd, is a joint venture formed by Andrew Stewart (farmer and land owner) and Lesmahagow Development Trust (LDT) and has developed a three turbine wind farm near the village of Lesmahagow with support from the Scottish Investment Bank's Renewable Energy Investment Fund¹⁴ (REIF). The 2.3MW wind project is 75% owned by Stewart Energy as a rural business and 25% owned by LDT as the local community.

¹⁴ Additional information on the Scottish Renewable Energy Investment Fund is available at <http://www.scottish-enterprise.com/services/attract-investment/renewable-energy-investment-fund/overview>

A structured interview was conducted with the community representative of LDT who filled in a detailed evaluation form looking at the measures suggested by the WE Engage tool, their utility and applicability. Since this is a small size project run on a volunteer basis, it was difficult to get the project started. However, LDT tried to see it as an opportunity to get involved in shaping the future of its community.

The income coming from the sales of electricity was the main selling point to the community whose aim is to become self-sufficient in terms of financial resources. So the driving force behind the project was to generate income for LDT objectives and accomplish a number of concrete projects for the benefit of the wider community.

The area where the project was developed is known for its wind resources and the already existing wind farms, therefore there were not too many environmental concerns raised by the community as these aspects have been previously addressed in public consultations done during similar projects.

Opposition to the project was experienced from just three individuals and the discussions were linked mostly to property value.

The other project is the **Stornoway Wind farm**, owned by Lewis Wind Power (LWP), a joint venture between AMEC Project Investments and EDF Energy Renewables. The development was taken forward in partnership with The Stornoway Trust, who is the landowner. The Stornoway Trust is a community landowner, with trustees elected from residents within the area. The project consists of 36 wind turbines generating up to a total of 180MW.

The project is fully consented, nevertheless the connection to the National Grid is a matter of concern affecting presently the development of the project more than social or community acceptance issues. The project can only progress with the construction of 450MW HVDC link from Lewis to mainland Scotland. A decision on this is expected towards the end of 2016.

The consenting process included extensive negotiations with Scottish Natural Heritage (SNH) and RSPB over environmental concerns on two vulnerable bird species, the golden eagles and red throated divers having their habitat on a European protected site located close to the wind farm. Dialogue will continue through the construction and operation of the wind farm to avoid any adverse effects on these species.

Figure 8: Type of measures implemented at real project sites

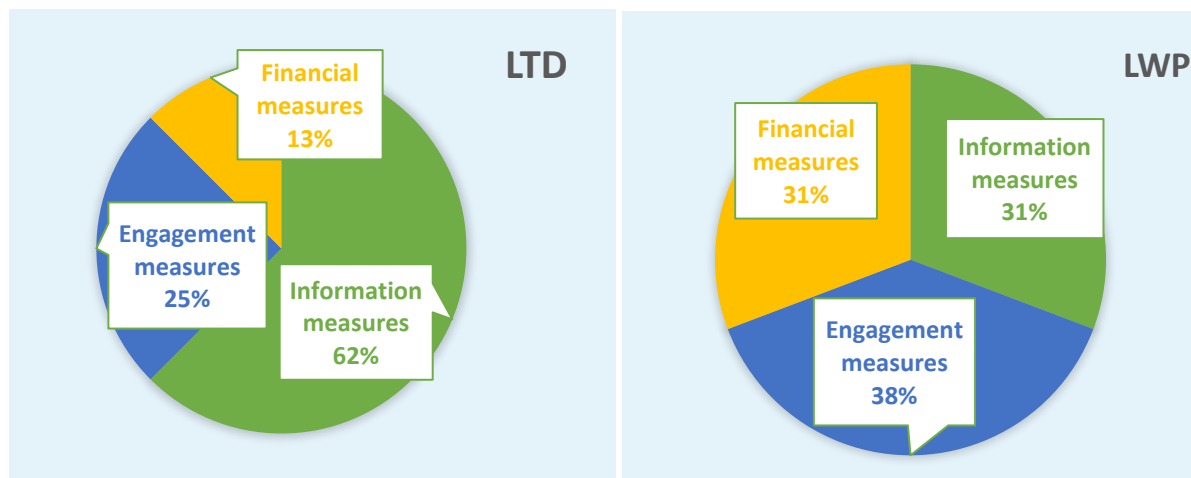


Figure 4 represents the types of measures implemented by LTD and LWP at the two projects. Taking into account the very different size and ownership scheme of the project we can observe on the pie charts above two different approaches to their social acceptance strategy.

LWP, has a balanced approach when it comes to the measures they include in their social acceptance strategy: 69% information and engagement measures and 31% financial measures. The information measures relate to the creation of a dedicated project website and newsletter, press releases and mail drops. The engagement measures mostly refer to the organisation of public meetings or events, such as school visits or targeted workshops with the community to discuss the needs of the community and where the Community funds money should go.

Figure 5 shows us that the financial measures include sponsoring activities and local contracting but also the creation of a Community Fund with payments of approximately £5,000 per installed MW each year amounting to about £650,000 per year. A community trust is going to be established which will determine how these funds are distributed. Additional financial benefits will be distributed from the rental income that could reach £500,000 per year (still under negotiation) although the rent will be dependent on generation output.

Figure 9: Financial measures - split of measures per category (% relative to the number of measures)



LDT is managing a project of just 2.3 MW that is fully owned by the community, it is therefore expected that no major opposition to be registered from the community. The financial and human resources available for this project are limited and therefore the measures applied refer primarily to information and engagement: creation of dedicated website, social media campaigns and press articles. Regarding the financial measures, the profits gained from the electricity sales would be reinvested in other community projects.

5 Final remarks and recommendations

The starting point of the WISE Power project was the assumption that acceptance of wind power projects by local communities can contribute to faster permitting procedures and thereby a faster and wider diffusion of wind power across Europe. The easiest and best way for communities to accept wind power is to see its benefits and be regularly and openly informed, engaged and consulted.

In developing a wind project, developers and TSOs may wish to consider how to provide information to communities, how to facilitate engagement and dialogue, and how to explore the potential for a financial partnership with a community organisation. This need was confirmed by the analysis phase of the project. Thus the WE Engage tool which was developed and validated in this project constitutes the project's main result for wind energy developers and other stakeholders. It is important to note that there is no 'one size fits all' measure for all projects and for all developers. Each of the measures proposed under the WE Engage tool has to be carefully considered and used taking into account the project size, geographical and country based context and the position and size of the local communities nearby. This implies upfront invest of time and effort which are, however, very likely to pay out on the longer run if the measures taken enable a smoother realisation of the relevant project.

In terms of local communities that wish to be an active financial partner in the project, to benefit from the project in another way, or even to take forward their own project, the tool helps them identify how to get an increased financial return from a project and feel more positively towards the development. Through the WE Engage Toolkit, communities are advised on how they can speak to the developer about this to find out if it is a viable option. It also includes suggestions on some possible structures and discussion points to look at with the developer.

As for local authorities, again, depending on country and regional context, they will be bound by law to apply certain engagement measures. The WE Engage tool suggests activities to complement and further develop these statutory requirements.

Furthermore, each relevant stakeholder should investigate if they can work with local communities to ensure their views are taken into account. For example, there may be opportunities to attend meetings, participate in the site-selection process, or work with local authorities. This will depend on the developer involved, and the scope for participation in the wind farm. Early engagement and discussions are encouraged. Depending on every stakeholder's interest, role, size and experience (amongst other factors), the interaction may vary. Moreover, the scope for involvement of any group will also depends on the country background and legislative context, as underlined above.

The project and its consortium encourages developers, TSOs, communities and local authorities to engage with each other for each project. No single approach would be effective in all circumstances. However the good practices methods and approaches provided by the WE Engage tool offer solutions that should reflect, if applied properly, in an increased social acceptance for wind power.

6 Annex I: List of project partners

The consortium is made of European and national wind energy associations , wind energy developers, local and national planning authorities and decision-makers, an international organisation with experience in capacity-building, a renewable energy cooperative and a scientific partner.

These partners are:

- WindEurope, former European Wind Energy Association – EWEA (BE) – Coordinator
- Acciona Energia – Acciona (ES)
- Asociación Empresarial Eólica – AEE (ES)
- The association for the promotion of renewable energies -APERe (BE)
- Comhairle nan Eilean Siar, Regional Authority for the Outer Hebrides in Scotland – CnES (UK)
- DUNEA I.I.c. Regional Development Agency Dubrovnik Neretva County – DUNEA (HR)
- Fraunhofer Institut für System- und Innovationsforschung ISI – Fraunhofer ISI (DE)
- German Energy Agency – dena (DE)
- Municipality of Guldborgsund – GBS (DK)
- Provincia di Savona (IT)
- REScoop.be (BE)
- Scottish Government (UK)
- Terna Energy – Terna (GR)
- United Nations Development Programme Croatia – UNDP Croatia (HR)