

3

LITERATURE
REVIEW

2020

EARNING LOCAL SUPPORT

FOR

WIND ENERGY PROJECTS IN IRELAND

*This RDD Programme is led by AstonECO Management Ltd.,
and peer reviewed by NUIG.*



EARNING LOCAL SUPPORT FOR WIND ENERGY PROJECTS: A REVIEW OF THE LITERATURE



Adapted from Wüstenhagen et al.

In support of a new approach to hearing, acknowledging, and addressing concerns around projects in Ireland, for successful sustainable outcomes.

This RDD Programme is part-funded by the Government of Ireland through the Sustainable Energy Authority of Ireland's National Energy Research, Development & Demonstration (RDD) Funding Programme.

CONTENTS

1.	Introduction to this literature review	7
2.	Externalities	10
2.1	The social challenges of wind energy	11
2.2	What is meant by Distributional Justice?	16
2.3	Procedural justice	18
3.	Social Capital	22
3.1	Social capital and social networks	23
4.	Wind farm development, Governance and institutions	25
5.	Wind farm project types and social licence	26
5.1	Legally Compliant project	27
5.2	Accepted Project	30
5.3	Supported win-win project	32
6.	Conclusions	37
7.	References	40

A special thank you to Dr. Thomas Van Rensburg, Nuala Carr, Cormac Fitzpatrick, Róisín Curran and Conor Totterdell for their work in creating this Literature Review.

EXECUTIVE SUMMARY

The development of wind farms has become increasingly challenging in Ireland due to distributional and procedural justice issues as well as potential negative externalities associated with their operation. In this vein the concept of a social license to operate has recently been applied to wind farms. In what follows we review the topic and document the conditions required to achieve it. A social licence to operate needs to be earned. It involves hard work, patience, fair engagement and respect for communities. Externalities must be considered, and commitment over the full life cycle of the project is crucial. Our findings suggest that meeting the conditions set out below can help developers to earn a strong social license. Developers need to acknowledge that negative wind farm externalities exist, they should address them and do so in a spatially explicit, inclusive and appropriate way.

Our findings indicate that distributional justice issues are a concern for affected communities and in terms of earning a strong social license they consider them to be very important. All members of an affected community should be aware of any benefits, yet catch-all community benefit schemes for the entire community should not be seen as a substitute for addressing near-neighbour externalities. Community benefits are not a bribe. It is important that this is not used as a tool to take the focus away from professionally addressing the externalities.

Catch-all community benefit arrangements can be divisive and

lead to conflict if externalities are not addressed first through an appropriate engagement process. A robust assessment involving early engagement is required which must elicit the views of the community in terms of an appropriate mechanism to address any negative externalities. The Irish government (Government of Ireland, 2020) needs to carefully reflect on and monitor this issue in relation to the current RESS proposals in order to identify what is cohesive to successful development over time. This is vital if we want to meet our national greenhouse gas emission targets through the use of wind energy.

Our findings suggest that, contrary to claims by the industry, outright NIMBYISM rarely occurs in Ireland and that most residents living near a wind farm are willing to make fair trade-offs to allow for responsible wind power developments in their locality. In principle, a strong social license opens the door for a wind farm development but a strong social license will not be earned if a developer does not meet the basic conditions associated with procedural justice. Drawing on some theory is helpful. To earn a strong social licence, affected residents need to be fully involved in the process, given a voice and provided with unbiased information about the development. Developers need to listen and incorporate feedback into the design of their proposals. Developers who are committed to achieving this should be able to work with communities.

A far more challenging issue for the renewable energy industry

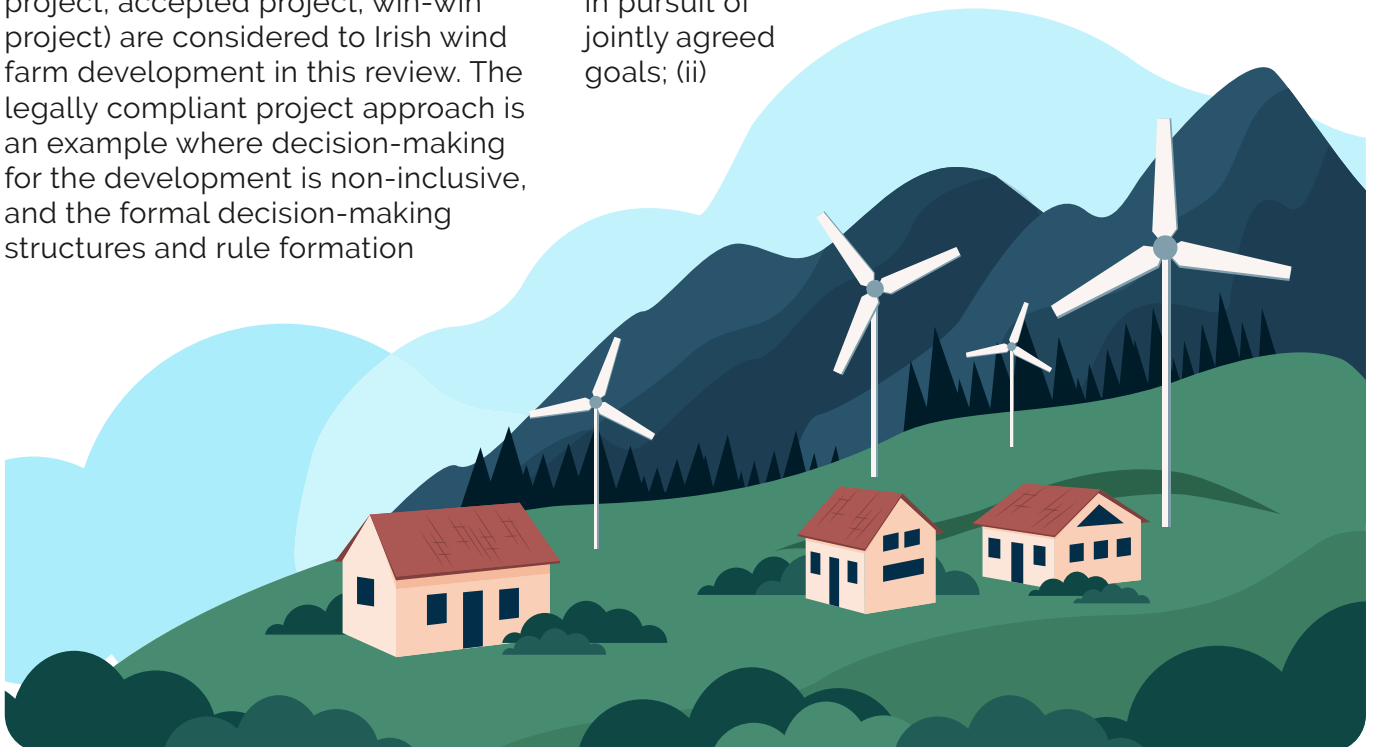
is to address the requests from communities for impartial decision-making (i.e. not just the developer and the planning process). Affected residents look to some independent authority or ombudsmen for answers to their questions which for various reasons are not satisfactorily dealt with by the developer or the planning process. There are no easy solutions to this problem in Ireland, however an inclusive multi-stakeholder forum governance structure offers many benefits and can be part of the solution. This is not something developers can do on their own. It needs to involve some form of government intervention and the Irish government (Government of Ireland, 2020) should carefully reflect on how best to do this, perhaps by commissioning an independent study to survey local communities themselves to pin down precisely what is required.

In terms of earning a social license three approaches (legally compliant project; accepted project; win-win project) are considered to Irish wind farm development in this review. The legally compliant project approach is an example where decision-making for the development is non-inclusive, and the formal decision-making structures and rule formation

are largely done by the developer. This approach often lacks a strong local SLO, and can experience lengthy and costly delays during permitting and early stages of the development.

A second approach is where wind energy projects are accepted by near-neighbours and communities. These generally use a higher standard of communication practices than required by legislation and guidance, and although they tend to be more inclusive involving bi-directional engagement practices, the developers still retain full control over the process.

Developments that aim for supported win-win projects, which have earned a strong SLO from local communities typically involve a certain degree of power sharing with affected residents. This bolsters social capital. Trust is forged through synergies. Four factors critical to the success of this process are (i) commitment to engagement in early, open and inclusive dialogue with affected communities and negotiation in pursuit of jointly agreed goals; (ii)





engagement with the implementers, statutory authorities; (iii) openness to learn and listen to communities and stakeholders; and (iv) adaptive design reflecting this learning.

Achieving a process which is seen to be fair and inclusive can also require a high level of input by local residents which developers may not be prepared to give. In some cases communities may not want a high level of input but research has shown they should be afforded a genuine opportunity. Win-win projects require the mutual provision of accurate unbiased information. This is a basic requirement and most residents will insist on this. Having the opportunity to have a real voice at the table is also a feature of win-win projects but this can be costly for communities and developers and the relevant authorities need to give some thought as to how these costs can be allayed.

Key words: Social license to operate, Local consent, Wind farm externalities, Distributional justice, procedural justice, Engagement, Social Capital, Community benefit.

1. INTRODUCTION TO THIS LITERATURE REVIEW

The Irish government has recently taken a number of steps to enhance community involvement in renewable energy initiatives. In an attempt to enhance social acceptance of wind energy and respond to distributive justice concerns, from 2020 the Irish government has specified a mandatory obligation by all developers to provide two euros per MWh in the form of community benefits as part of its Renewable Electricity Support Scheme (RESS) (Government of Ireland, 2020). The guidelines emphasise the requirement for increased compensation for those in close proximity to a wind farm reported in the literature (Brennan and Van Rensburg, 2016). New draft revised wind energy guidelines also indicate that outcomes of future planning applications may be affected by the performance of a developer in terms of their interactions with communities (Government of Ireland, 2019a).

To date, many wind farm developers use quite different strategies regarding consultation and benefit arrangements with communities, and not all affected individuals are offered benefits. These statutory initiatives are designed to create a level playing field among developers and deploy a consistent approach with regards to community benefits and consultation. In the 2014 Green Paper on Energy Policy in Ireland provision has also been made to enable Irish citizens to become renewable energy prosumers and to

strengthen their involvement in the low carbon transition (Government of Ireland, 2014).

There are many reasons why consultation, engagement and benefit arrangements might matter. The literature is explicit in relation to the importance of providing unbiased information about a development and exercising fair and inclusive decision-making processes for local communities and stakeholders (Ottinger et al., 2014; Aitken et al., 2016; Walker and Baxter, 2017). This review aims to improve our understanding of the relationship between wind farm developers, affected communities and statutory authorities. This is important if Ireland is to make good its comparative advantage for the production of wind generated renewable energy as a low cost means of complying with EU energy targets (Tol, 2012). This topic is widely acknowledged in the literature and considered by the IEA under Wind Task 28.

The review is cognisant of the national priorities as indicated in the Strategy for Renewable Energy: 2012-2020 namely to ensure a steady increase in renewable electricity consumption from wind farms (Government of Ireland, 2012), as well as the Energy White Paper goals on enhancing social acceptability and community engagement (Government of Ireland, 2015).

Despite widespread public acceptance at a national level, renewable energy projects at a local level can be fiercely contested. Like many western countries where land is scarce, conflicting multiple uses compete for available space, affected residents can oppose new wind energy projects and the term Nimby (Not in my back yard) has been widely used in the literature. However, studies have demonstrated the term Nimby to be an inaccurate and counterproductive description of wind farm opponents (Devine-Wright, 2005) and it is recommended that the term be disregarded (Rand and Hoen, 2017). The term, unfortunately, is still widely used in practice. Evidence on the ground suggests that the manner in which the renewable energy industry engages with affected communities can make a big difference to social and community acceptance (Brennan and Van Rensburg, 2016).

The term social license to operate (SLO) has gained significant traction in the literature associated with large mining and mineral exploration projects but has recently focussed on several wind farm projects. A

Social License is defined as the level of acceptance or approval by local communities and stakeholders of an organisation and its projects. It reflects the quality of the relationships between a project team and their stakeholders, a sense in which affected communities give their consent and ultimately their enduring support to the project.

Literature on the acceptance of wind farms have identified both a "social gap" (between support levels recorded in national surveys and heightened levels of opposition for local projects) and an "individual gap" (between an individual's support for wind energy nationally and their opposition to a specific local site) which hinders wind energy development (Hall, 2014; Bell et al., 2005; 2013). The adoption of SLO may be an effective methodology in reducing these gaps given its effective use in the mining industry where high levels of trust were required to obtain a high level of acceptance (Moffat and Zhang, 2014).

Table 1 below shows this Social License ranging from withheld or withdrawn the whole way through to support for the project in question.

Table 1. Quality of relationships is represented by the Level of Social License



The group from whom the project seeks consent perceive the project proposal to be:



In what follows we consider three approaches that can be used to develop wind farm projects in Ireland. These are legally compliant projects; accepted projects and win-win projects. This seems a reasonable way to capture the diversity of approaches used in Ireland under different ownership arrangements.

We evaluate these approaches in terms of their response to important concerns raised by affected communities including wind farm externalities (Brennan and Van Rensburg, 2016), distributional justice, procedural justice, wind farm governance and the engagement process. We also give voice to concerns raised by communities about the efficacy of wind farms to have a meaningful positive impact on sustainability.

This literature review is in support of the creation of a model and guidance to earn a Social License for wind projects in Ireland via a near-neighbour and developer agreed engagement process to create win-win wind projects. To this end we evaluate key aspects of these approaches which can enable developers and affected communities to successfully deploy locally accepted wind energy projects.

At a practical level the review can have a direct impact on wind farm developers and other stakeholders since it will: 1) demonstrate how wind farm developers can involve communities in actual wind farm projects, and 2) enable developers with a particular interest in taking the necessary steps to build enduring long term partnerships that are ultimately endorsed and promoted by their communities as sustainable energy solutions in which they are proud to have played a part.

In terms of policy, the review will identify strengths, weaknesses and



opportunities for the Irish Government by reflecting on best practice, drawing on the international literature, examples and feedback from the field and the experience of the researchers involved.

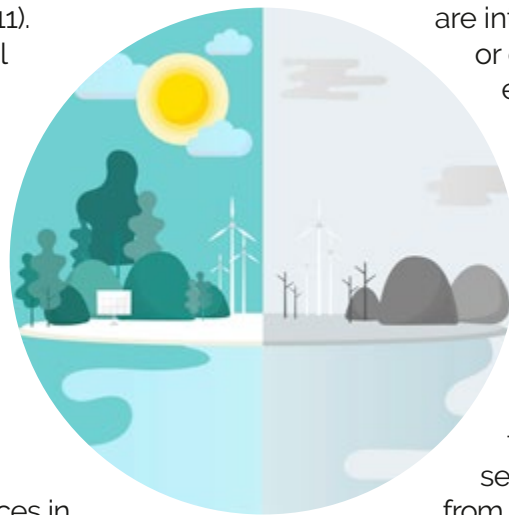
The aim of this report is to:

1. Conduct a review of the relevant social acceptance and SLO literature involving energy, natural resources or infrastructure projects in order to inform a participatory wind energy SLO process and support scheme (SDSS) for Ireland.
2. Critically evaluate three approaches (legally compliant project; accepted project; win-win project) to Irish wind farm development in terms of social and community acceptance and a SLO.

The early part of the review considers externalities, distributional and procedural justice and engagement. We then report on three approaches that could be used to build wind farms in Ireland. Finally, conclusions and recommendations are drawn. An important question to consider is whether internalising wind farm externalities matters for achieving a SLO. In what follows we define externalities and then consider the SLO literature that covers these.

2. EXTERNALITIES

An external effect is said to occur when the production or consumption decisions of one agent affect the utility or production possibilities of another agent in an unintended way, and when no compensation is made by the producer of the external effect to the affected party (Perman et al., 2011). Externalities are a social problem because they cause markets to be inefficient, and thus fail to maximize total surplus or to allocate resources efficiently. Simply put externalities are a form of market failure. Externalities are not priced so the price mechanism cannot be used to allocate resources in the normal way. Externalities can be positive or negative. Nitrate pollution into rivers is an example of a negative externality. There is no price on nitrate pollution (in the absence of government intervention) by which the pollution generator or the sufferer can allocate an amount of pollution, and so the generator can generate pollution at no cost to themselves. Wind farms produce positive and negative externalities. Examples of positive externalities include low carbon emissions, displacement of highly volatile fossil fuel prices and national economic stimulation. Examples of negative externalities in the context of windfarms include the negative impact due to noise, shadow flicker, landscape and property price impacts on near neighbours. There are additional negative social impacts including split communities (between



those who gain and those who lose) and community disempowerment due to not being meaningfully involved in the decisions that impact them. One solution is to place a monetary value on the externalities and formulate relevant regulatory policies to ensure they are internalised (addressed or compensated) by the externality generator. This will address the problem of market failure and the loss of welfare imposed by the externality. There appears to be a strong correlation between a negative local response to wind farm development and a sense of imposition arising from a lack of engagement on all relevant decisions and appreciable benefits provided directly to the community (Gaynor and Walsh, 2018). Internalising the externalities that are generated by a wind farm and providing compensation can have a major impact on obtaining a higher level of SLO.

An excellent overview of wind farm externalities is provided by Zerrahn (2017). Moran and Sherrington (2007) also provide an useful case study in Scotland illustrating how wind farm externalities can be incorporated into a cost-benefit analysis to support decision-making. A more detailed literature review is provided below for more specific studies focused on externalities linked to social and community acceptance of wind farms or externalities that are linked to the concept of achieving a social licence to operate for wind farms.

2.1. THE SOCIAL CHALLENGES OF WIND ENERGY

Social acceptance of wind energy projects, both onshore and offshore, is recognised as a major concern in reaching our 2030 EU renewable energy targets and net-zero by 2050. Social acceptance has many definitions in the literature. For this project the definition proposed by Upham et al. (2015, p. 107) is used, which defines social acceptance 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 or organisation)”

Wüstenhagen et al. (2007) illustrate social acceptance of renewable technologies in terms of a three-dimensional framework, comprising (i) community acceptance, (ii) market acceptance and (iii) socio-political acceptance (see Figure 1). Processes within each of the three dimensions can influence the other dimensions (Wolsink, 2018), for instance opposition to a wind energy development at community level can have an effect on how local political support for the development is portrayed.

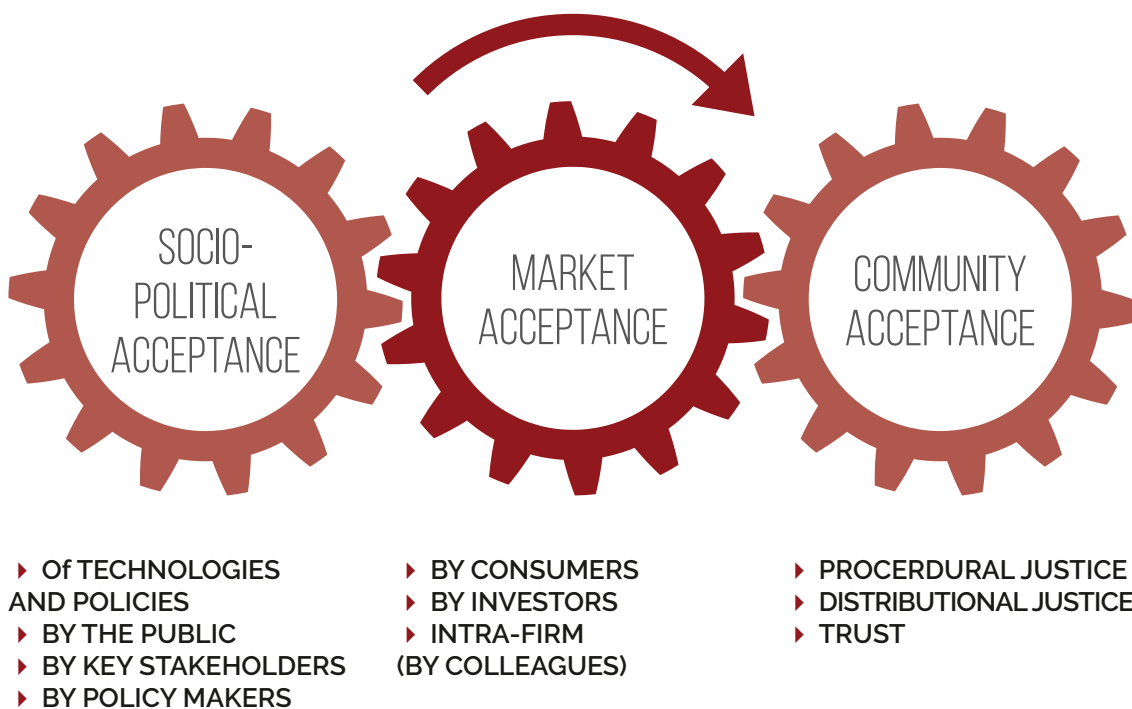


Figure 1: Three dimensions of renewable energy technology social acceptance. (Source: Adapted from Wüstenhagen et al., 2007).

However, socio-political acceptance of wind energy has been acknowledged by the renewable energy commitments outlined in the Climate Action Plan (Government of Ireland, 2019b), while market acceptance has recognised the economic benefits of investment in wind energy, evident by the willingness of financial institutions to invest in such projects. Currently, community acceptance appears to be the most critical dimension (Ellis and Ferraro, 2016), posing a challenge to the Climate Action Plan targets.

For onshore wind it is widely acknowledged that wind energy development in general can face opposition due to concerns related to environmental and physical impacts such as turbine height, setback distance and number of turbines as well as fears over negative health and property price impacts (Onakpoya et al., 2015; Brennan and Van Rensburg, 2016; Dimitropoulos and Kontoleon, 2009). A good review of offshore wind farm externalities is provided by Ladenburg and Dubgaard (2007) and Ladenburg and Dahlgaard (2012).

For offshore wind projects, project proximity and the expected view of a project from an individual's home are two major factors which contribute to whether communities will support them or not. The support or opposition towards offshore wind farms have geographic and social components (Firestone et al., 2012). This paper actually states that individuals who live in close proximity to the offshore wind farm are more supportive than those out of view of the projects. This statement would contradict the expected idea of a NIMBY. The key negative externalities which will affect the support of projects specifically for offshore include negative impacts on the visual aesthetic aspect of the ocean area, marine and bird life, property devaluation and fishing.

With regards to social and institutional factors, community acceptance may be increased if a wind farm project provides positive outcomes for the local area, either through financial benefits including community benefit arrangements, share schemes, community development or increased employment (Bidwell, 2013). Cass et al. (2010) found a positive relationship between personal benefit/impact and support for a project. This can often be necessary, but not sufficient. Evidence compiled for a IFC (World Bank) report as far back as 2010 concluded that: "Money can't buy you love. A multi-year study of over 60 international companies operating on five continents concluded that there is no correlation (and sometimes even an inverse correlation) between the amount of money a company spends on community projects and the quality of their relationship with the community" (IFC, 2010). An open and transparent planning process can also increase local acceptance (Hall et al., 2013; Gross, 2007) as well as early stage local involvement in the wind farm project design (Hammami et al., 2016). Community representation has also been highlighted in the literature as a methodology for ensuring a fair process and increased engagement (Brennan and Van Rensburg, 2016). Several studies on social acceptance suggest that co-ownership and cooperation between wind farm developers and the state or residents can lead to greater acceptance of projects, however, residents who view developments in a negative light may be more opposed to community wind farm projects being implemented (Firestone et al., 2015). An increase in exposure of wind farm communities to the negative externalities may be compensated through the improved concentration on procedural and distributional aspects. Individuals who

have been exposed to successful projects are more likely to have a positive attitude and offer an increased SLO than those that are unfamiliar with wind farm developments in their community. Some individuals may place a higher weight on the effects of negative externalities than others who have had past experience with them (Liebe et al., 2016).

A review of onshore wind energy acceptance literature, predominantly in the US, over the last 30 years carried out by Rand and Hoen (2017), summarised their findings into six overarching themes;

► **Socio-economic aspects (positive and negative economic aspects, including distributional justice)**

Socio-economic aspects of wind energy development have very strong influential effects on local community acceptance. Positive economic aspects include: infrastructure developments, such as local road improvements for onshore projects or harbour and port improvements for offshore projects; increased employment; increased rates and taxes for local authorities; landowner lease payments or compensation for use of land (onshore); local ownership and investment opportunities; community benefit funds for hosting developments.



Negative economic aspects include: perceived impacts to tourism (Devine-Wright and Howes, 2010); property devaluation; construction traffic impacts; impacts to fishing (offshore) (Reilly et al., 2015). Distributional justice: the distribution of the costs and benefits from wind energy developments, when perceived to be unfair, can irritate communities to the point of conflict causing divisions within communities, particularly when landowner payments for hosting turbines aggrieve neighbours with impacts not in receipt of such payments (Gross, 2007); offshore wind energy developments pose financial implications for fishers and coastal tourism in terms of costs, risks and benefits, depending on the chosen perspective. Fishers concerns relate to job security (Reilly et al., 2015), while coastal towns and villages fear loss of income due to reduced tourism potential (Devine-Wright and Howes, 2010). However, offshore wind energy development may offer certain benefits to both fishers and coastal tourism through the provision of artificial reefs and new sea angling habitat (Alexander et al., 2013), as well as improvements to harbour facilities and marine infrastructure (Reilly et al., 2015).

► **Sound annoyance and health risk perceptions**

Health impacts, or potential health impacts, to local communities in terms of shadow flicker, electromagnetic field (EMF), noise, amplitude modulation, tonality and infrasound are reported in the literature as sources of annoyance (Hübner et al., 2019; Onakpoya et al., 2015; Hansen and Hansen, 2020).

► **Visual/landscape aspects, annoyance and place attachment**

Perceived impacts to landscapes and seascapes from wind energy developments, and lack of engagement on the layout to mitigate these, have

been found to be a dominant factor negatively influencing attitudes towards wind energy developments among local communities (Devine-Wright, 2005; Wolsink, 2007).

► **Environmental concerns and attitudes**

Local environmental damage to wildlife and landscapes/seascapes are common motivations for opposition towards wind energy developments (Gill, 2005).

► **Procedural justice (perceptions of planning process, fairness and trust)**

Engagement processes with local communities, and how they are carried out by developers during the planning stages of developments, are shown to be key influencing factors on community acceptance levels (Langer et al., 2018; Klain et al., 2017; Gross, 2007). The relationship between trust in the developer and attitudes of support or opposition towards a wind energy development can hinge on procedural justice (Jobert et al., 2007).

► **Proximity hypothesis (distance from turbines)**

A hypothesis of many studies has been that those closest to wind energy developments will have the most negative attitudes towards the local wind farm. The literature has shown mixed results to this theory with some evidence suggesting a positive correlation between distance from turbines and increasing positive attitudes (Thayer and Freeman, 1987; Swofford and Slattery, 2010; Brennan and van Rensburg, 2016), while studies, such as, Warren et al. (2005) found that attitudes among residents living in close proximity became more positive due to familiarity, in addition to the evaporation of perceived impacts that did not materialise when the wind farm became operational, particularly relating to noise. It is possible that additional

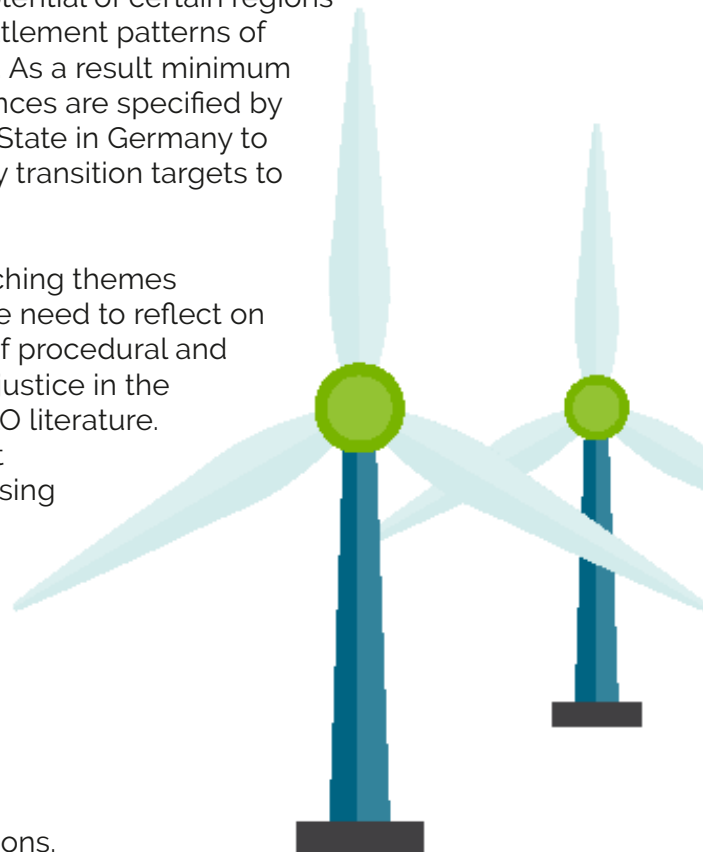
factors may not be accounted for in this study, such as the level of information sharing and engagement, landowner payments or other economic benefits. However, Warren et al.'s (2005) findings support the U-shaped acceptance curve outlined by Wolsink (2007), as well as the findings reported by Liebe et al. (2016) who found respondents, in both Germany and Poland, aware of turbines in their locality were more accepting of proposed wind farms. Firestone et al. (2012) found that often individuals with a view to an offshore wind farm from their residence can be more supportive than those with no direct view of the turbines. However, Ladenburg and Dubgaard (2007), using stated preference technique, found that most participants were willing to pay additional electricity costs to site future offshore wind farms further from the Danish coast to reduce the visual impact.

The effects from proximity to turbines differs greatly between onshore and offshore. The impacts from onshore turbines on near-neighbours (0 – 2km) as a result of noise, amplitude modulation, tonality and shadow flicker can vary greatly between residences and individuals due to many factors, such as topography, aspect of residence, prevailing wind direction, and even differences between individuals' acoustic spectrum (Hansen and Hansen, 2020). In addition perceived economic effects like property devaluation can vary between developments, but tend to impact near-neighbours most severely (Gibbons, 2015). The inconsistencies in some of the above points to the fact that the subject is more complex than it is often given credit for and this will be covered in more depth in the Guidance Document produced as part of this RD&D programme.

The issue of setback distances is well established in the literature

(Ladenburg and Dubgaard, 2007) indicating increasing exposure to externalities felt by those near to a wind farm. In response to societal resistance, setback legislation has been introduced in Ireland and the UK. The setback distance between turbines and residences (not associated with wind farm developments) in Ireland is subject to a 'mandatory minimum distance of 500m or 4 times the tip height between a wind turbine and the nearest point of the curtilage of any residential property' (Government of Ireland, 2019a, p. 129), as well as compliance with noise limits. In spatially scattered populations such as Ireland, the requirement of setback to protect near-neighbours should not be influenced by the renewable energy targets of the nation. Masurowski et al. (2016) illustrated the effects different 'setback distances' have in Germany, finding that even slight differences in minimum distances can greatly reduce the energy potential of certain regions due to the settlement patterns of those regions. As a result minimum setback distances are specified by each Federal State in Germany to enable energy transition targets to be reached.

These overarching themes emphasise the need to reflect on the concept of procedural and distributional justice in the light of the SLO literature. Again, to what extent addressing distributional and procedural justice concerns is necessary to earn a SLO. This is the subject of the next two sections.



2.2. WHAT IS MEANT BY DISTRIBUTIONAL JUSTICE?

In the previous section emphasis was placed on welfare effects regarding wind farm development. These elements include: distributive justice, which relates to the equitable distribution of benefits; and procedural justice, which concerns whether or not the process of taking decisions about a proposed development is viewed as being fair (Gross, 2007; Hall et al., 2013).

Walker and Devine-Wright (2008) outline these aspects of fairness in planning and outcomes by indicating a space within which a commercial or community wind farm might operate:

The vertical process aspect dwells on who develops and operates the wind farm, who makes decisions, who has influence over the project. It could be

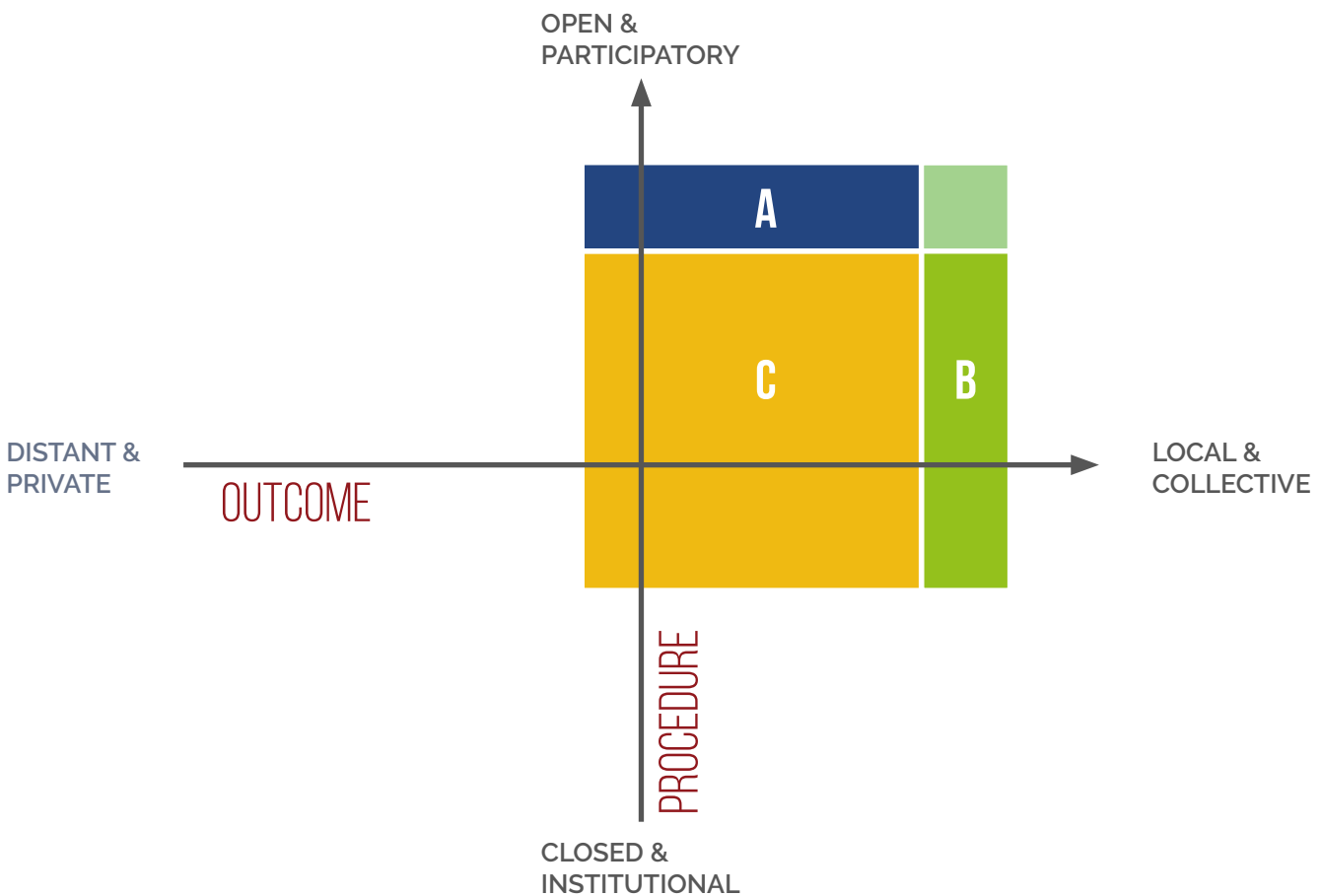


Figure 2: Understanding of community renewable energy in relation to project process and outcome dimensions (Source: Walker and Devine-Wright, 2008).

open and participatory, transparent in its implementation and planning, incorporating and soliciting the opinions and influences of a wide range of stakeholders; or one which is closed and institutional, in which only private operators have influence over the wind farm's design and operation.

The horizontal outcome relates to project beneficiaries. These benefits could be local and collective, with the majority of the benefits accruing to those near the wind farm, or distant and private with the benefits being received by owners or investors who are not connected to the area where the wind farm is located. A regular privately operated wind farm would be located in the bottom left of the space whereas a "community" wind farm would be located at the top right of the diagram. Community projects may comprise:

- ▶ high levels of involvement from local residents in wind farm establishment and operation (A)
- ▶ placing most of the project benefits mainly in the surrounding area of the wind farm (B)
- ▶ a project which leads to benefits locally, regardless of the extent of these benefits or the degree of involvement from residents, could also be considered a community project (C)

Distributive justice in the case of wind farms is concerned with an equitable distribution of outcomes from a project and often becomes important due to local opposition arising from inequitable distribution of costs and benefits. Although the wider benefits of wind power developments may be evident nationally or internationally in the form of climate protection or greater access to cheap renewable electricity for consumers, the external costs including landscape impact, noise and potential health or property price impacts are borne at the local level by individuals near the development.

Thus, distributional justice is related to externalities in the sense that the inequalities may not have been addressed by the developer (in the economics jargon they have not been internalised). It is important to be clear though that community benefit schemes or other arrangements that are used for internalising wind farm externalities are not a bribe. They only become a bribe when the level of compensation (to a community or an individual) exceeds the external cost to them. The community benefit model for onshore wind energy developments being implemented through RESS is similar to the Danish context (Gaynor and Walsh, 2018). In Denmark, developers of turbines exceeding 25 metres in height are required to offer a payment to individuals living adjacent to wind farms. A 20% equity must also be offered to residents permanently residing in an area located within 4.5km of a project site. These fees incentivise developers to create more wind farms in low population density areas. Liebe et al. (2016) find some evidence from Germany to suggest that high levels of wind farm exposure appear to have a lower level of acceptance for new wind farm projects in their locality. A decrease in wind farms does not affect acceptance levels. The level of acceptance appears to be affected by the high levels of inequality in distributional justice there (Liebe et al., 2016). In Ireland, individuals residing close to the wind farms are capable of making monetary trade-offs for the creation of the wind farms. Less compensation may be required in the presence of community representation due to the fact that affected individuals value a community representative (Brennan and Van Rensburg, 2016).

A related term much discussed in the wind farm literature is procedural justice, a subject to which we now turn.

2.3. PROCEDURAL JUSTICE

Procedural justice has less to do with the distribution of benefits, costs or welfare as such, but rather with decision-making processes and the extent to which affected residents are involved in these processes. A helpful account is given by Gross (2007) who outlines five key conditions that should be met. This indicates that (1) affected residents should be fully involved in the process, (2) heard (be given a voice), (3) be provided with relevant unbiased information and (4) the impartiality of a decision-maker, and (5) provided with decisions that respond to information. These conditions will need to be tailored to the individual development. It is possible that some of these conditions could be met but not others. In some instances, residents may simply want accurate unbiased information about a development through various media with an emphasis on consultation. Such consultation should be responsive to their needs, where they are respected and fully engaged in the process but are not interested in influencing project design. They just want to be informed. In others, affected individuals might want to be fully involved in decision-making processes that actually influence wind farm design and deployment. They are prepared to help form and be part of committees and forums which influence wind farm design, how it is rolled out, with a wish to remain fully involved throughout the life of the project. They may expect higher compensation levels or benefits as a consequence, or may understand better why compensation levels or benefits are not as high as they

originally thought they should be. Findings from the literature suggest engagement is important. It is known that residents can indicate stronger willingness to pay for a new wind farm if they are involved in the planning process (Ek and Persson, 2014). If fundamental key elements of these procedural justice conditions are not met, local residents may not perceive the process to be fair or project outcomes as legitimate even if they are positively disposed toward wind developments.

Cowell et al. (2012) suggest that wind farms can create negative impacts around them which may not be distributed equally in society but may be borne by those closest to the turbines. These areas tend to be places that have experience in environmentally damaging activities such as coal mining, oil and gas exploitation. The provision of benefits should be viewed as a method of increasing justice for those in the surrounding area of a development who disproportionately bear the costs of the project.

Distributive justice has also been discussed by Hall et al. (2013) with respondents in their study pointing to approaches for a more equitable distribution of project benefits for residents in the wider community. This study also lays emphasis on procedural justice, with respondents indicating preferences for open, participatory and transparent planning processes (Figure 3) such as forms of engagement requested in this study, from the pre-proposal stage to the finished project.



Figure 3: Recommended Consultation stages (Source: Adapted from Hall et al., 2013)

In this model as depicted in Figure 3 Hall et al. (2013) suggest that to address procedural justice concerns, local residents need to be actively involved in the engagement processes and have a real and significant influence over the decision-making process.

This implies involving affected residents early on, opening up channels for accurate unbiased information and effective personal one-on-one communication, use of local representatives and local government and development of different media for effective communication.

An interesting approach discussed by Ottinger et al. (2014) includes a collaborative governance (CG) model, within which stakeholders develop the governance characteristics of the deliberative process. This could include professionally conducted meetings with multiple stakeholders, with developers plans not set in stone as inputs, and be sufficiently open to allow for plan revisions subject to

concerns of affected residents.

This process would represent rung 7 (delegated power) on Arnstein's ladder of citizen engagement outlined below (Arnstein, 1969). These steps accord well with the process needed to build a strong SLO in practice.

These two studies highlight the importance of distributive and procedural justice in terms of community and social acceptance of wind energy in other jurisdictions. The perception of a fair process is underpinned by engagement and interaction between local residents and wind farm developers which is discussed next.

Arnstein's 1969 work on social programs in the US is relevant in so far as it provides a framework by which meaningful engagement can be classified. It involves power sharing between power from the "haves" (the wealthy, those in power) to the "have nots" (the poor, minorities, those lacking power). In this work, 8 stages or "rungs" on a ladder of citizen participation are depicted.

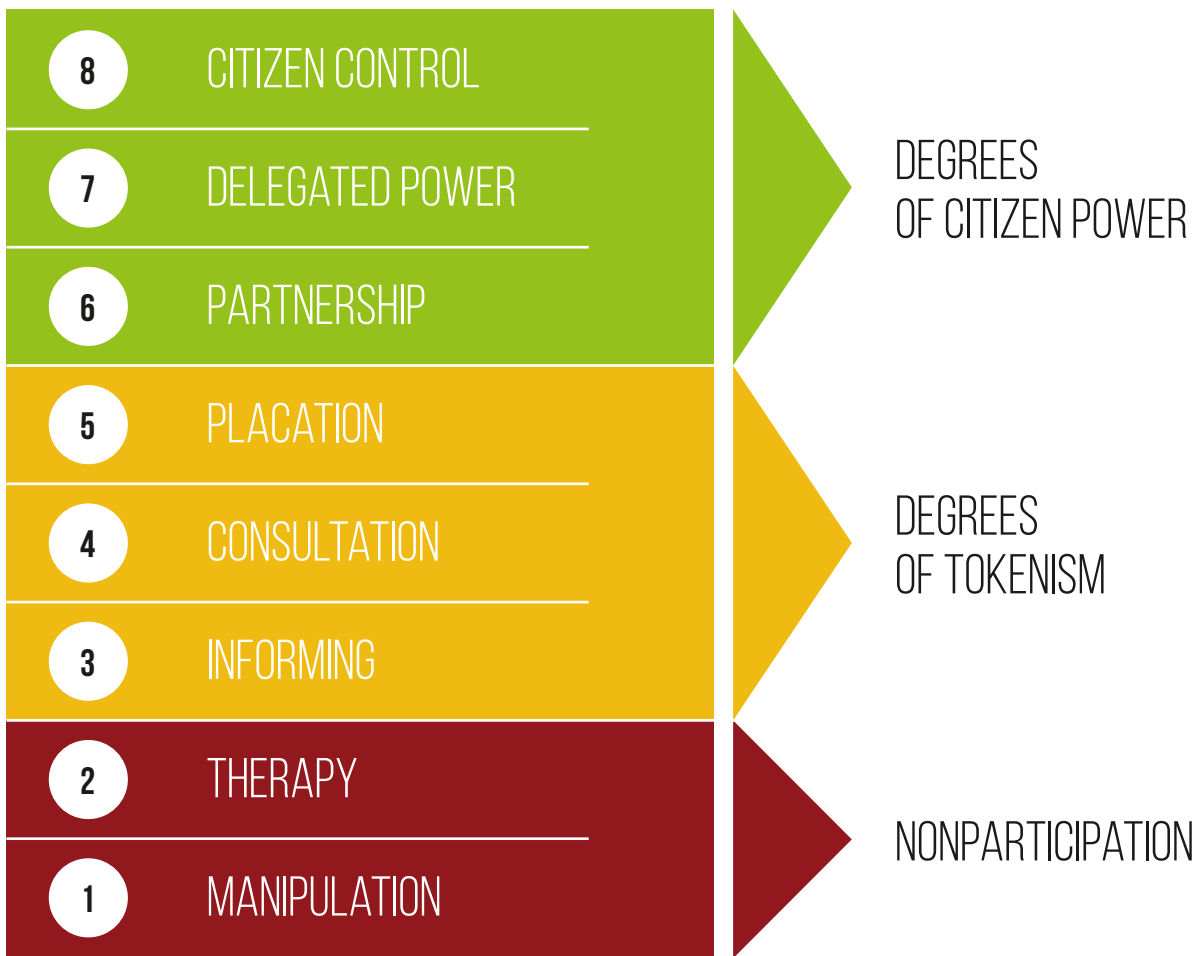


Figure 4: Arnstein's ladder of citizen participation (Source: Arnstein, 1969).

The bottom rungs of the ladder involve manipulation and therapy, regarded as "non-participation" as their goal is not to "educate" or "cure" affected publics of their beliefs. This could involve advisory meetings as an exercise in support gathering.

The next three rungs are considered "tokenism". Affected individuals can have a say but the "haves" retain the final decision-making power. Informing residents is regarded as citizen participation and typically involves provision of newspaper articles, flyers and posters about the project and responses to enquiries about the project. Consultation still does not

guarantee that the public's opinion will be taken into account but it may involve attitudinal surveys, local meetings and public forums. Residents who engage in consultation achieve nothing more than "participation in participation". Placation does allow impacted residents some influence. An identified resident may be chosen to act in a decision-making position, though he/she can easily be outvoted.

Rungs 6-8 signify levels of citizen power. Power is redistributed through negotiation at the partnership stage. A developer and community might actively engage and negotiate over the planned project and is at its best

when the community is organised and has the financial capabilities and time to coordinate its own leaders, representatives or experts.

There is a sense in which joint decision-making influences and involves learning by all stakeholders not just the community. This is important. It should be noted then that within a Multi-Stakeholder Forum (MSF), the empowerment is not just of the citizens in the MSF but rather the empowerment is of the neighbours and the developers (or even stakeholders representing NGOs or statutory agencies) to take decisions in favour of both. This basic principle has received much attention in the extractive industries, and indeed in other diverse areas such as employment issues, supply chains and infrastructure projects. Standards such as the international standard for stakeholder engagement, (AA, 2015) and the OECD due diligence guidelines for meaningful engagement in the extractive industries (OECD, 2017) capture much of this.

Rung 7 represents the stage at which the residents have more decision-making power than the traditional "haves". When this occurs, the "haves" must bargain with the citizens. Here a wind farm developer may approach a community with a proposed development prior to the planning stage and to open negotiation, rather than announce a project post-planning.

The final rung on the ladder of citizen participation is citizen control. At this stage, residents have the power to govern a program or development, are in charge of policy and managerial characteristics and can negotiate fully with any "haves" involved. Community led wind farms are a good example but could still involve development and construction by private wind farm developers. In terms of the level and the distribution of project benefits residents have the final say (Arnstein, 1969). An important and related term to engagement is social capital, an issue to which we now turn.



3. SOCIAL CAPITAL

So why is social capital relevant to wind farm development? We can find social capital in stand-alone wind farm community groups that have successfully stopped wind farm developments. It is also embedded in advisory groups and multi-stakeholder forums involving very different interest groups, including the developer. Indeed, these groups often become 'bank accounts' for social capital. The concept of social capital implies links between forms of trust, social networks and personal attachments.

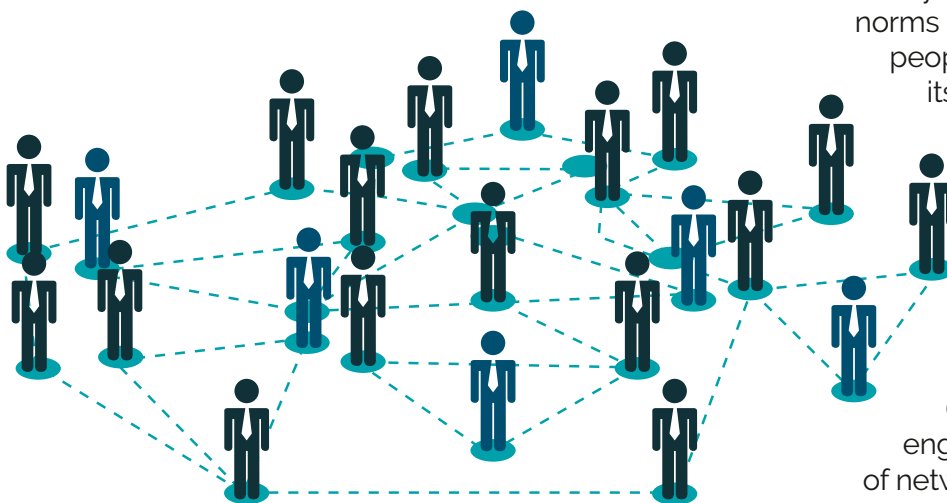
There are several different conceptualizations of social capital which emphasize different aspects of trust and social ties. See, for example, Coleman (1988; 1990) and Putnam (1995; 2000). Following Putnam:

"Social capital refers to connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them ... Trustworthiness lubricates social life" (Putnam, 2000: 19-21).

Coleman (1988; 1990) describes social capital as "the structure of relations between actors and among actors that encourages productive activities".

Wind farm developments may spur the formation of groups which are formed in an effort to examine both the risks and opportunities of a wind farm development or to support or even stop a development. Such groups can be considered as a form of network. Four of the main theorists who explicitly link the notion of social networks as a key determinant of social capital are Burt (1992; 1997; 2000), Granovetter (1973), Putnam (1993; 1995) and Coleman (1988; 1990). According to Putnam (1993), social networks can be instrumental in the formation of social capital. Whereas relations of trust and reciprocity are important elements of social capital, social networks can be thought of as the causal factors that allow these relationships to develop (Grafton, 2005).

Woolcock and Narayan (2000) also emphasise the significance of networks and they define social capital as "the norms and networks that enable people to act collectively". At its broadest, social capital entails associational activity; both formal (defined organizations) and informal (networks of friends, family, neighbours), trust, civic engagement, reciprocity, social sanctions and norms and cohesiveness (Woodhouse, 2006). Without engaging individuals in some form of network, the emergence of social capital is difficult.



3.1. SOCIAL CAPITAL AND SOCIAL NETWORKS

Wind farm forums can be seen as a form of network, linking stakeholders together through information-sharing, consensus building and dialogue. Social capital can be formed within these social networks. Figure 5 illustrates different types of network. Model B is illustrative of Coleman's conceptualization and Model C indicates Burt's position. Density in Coleman's view means the number of connections between individuals within a network, Model A shows a sparse network where there are no ties among individuals, whereas Model B shows a complete network where every member has a tie to all the other members of the network. This can be contrasted with

Burt's view of social capital in Model C. Here individual A is in an advantageous position because he holds the only network connection for individuals B, C and D. According to Burt therefore, the more structural holes within a network similar to Model C, the more social capital. Burt (1992) argues that social capital should be viewed as a lack of ties among an individual's network of friends. That is, the more linked an individual is to isolated others the more likely they are to enjoy information and control benefits. Granovetter (1973) also suggests that weak ties between individuals are important for the transfer of information between groups and across social divides.

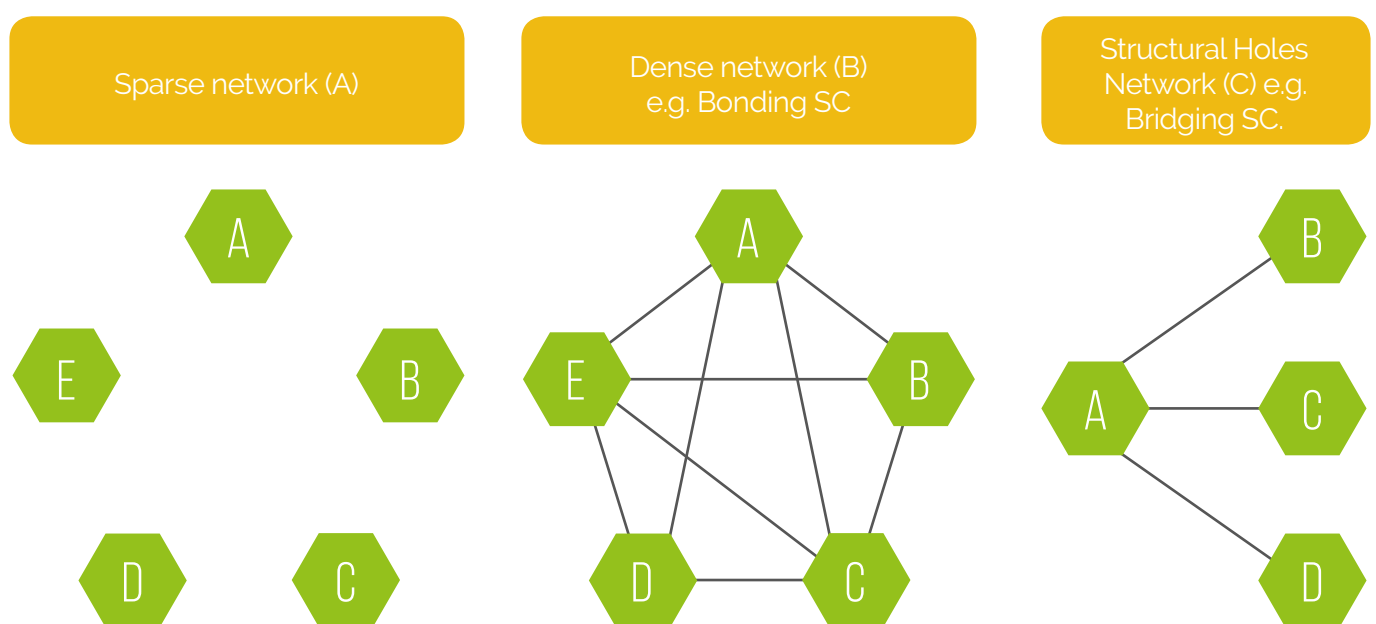


Figure 5: Network conceptions of social capital (Source: Adapted from Crowe, 2007)



In terms of wind energy, two important related elements of social capital are bonding and bridging social capital. Bonding social capital refers to the linkages between members of a relatively homogenous group (Woodhouse, 2006), for example family bonds, kinship groups, company bonds, concerned citizens bonds, etc. Bonding social capital is likely to be found in denser, more localized networks (Grafton, 2005). As Pretty and Smith (2004) note, bonding social capital is manifested in different types of groups at a local level such as credit groups, sports groups, forest and fishery management groups and literary societies, parent groups, near neighbour wind farm groups. Bonding social capital is crucial for the development of trust and co-operation among individuals and the development of norms and social

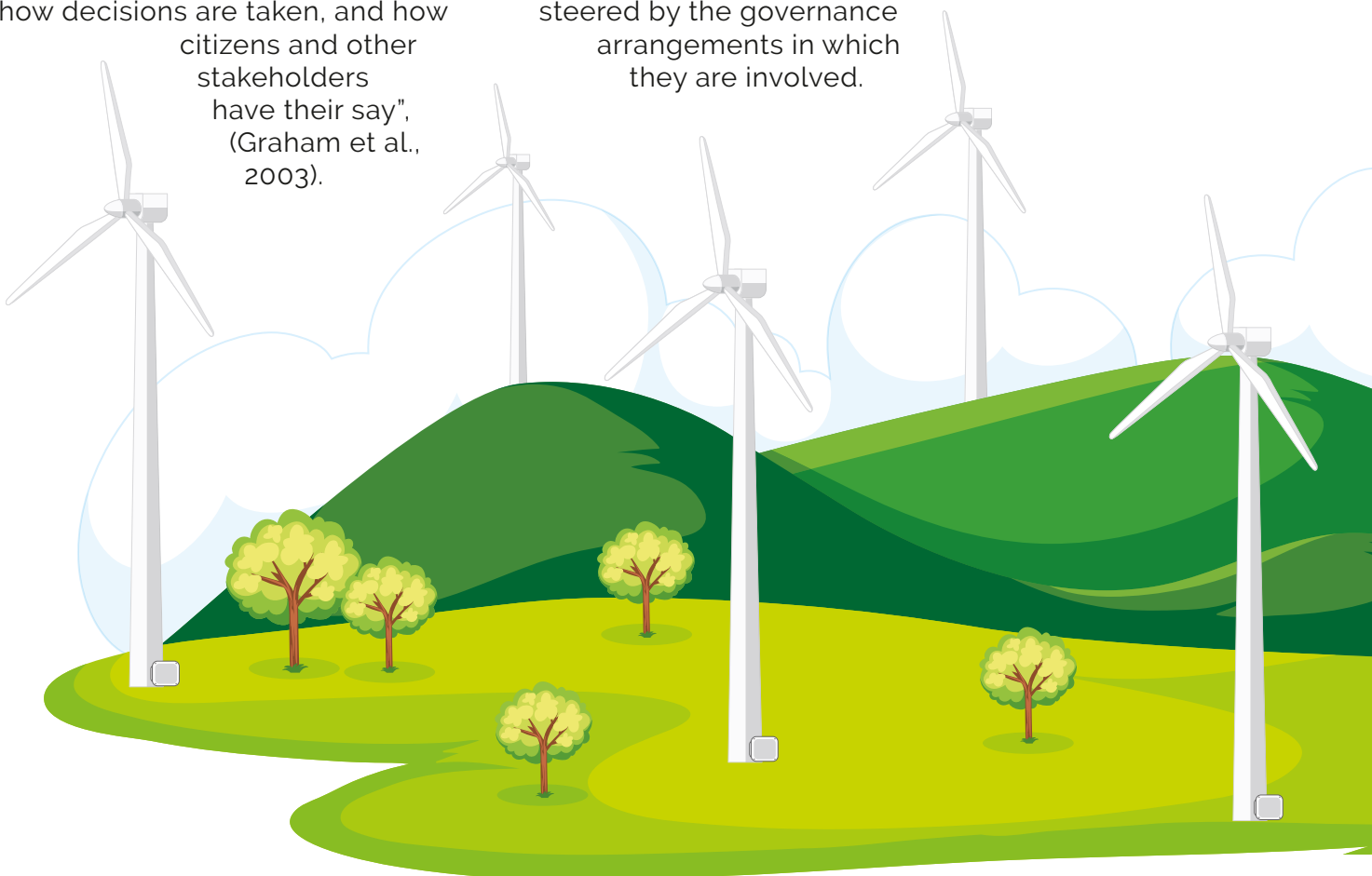
sanctions that arise from these relations.

Bridging social capital is different. This draws heavily on Granovetter's (1973) paper "the strength of weak ties". Bridging social capital entails a more diverse form of social network and encompasses weaker social ties than bonding social capital. Bridging social capital is concerned with linkages across similar, but different groups or social networks (Grafton, 2005). Such groups can include people of different occupational, experience and geographical backgrounds. Bridging social capital can be described in different ways. For example, Portes (1998) describes it as networks that cross demographic divides, whereas Woolcock and Narayan (2000) describe it as the capacity to access outside resources.

4. WIND FARM DEVELOPMENT, GOVERNANCE AND INSTITUTIONS

The extent to which engagement between developers and near neighbours addresses some of the concerns raised in section 2 will depend on the governance process around how decisions linked to a wind farm proposal are made. We define governance as "the interactions among structures, processes and traditions that determine how power and responsibilities are exercised, how decisions are taken, and how citizens and other stakeholders have their say", (Graham et al., 2003).

Institutions are the rules of the game (North, 1991). Institutions, both formal and informal, influence access to and control over natural resources by establishing who is involved in decision-making, what they are allowed to do and the type of information provided. The rules influence the values and interests of the various actors involved. Stakeholders both steer and are steered by the governance arrangements in which they are involved.



5. WIND FARM PROJECT TYPES AND SOCIAL LICENCE

Having discussed a good deal of theory on the topic we now consider its application in practice. There are a wide variety of approaches used internationally to address the challenges associated with community acceptance and it is beyond the scope of this paper to capture them all. In what follows we propose three broad categories to capture the main approaches of relevance to Ireland shown in Table 2: Legally compliant projects; accepted projects and supported win-win projects with high local consent and this section is particularly relevant to objective 2.

We discuss these three perspectives in terms of the criteria listed below:

I) Community/near - neighbour externalities internalised; Societal

compensation of externalities; Distributional justice; Procedural justice - residents should be fully involved in the process, heard (given a voice), provided with relevant unbiased information, have access to the impartiality of a decision-maker and provided with decisions that respond to information.

II) Social capital - trust within and between stakeholders, bonding and bridging social capital and sustainability.

III) Governance arrangements - governance process, who is involved, level of stakeholder involvement, what they do, institutional development, informal, formal. Links to conflict, legitimacy of process, accountability, participation.

Table 2: The types of projects corresponding with the different levels of Social License

LEGALLY COMPLIANT	ACCEPTED PROJECT	SUPPORTED WIN-WIN PROJECT
<p>Project design and planning process conducted to the letter of the law.</p>	<p>Legally compliant plus all project impacts are transparently acknowledged and addressed, and RESS is applied in a locally appropriate fashion.</p>	<p>An accepted project plus the project design embraces synergies between the sustainable development of both host community and developer.</p>
<p>Project co-designed Participatory Assessments – community, economic, environment</p>		
<ul style="list-style-type: none"> • Identification of sites for potential wind turbines • Listening, introductions & information sharing • Near-Neighbour Group • EIA & Planning scoping process • Land Access Approach • Multi-Stakeholder Project Forum 	<ul style="list-style-type: none"> • Participatory Impact Assessment • Agreement that impacts can be resolved • Value-adding project partnerships: community, business, technical & environmental 	<ul style="list-style-type: none"> • Community Benefit Fund working group • Agreeing the RESS & Community Benefit Fund approach • Thresh out a win-win project design. • (See the '12 steps to Local Consent' for details)
<p>Listen / Inform / Consult</p>	<p>Involve / Negotiate</p>	<p>Collaborate / Empower</p>

5.1. LEGALLY COMPLIANT PROJECT

Community engagement by wind farm developers in Ireland follows the guidance of the Planning and Development Act, 2000 - as amended - (Government of Ireland, 2000), and the soon to be finalised Draft Revised Wind Energy Development Guidelines (Government of Ireland, 2019a).

An appraisal of external costs borne by the community or affected residents is rarely undertaken. Communities can be compensated as can near neighbours but this is typically done on a case by case basis with no formal statutory requirement to do so, albeit this will change with the forthcoming RESS legislation. A variety of approaches have been deployed including community benefit schemes, provision of local amenities, infrastructure development, share schemes and local employment but in many cases near neighbours who are very compromised in terms of welfare effects have not been compensated and many local residents may not be aware of any benefits (Brennan et al., 2017). The focus is largely on compensation for use value, no provision made for non-use value (Moran and Sherrington, 2007). A fee is typically charged to wind farm developers by local authorities and a rental fee is paid to landowners if the developer has not bought the land.

The distribution of benefits varies significantly by wind farm and may be related to ownership. In some cases

where local farmers own the wind farm the benefits are distributed nationally and locally. The wind farm portfolio in Ireland is predominantly in the hands of the private sector. Unless specific arrangements are made in this model the benefits by large utility scale Irish wind farms are mainly national and international.

Procedural justice concerns are considered to be very important in Ireland (Brennan and Van Rensburg, 2016). In the legally compliant approach to date, wind farm development's community engagement and consultation has predominantly involved 'tick-box' exercises, or 'decide-announce-defend' methods (Wolsink, 2000) at pre-planning application stage, in compliance with the legislation. This typically involves developers informing local communities of projects that have already essentially been designed. This allows for limited community involvement in how this project might be changed in response to community concerns or add value to the local community (Aitken et. al, 2016)

In this approach, communities may be heard but not really given a voice. Many wind farm developers have shifted away from announcing a proposed wind farm in a community hall as a single event towards providing information to individual households. The approach, however, still tends to be one of consultation rather than

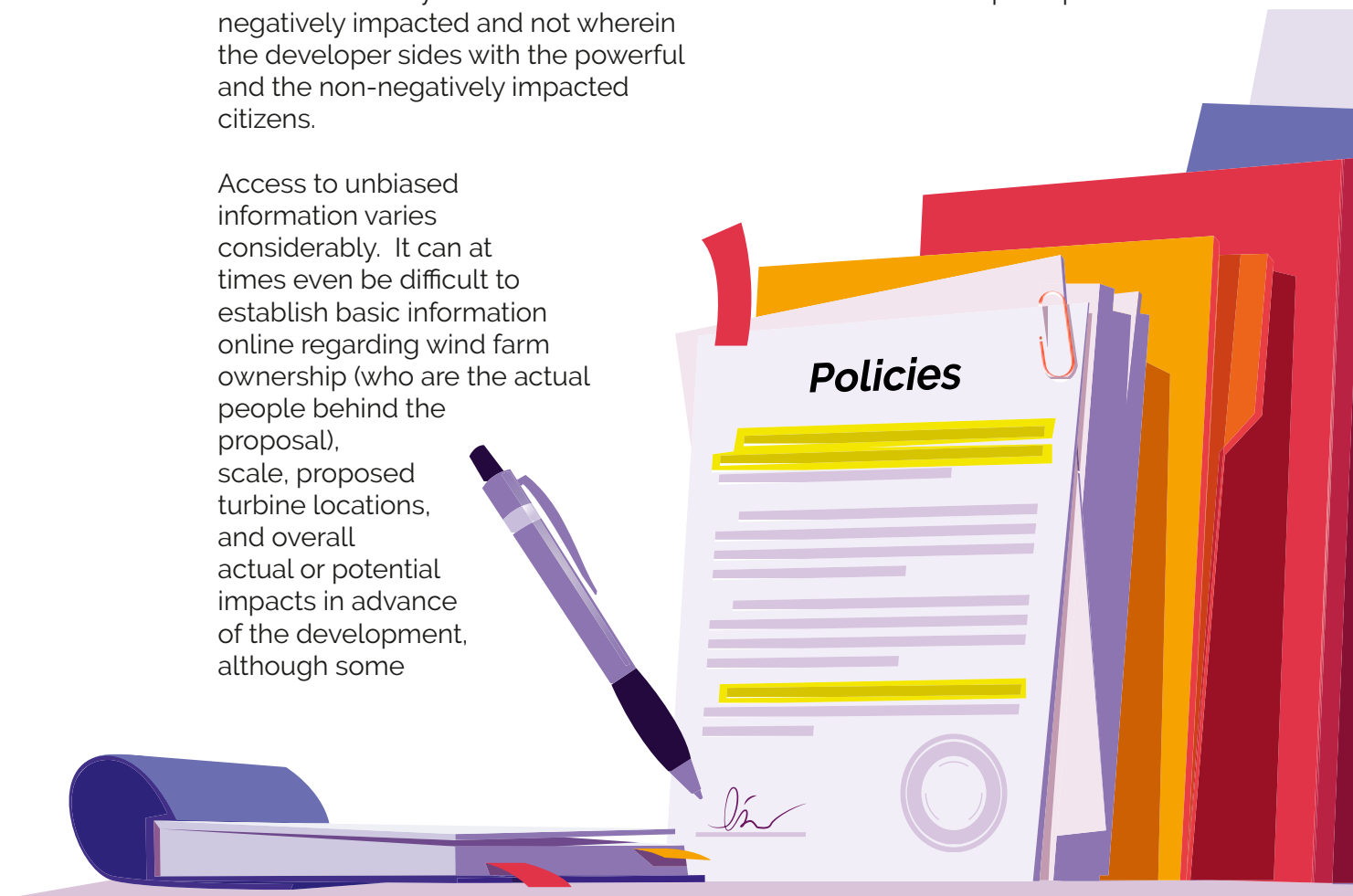
enabling affected residents to have a say in the planning and design of a wind farm, typically on the first 4-5 rungs of Arnstein's ladder (Arnstein, 1969). This method of engagement tends to cause negative feelings within communities, due to the disempowerment from lack of involvement in the decision-making process, and the feelings of being dictated to by 'outsider' developers (Rand and Hoen, 2017; Wolsink, 2000).

In this model the split between the haves and have-nots does not necessarily go neatly down the developer – neighbour line as depicted in Arnsteins (1969) ladder. There can be a political dimension to this (Cass et al., 2010) in the form of a split between the more powerful and less powerful in the community and between those negatively impacted and not wherein the developer sides with the powerful and the non-negatively impacted citizens.

Access to unbiased information varies considerably. It can at times even be difficult to establish basic information online regarding wind farm ownership (who are the actual people behind the proposal), scale, proposed turbine locations, and overall actual or potential impacts in advance of the development, although some

websites are very good in terms of information provision.

An important issue raised by affected communities is having access to impartial decision-making, often asking that this be by an independent entity such as an ombudsmen. Affected residents may have questions regarding a development which they would like answered by an independent decision-maker who is not part of the development. This is rarely achieved in Ireland since an independent statutory authority has not been set up to do this, although in some cases concerns can be raised through local authority representatives or local politicians to which they may receive answers. The developers themselves tend to only focus on the potential positive impacts rather than the complete picture.



Research has shown how this lack of meaningful engagement leads to feelings of mistrust and negativity towards the developer, promoting opposition towards the development (Aitken, 2010; Klain et al., 2017; Macdonald et al., 2017).

In such instances social capital formation, rather than between host community and developer, takes place as bonding social capital where forums are established within a group of affected residents seeking solidarity in a campaign to request information. This is done to put pressure on a developer or statutory agencies to respond to their concerns, or in some cases in an attempt to stop the development. Trust can be quite high in such groups but there can be a mistrust of developers in

this model. Affected individuals can incur significant private costs in forming their own liaison groups to seek information or by way of challenging developments and in some instances communities can be left

very divided as a consequence of a development even if it does not ultimately go ahead.

In terms of governance, stakeholders can be isolated from one another in this approach and they may form their own homogeneous groupings involving minimal interaction between stakeholder groups. There is little attempt to formally include affected residents in key decisions that shape the design of the wind farm, let alone to offer voting rights or to share power or to play a major part in rule formation, although entities and rules may be created to disburse benefits via community benefit arrangements and they may be involved in this process. Formal decision-making structures and rule formation over the management of the development is largely in the hands of the developer and the links with statutory authorities. Affected residents react to decisions but they are not involved in steering them.

In essence the approach is to ensure legal compliance with statutory regulation and guidelines and formal rules. No attempt is made to earn a social licence by including citizens in decision-making or rule formation. These are largely done by the developer. The approach often lacks a strong local SLO, and can experience lengthy and costly delays during early stages of the development but ultimately many projects may succeed even if they are not backed by the community.

5.2. ACCEPTED PROJECT

Projects that are accepted by near-neighbours and communities typically undertake engagement measures above and beyond those which simply comply with the legislation and government guidance documents. The engagement processes through this approach tend to be more open and transparent, giving community members the opportunity of being included in the process. Additional expense borne by the developer during initial project stages, such as project-managerial interaction with the neighbours and near community, as well as investing time and committing to bi-directional engagement, de-risk projects from lengthy delays and litigation in the latter stages of the planning process. Providing bi-directional engagement enables community concerns to be heard and addressed before proceeding too far with the project design. These additional measures normally strengthen the trust that communities have in developers (Klain et al., 2017), although community members may still question developer motives behind fervent engagement, is it in pursuit of a fair and inclusive process to ensure the best possible balances between the various issues, or the prevention of community opposition (Firestone et al., 2020)?

Aitken et al. (2016) reviewed community engagement practices in the UK, classifying community engagement approaches into three categories: awareness raising; consultation and empowerment. A wide variety of engagement approaches were found, however, the majority of practices encountered in the study were based on consultation and awareness-raising methods. Consultation approaches

discussed by Aitken et al (2016) can be either one-way or bi-directional, and naturally it was found that bi-directional engagement leads to communities perceiving more meaningful engagement. Projects assessed in Aitken et al's review were selected as their engagement standards were higher than that required by the guidelines and legislation, similar to the accepted approach discussed in this review. Aitken et al's findings revealed that, although standards of engagement were higher than that required in legally compliant projects, developers retain control of the engagement processes during the consultation approaches. These approaches therefore equate to rungs 5 and 6 of Arnstein's ladder (Arnstein, 1969).

With the introduction of community benefit funds and citizen investment opportunities outlined in RESS, as well as developer obligations to produce a Community Report, there is a real opportunity for community access to unbiased information to improve due to the requirement on the developer to record and present all engagement and information provision details as part of the planning application (Government of Ireland, 2019a). The 2019 Draft Guidelines provide various recommendations on methods of information provision that developers can utilise, including, press releases, community newsletters and websites, social media, house visits and stakeholder forums or workshops. Experience in other extractive industries has shown that tick-boxing a long list of requirements may still not lead to meaningful engagement, and that

without the genuine desire to engage in an inclusive and responsive manner on the issues important to all potentially impacted stakeholders, conflict is still inevitable (IFC, 2010; OECD, 2017; AA, 2015).

Community access to impartial decision-making and factual, scientifically-based information, ideally provided by an independent statutory authority, has been identified as a service that could improve perceptions of procedural fairness. The rates and taxes paid to local authorities from wind energy developments can be quite substantial, therefore decision-making from local authorities could be judged as being biased. The use of advisory boards for near-neighbours and communities allows open and frank bi-directional discussions in relation to project concerns, however, the power extended to advisory boards tends to lack any decision-making authority (AA, 2015).

Increased engagement by the developer can help channel social capital within the community in the formation of co-operative social networks stemming from the wind energy development. Whereas when developers neglect to invest resources in relationship and trust building practices with communities, the resulting cohesion between community members, borne from developer and development suspicion, often channels social capital formation into wind farm opposition.

Economic benefits arising from wind energy development, such as



community benefit funds and increased local employment, have the potential to have lasting empowering effects within communities, when communities are permitted to participate in decision-making processes surrounding the design and implementation of community benefit funds (Aitken et al., 2016). Transparent and equitable distribution of economic benefits within communities is critical, as the literature has revealed that perceptions of disparity in the allocation of funds can be divisive within communities, causing additional conflict (Markantoni and Aitken, 2016).

This approach generally involves a higher standard of communication practices than required by legislation and guidance. More inclusive bi-directional engagement practices allowing communities to be heard enable many projects to earn a social license even though, the developers still retain full control over the process.

5.3. SUPPORTED WIN-WIN PROJECT

To maximise social capital between all involved parties, and so to minimise conflict, the optimal project outcome for both stakeholders and developers is often a supported win-win project. In this scenario, the developer creates a project which is effective and efficient, but by the same token the community identifies with the project, they feel that they are part of it and it genuinely contributes to the sustainable development of their community. Supported win-win projects strive to represent all four pillars of smart engagement, i.e. they are locally supported, environmentally compatible, financially successful and technically feasible. Achieving a project of this level may not require more effort (by the developer) than required to achieve an accepted project. But it does require more power-sharing for issues important locally, which in turn will require commitment from wind farm operators and their senior management to cede power and responsibilities which can be challenging and involves risks. From a governance perspective, this is crucial. It avoids the split between the more powerful and less powerful in the community and between those negatively impacted and those who are not. This is achieved by initiating a process to directly involve affected individuals in power sharing and decision-making.

On the ground, more collaboration and community empowerment is necessary to create such a project which can be considered a supported win-win

project. To enable efficient and effective representative decision-making, these steps often include the establishment and continued engagement of a multi-stakeholder forum (MSF) and the creation of project partnerships between all locally relevant elements of the project.

The benefits of achieving this level of support for a project are multi-fold. From the perspective of the community, having their voices heard and concerns fully addressed through mediated interactions can reduce internal community conflicts and contribute to community social capital and sustainable development plans, provided that engagement processes are well managed, inclusive and responsive on all material issues (Colvin et al., 2016). Furthermore, communities stand to benefit from the incorporation of thorough stakeholder engagement as they are better equipped to communicate their concerns and identify and tackle issues which are of true significance to the community (FAO, 2020). In a similar regard, there are many proposed benefits for developers of wind farms. There have been several studies which found that increasing the contribution of stakeholders to the decision-making process can result in projects which are more cost effective, increases joint gains and could create more innovative solutions to issues (Beierle, 2002; Hall, 2014; Ducsik and Austin, 1986). As such, the creation of a supported win-win project should achieve exactly that, a project in which both sides mutually benefit.

A key distinguishing feature between the first two categories and supported win-win projects is the formation of Multi-Stakeholder Forum.

Multi-Stakeholder Forums (MSF) are a voluntary and organised gathering of stakeholders which facilitates dialogue, decision-making and/or implementation regarding actions seeking to address a problem they hold in common or to achieve a goal for their common benefit. In terms of onshore or offshore energy development, the process can be utilised to encourage participatory decision-making by empowering key stakeholders to discuss and make decisions on which project issues should be of highest concern, what the local synergies are and the actions which should be taken to manage these concerns and synergies.

Multi-Stakeholder Forums typically involve several key actors with stakes in a common interest. Because of this they tend to be more compromising than stand-alone forum and work with several stakeholders including communities, developers and statutory authorities (and/or their planning processes) compared to the two previous approaches discussed. Despite the different backgrounds of the

stakeholders the MSF can enable the different stakeholders to overcome any differences they may have including any initial conflict which may have brought them together and they now share a common vision - to develop a wind farm and promote local development. It should be noted that internal preparation within the groups may be needed to ensure clarity on why they would bother with such an approach in the first place.

Once each group is ready, the Multi-Stakeholder Forum (MSF) integrate locally impacted parties and stakeholders by a process of voluntary engagement and involvement, creating a common identity for a stated goal. It is crucial to recognise that for affected communities this process is voluntary.

As shown in Figure 6, collaboration between these stakeholders is voluntary, non-regulatory and usually involves two or more groups which jointly define decision-making activities and who share a common goal. MSFs are not typically involved in formal regulatory development and their activities are not set in stone or directed according to certain policies, but are instead jointly defined by stakeholders. From a governance perspective, stakeholders



Figure 6: Multi stakeholder wind farm forum (MSWF) compared to regulatory activities. (Source: Adapted from Long and Arnold, 1995).

are involved in steering the project as well as informal and formal rule formation to achieve the required trust and dialogue.

The emergence of MSF are frequently observed to arise in a policy vacuum where only 'Decide and Defend' style public consultation stakeholder engagement is required and externalities are allowed to be passed onto neighbours. It can be seen as a policy failure of the State to ensure negative externalities associated with wind farm 'public bads' (noise, property price impact, split communities, etc) are internalised. In such circumstances, issues relating to the perceived concerns of affected residents are not sufficiently catered for within any existing statutory designations. As a result, MSF's are forced into existence sometimes through conflict, sometimes through cooperation. It is an attempt to deal with a perceived failure by the State to develop an economic/socio-economic instrument to correct for this market and policy failure.

It is important to understand from Figure 6 that a decision to participate is voluntary. Affected residents volunteer to be part of an MSF presumably because they see some benefit of being part of the decision-making process. To do this they will need to have confidence that the decision-making process will address any concerns they may have. Equally though, affected residents may decide not to join/ be part of an MSF and decide to go into opposition and stop the development or become involved in decision-making about the development from the outside either on their own or by forming a separate group with other affected individuals. Either way a group with its own set of rules is being formed in an attempt to address the market failure.

The proposed benefits of facilitating MSF include an increased focus on

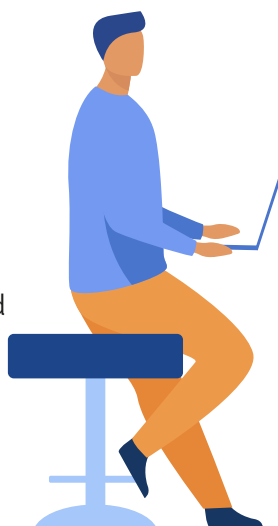
issues which are truly relevant to local stakeholders as well as an increased level of local acceptance and ownership of projects (FAO, 2020). MSF are used to challenge the power inequalities prevalent in the "business as usual" approach, which prioritises top-down, uni-sectoral decision-making processes (Chambers, 1983).

Because MSF involve several different stakeholders they are seen as a strengthening of traditional directed policy implementation because stakeholders set their own agenda and engage in decision-making. From a governance perspective, formal and informal rules are made jointly and affected residents are involved in steering the project. This helps forge trust between stakeholders and bridging, as well as bonding, social capital is much more evident compared to the other two approaches. Recent interest in MSF stems from criticisms by policy-makers, environmental organisations and community members of traditional "command and control" type instruments which are seen as inflexible, inefficient and yet still costly to implement (Perman et al., 2011; Long and Arnold, 1995).

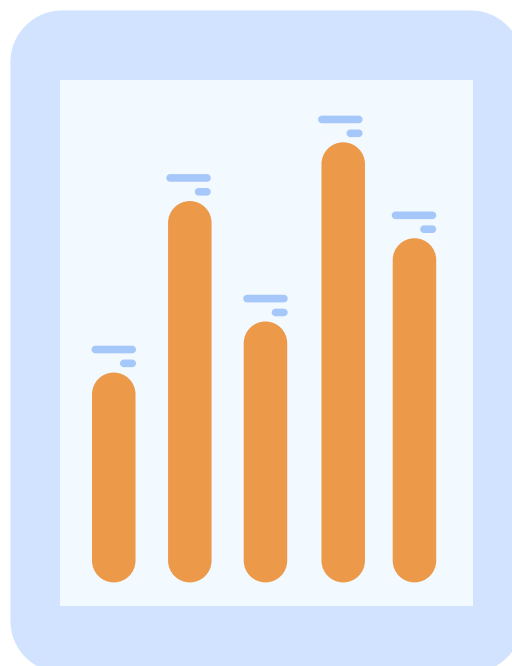
The merits of the process include a greater level of recognition for the voices of local and previously marginalised groups (Pretty, 1995) and a greater level of communication and understanding between stakeholders of different viewpoints and skillsets, encouraging innovation and enhanced capacities to solve problems (Reed et al., 2008). It has been put forward that the use of stakeholder forums can facilitate community synergy, by encouraging communities to work together and to learn how to identify and communicate their concerns (Campbell, 1994). Additionally, Beierle (2002), after reviewing a case survey which used data from over 239 case studies, found that in 50% of instances decisions made using

MSF were credited with increasing the cost effectiveness of outcomes, when compared to the probable alternatives which would have been made without the MSF. It should be noted however that there was a relatively small sample size of 17 cases where the data was appropriate to assess this outcome. Additionally, 69% of cases were found to have increased the joint gains, relative to the likely alternative, and 26% of cases showed the same level of gains. There were a total of 70 cases with data which could be used to assess this outcome. The case survey also found that of the 121 cases with adequate data, 76% deemed that participants in the MSF contributed innovative ideas, useful analysis and/or new information. When examining the 24% of cases when participants were not deemed to have made significant contributions, researchers found that the reason for this was not because participants were unable to contribute but rather because the engagement process was not designed to allow them to do so. As such, it is felt that there is sufficient evidence to suggest that the incorporation of MSF can have significant benefits for local communities and project developers alike.

However, critics of the process believe that MSF can mask underlying governance issues and do not guarantee an improvement to the environmental or social sustainability outcomes of a project (Warner, 2006; Ravikumar et al., 2018). Warner (2006), found that MSF can contribute to improved communication amongst stakeholders and improved coordination, however, the study revealed there was an element



of actors strategically withholding or contributing knowledge to ensure the deliverance of their desired outcomes. Furthermore, this study found that the use of MSF alone does not guarantee vertical inclusion. As such the study suggests that MSF should be initiated and organised by an impartial third body in order to ensure the skills necessary to facilitate productive discussions are present. Furthermore, it has been found that MSF are not immune to political barriers, and that even when effective communication between developers and communities is achieved, political coalitions often have the power and authority to disregard these cooperative decisions. In projects where successful outcomes were achieved, it was often as the result of continued political organising over time by activists, local people, nongovernmental organizations, and international donors (Ravikumar et al., 2018). It should therefore be noted that the use of multi-stakeholder forums should not



be considered as a quick-fix solution to project issues, but rather a strategic, continued process which will require discussion initiation and co-ordination from all affected parties.

Costs associated with running MSF vary largely depending on the location, level of facilitation and staffing requirements, frequency of meetings, amount of preparatory work, and level of expense reimbursements required (Coulby, 2009).

There is also considerable evidence that lack of senior management or developer ownership buy-in can cause costly and trust destroying delays and miss-steps. Their engagement at a very early stage is critical. Funding to cover financial costs, where required, may need to come from the developer or can be acquired through fundraising or could be covered by a government body if the project is being proposed by the national government

or local authority (OPG, 2016), or is in line with government policy. In cases where the majority of stakeholders are members of a local community, it is recommended that transport and venue costs can be considerably minimised by holding meetings in public spaces or by encouraging members to share responsibilities such as minute-taking and printing (Coulby, 2009). In cases regional or local MSF, the greatest cost incurred can often be the opportunity costs experienced by stakeholders who must volunteer time, energy and resources to engage in forums (Badibanga et al., 2013). As such, community members will expect (i) a meaningful say in all issues linked to their community and (ii) the development of sustainable development synergies where this is possible.



To assess the efficacy of MSF, a realist synthesis review examining current literature relating to the use of multi-stakeholder forums when making decisions about sustainable land use was published by Sarmiento Barletti et al. (2020). This review found evidence that the approach to contextual variables can greatly affect the efficacy of MSF. **As such, the review identified four factors which were critical to the success of MSF:**

- I.** The importance of commitment,
- II.** Engaging the implementers,
- III.** Openness to learn and listen to stakeholders,
- IV.** Having a design that is adaptive to this context.

From these factors, Sarmiento Barletti et al. (2020) identified several practical propositions to help ensure successful outcomes from MSF. For example, the authors encourage practitioners to map local institutions and power relationships, as well as other key contextual factors in order to provide evidence to challenge power imbalances and representational inequalities, ensuring greater procedural justice.

Indeed, this exercise should really be done with those most obviously impacted by the project so as to use it to build trust from the word go. To do so will require an already started relationship with the affected people. Identifying the ground rules for this will be an important step and is to be developed as part of the guidance this programme develops.

Many win-win projects earn a strong SLO from local communities by typically developing partnerships which involve power sharing with affected residents in order to jointly take decisions, and to strengthen bridging social capital and forge trust between stakeholders through the creation of MSF.

6. CONCLUSIONS

The literature is very clear about the need to incorporate fair and inclusive decision-making processes between developers and local communities in order to build trust. It is essential to involve affected residents early on in the engagement process if developers wish to earn a social licence. A development and planning process perceived to be unfair can fail to build trust and have a negative impact on an individual's perception of a wind farm. For local communities to perceive a development process and planning procedures as being fair and inclusive, developers must initiate engagement methods early in the process that provide accurate information and are accessible to all members of the community, engagement that takes account of local concerns and reflects those concerns in the final decisions (Walker and Baxter, 2017).

Bi-directional engagement processes build relationships and trust between local communities and developers, and can channel social capital in the formation of co-operative, social networks, to sustain long-term empowering effects within the region (Aitken et al., 2016).

Externalities associated with wind farm development are well documented in the literature and include concerns regarding visual impacts, environmental degradation, property price reductions and health impacts (Groothuis et al., 2008; Heintzelman and Tuttle, 2012; Brennan and Van Rensburg, 2016). It is important that the wind industry recognises wind farm externalities for what they are. An important first step

in earning a social licence is that the wind industry should not be in denial regarding their existence and secondly, spatially explicit differences tailored to local circumstances (such as a sense of place) and their social costs need to be acknowledged. Equally, addressing externalities should not be seen as a bribe (Cass et al., 2010). There is evidence to suggest that steps taken to acknowledge and internalise externalities can enhance social acceptance by communities. So the process itself of engaging with communities in working with communities to identify any negative externalities and then taking responsibility for them is important. This sends a clear message to communities that a developer respects the position of communities and is willing to work with them to address any welfare impacts. This will be discussed in more detail below in terms of procedural justice issues. Indeed, it is vitally important to acknowledge that near-neighbours may be impacted far more than individuals living further away from wind turbines. The issue of setback distances is well established in the literature (Ladenburg and Dubgaard, 2007) and appears to be very important in Ireland (Brennan and Van Rensburg, 2016) indicating increasing exposure to externalities felt by those near to a wind farm. In view of this, any benefit or compensation scheme should be provided on a relevant scale starting with those most likely to be impacted first in order to efficiently correct for the externalities associated with a wind farm. Careful thought needs to be given to this issue on a case by case basis. Community benefit schemes or share options which fail to correct for these "near-neighbour" externalities should be

avoided since they can cause divisions and conflict within communities. A robust assessment process is therefore needed. The Irish government (Government of Ireland, 2020) needs to carefully reflect on and monitor this issue in relation to the current RESS proposals.

Distributional justice issues are a concern for affected communities and they consider this topic very important in earning a social license. In many instances local communities are not aware of any benefits (Cass et al., 2010) associated with wind farms and there is a need for a consistent approach by the wind industry to address this issue. Steps taken by developers to provide benefits in the form of employment or local amenities can assist in earning a social license but it is very important that financial and other benefits are not exaggerated; and that this is not a tool to take the focus away from professionally addressing the externalities.

Given the importance of engagement we recommend that the Irish government consider formalised frameworks to enhance community participation. This could be built in to the community initiatives embodied within the RESS legislation. A role that has been identified to alleviate near-neighbour or community concerns and uncertainty arising from proposed developments is that of an independent authority, or ombudsman. The provision of factual, scientifically-based information from such an independent authority would impartially address issues that arise from the unfamiliarity of wind energy projects and dispel fears founded on false information, thereby facilitating more informed outcomes for both developers and communities. This is a challenging issue for the renewable energy industry to which there are no easy solutions. This is not something developers can do independently. It will

need to involve government intervention by the Irish government (Government of Ireland, 2020). This is a topic for future research, perhaps by commissioning an independent study to survey local communities themselves to pin down exactly what is needed.

The first aim of this paper was to review the relevant social acceptance and SLO literature involving energy, natural resources or infrastructure projects in order to inform a participatory wind energy SLO-building process. The literature reveals that the practice of developers and near-neighbours/local communities working together to obtain a strong SLO has positive outcomes for both industry and communities when focused on shared goals (Hall et al., 2015; Gaynor and Walsh, 2018). This review documents the strong recommendation in the literature for the use of multi-stakeholder forum (MSF) to facilitate inclusive discussion and decision-making in the pursuit of mutually benefiting wind energy projects for both developers and communities. The use of inclusive processes, such as MSF, encourage participants to communicate concerns and collaborate in addressing issues through adaptive design.

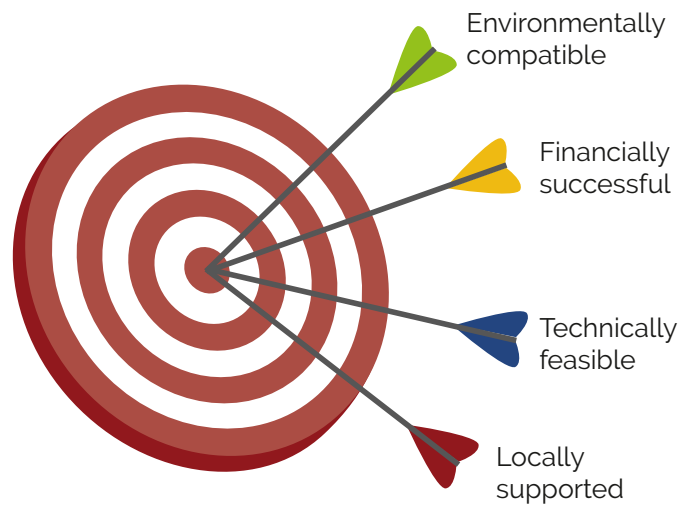
The second aim of this paper was to critically evaluate three approaches (legally compliant project; accepted project; win-win project) to Irish wind farm development in terms of social and community acceptance and a SLO. The legally compliant project approach, where decision-making for the development is non-inclusive, and the formal decision-making structures and rule formation are done by the developer, are currently the predominant approach undertaken by developers in Ireland. In this approach, social capital formation tends to be established within groups of affected residents uniting in a vocal campaign in an attempt to be heard by developers

or statutory agencies, generally raising concerns in opposition to the development. This approach often lacks a strong local SLO, and often experiences lengthy and costly delays ending in judicial review (Gaynor and Walsh, 2018).

Wind energy projects that are accepted by near-neighbours and communities, generally use a higher standard of communication practices and are more effective at earning a SLO than required by legislation and guidance, and while they tend to be more inclusive involving bi-directional engagement practices, the developers still retain full control over the process (Aitken et al., 2016).

Developments that aim for supported win-win projects, with the achievement of a strong SLO from local communities embedded in their overall design, are believed to be the optimum approach for wind energy projects going forward (Hall et al., 2015; Gaynor and Walsh, 2018). Developers that form project partnerships with near-neighbours, local communities and stakeholders, will strengthen social capital through the creation of community synergies in the formation of supported win-win wind energy projects. Through the use of MSF, engagement practices for developers, statutory authorities and local communities can be transformed to open an inclusive dialogue and negotiation in pursuit of mutually beneficial goals (Sarmiento Barletti et al., 2020). Four factors critical to the success of MSF are (i) commitment to engagement supporting rather than undermining the sustainable development of communities, with the associated processes and goals; (ii) engagement with the implementers, statutory authorities; (iii) openness to learn and listen to communities and stakeholders; and (iv) adaptive design reflecting this learning.

The Irish Government's heightened ambitions, in their recently endorsed



Programme for Government, from 3.5GW to 5GW of operational offshore wind energy by 2030, accentuates the need to apply the right approach to community engagement so that unnecessary delay due to a sub-standard approach is avoided. To meet this target in such a short timeframe, the importance of investing in a process to gain a strong SLO from communities and stakeholders cannot be underestimated by developers or Government. It is particularly timely against a background of forthcoming expansive offshore developments in the pipeline. An opportunity exists to learn from past lessons from the onshore experience. It is possible with the correct procedures in place, for communities, stakeholders and developers to work together to create supported win-win projects, where local communities and stakeholders become advocates for the project. Through the use of a multi-stakeholder forum, comprising the developer, local community members, stakeholders and local authority representatives (as appropriate), participatory and inclusive decision-making processes can result in more innovative, cost effective solutions to project development, empowering communities as well as the nation as a whole. Powering healthy communities while powering the national grid and meeting national and EU energy targets as an integral part of the low carbon transition.

7. REFERENCES

- ▶ **AA, 2015.** AA1000 Stakeholder engagement standard 2015 (AA1000SES). AccountAbility.
- ▶ **Aitken, M., 2010.** Wind power and community benefits: Challenges and opportunities. *Energy Policy* 38, 6066–6075.
- ▶ **Aitken, M., Haggett, C., Rudolph, D., 2016.** Practices and rationales of community engagement with wind farms: awareness raising, consultation, empowerment. *Plan. Theory Pract.* 17, 557–576. <https://doi.org/10.1080/14649357.2016.1218919>
- ▶ **Alexander, K.A., Wilding, T.A., Jacomina Heymans, J., 2013.** Attitudes of Scottish fishers towards marine renewable energy. *Mar. Policy, Social and cultural impacts of marine fisheries* 37, 239–244. <https://doi.org/10.1016/j.marpol.2012.05.005>
- ▶ **Arnstein, S.R., 1969.** A Ladder Of Citizen Participation. *J. Am. Inst. Plann.* 35, 216–224. <https://doi.org/10.1080/01944366908977225>
- ▶ **Badibanga, T., Ragasa, C., Ulimwengu, J., 2013.** Assessing the Effectiveness of Multistakeholder Platforms: Agricultural and Rural Management Councils in the Democratic Republic of the Congo. *Intl Food Policy Res Inst.*
- ▶ **Beierle, T.C., 2002.** The Quality of Stakeholder-Based Decisions. *Risk Anal.* 22, 739–749. <https://doi.org/10.1111/0272-4332.00065>
- ▶ **Bell, D., Gray, T., Haggett, C., 2005.** The 'Social Gap' in Wind Farm Siting Decisions: Explanations and Policy Responses. *Environ. Polit.* 14, 460–477. <https://doi.org/10.1080/09644010500175833>
- ▶ **Bell, D., Gray, T., Haggett, C., Swaffield, J., 2013.** Re-visiting the 'social gap': public opinion and relations of power in the local politics of wind energy. *Environ. Polit.* 22, 115–135. <https://doi.org/10.1080/09644016.2013.755793>
- ▶ **Bidwell, D., 2013.** The role of values in public beliefs and attitudes towards commercial wind energy. *Energy Policy* 58, 189–199. <https://doi.org/10.1016/j.enpol.2013.03.010>
- ▶ **Brennan, N., Rensburg, T.M.V., Morris, C., 2017.** Public acceptance of large-scale wind energy generation for export from Ireland to the UK: evidence from Ireland. *J. Environ. Plan. Manag.* 60, 1967–1992. <https://doi.org/10.1080/09640568.2016.1268109>
- ▶ **Brennan, N., Van Rensburg, T.M., 2016.** Wind farm externalities and public preferences for community consultation in Ireland: A discrete choice experiments approach. *Energy Policy* 94, 355–365. <https://doi.org/10.1016/j.enpol.2016.04.031>
- ▶ **Burt, R.S., 2000.** The Network Structure Of Social Capital. *Res. Organ. Behav.* 22, 345–423. [https://doi.org/10.1016/S0191-3085\(00\)22009-1](https://doi.org/10.1016/S0191-3085(00)22009-1)
- ▶ **Burt, R.S., 1997.** The Contingent Value of Social Capital. *Adm. Sci. Q.* 42, 339–365. <https://doi.org/10.2307/2393923>
- ▶ **Burt, R.S., 1992.** Structural holes: the social structure of competition. *Harvard*

University Press, Cambridge, MA ; London.

- ▶ **Campbell, A., 1994.** Community first: landcare in Australia. (Gatekeeper Series No 42). International Institute for Environment and Development.
- ▶ **Cass, N., Walker, G., Devine-Wright, P., 2010.** Good Neighbours, Public Relations and Bribes: The Politics and Perceptions of Community Benefit Provision in Renewable Energy Development in the UK. *J. Environ. Policy Plan.* 12.
- ▶ **Chambers, R., 1983.** Rural development: putting the last first. Longman Scientific & Technical, London.
- ▶ **Coleman, J.S., 1990.** Foundations of social theory. Belknap Press of Harvard University Press, Cambridge, Mass. ; London.
- ▶ **Coleman, J.S., 1988.** Social Capital in the Creation of Human Capital. *Am. J. Sociol.* 94, S95-S120. <https://doi.org/10.1086/228943>
- ▶ **Colvin, R.M., Witt, G.B., Lacey, J., 2016.** How wind became a four-letter word: Lessons for community engagement from a wind energy conflict in King Island, Australia. *Energy Policy* 98, 483-494. <https://doi.org/10.1016/j.enpol.2016.09.022>
- ▶ **Coulby, H., 2009.** A guide to multistakeholder work: Lessons from the water dialogues. Water Dialogues.
- ▶ **Cowell, R., Bristow, G., Munday, M., 2012.** Wind energy and justice for disadvantaged communities. Joseph Rowntree Foundation.
- ▶ **Crowe, J.A., 2007.** In search of a happy medium: How the structure of interorganizational networks influence community economic

development strategies. *Soc. Netw.* 29, 469-488. <https://doi.org/10.1016/j.socnet.2007.02.002>

- ▶ **Devine-Wright, P., 2005.** Beyond NIMBYism: towards an integrated framework for understanding public perceptions of wind energy. *Wind Energy* 8, 125-139. <https://doi.org/10.1002/we.124>
- ▶ **Devine-Wright, P., Howes, Y., 2010.** Disruption to place attachment and the protection of restorative environments: A wind energy case study. *J. Environ. Psychol., Identity, Place, and Environmental Behaviour* 30, 271-280. <https://doi.org/10.1016/j.jenvp.2010.01.008>
- ▶ **Dimitropoulos, A., Kontoleon, A., 2009.** Assessing the determinants of local acceptability of wind-farm investment: A choice experiment in the Greek Aegean Islands. *Energy Policy* 37, 1842-1854. <https://doi.org/10.1016/j.enpol.2009.01.002>
- ▶ **Ducsik, D., Austin, T., 1986.** Open power plant siting: The pioneering (and successful) experience of Northern States Power public involvement., in:



Ducsik, D. (Ed.), *Energy Facility Planning: The Electric Utility Experience*. Westview Press, Boulder, CO.

- ▶ **Ek, K., Persson, L., 2014.** Wind farms — Where and how to place them? A choice experiment approach to measure consumer preferences for characteristics of wind farm establishments in Sweden. *Ecol. Econ.* 105, 193–203. <https://doi.org/10.1016/j.ecolecon.2014.06.001>
- ▶ **Ellis, G., Ferraro, G., 2016.** The social acceptance of wind energy. *EUR 28182 EN*. <https://doi.org/10.2789/696070>
- ▶ **FAO, 2020.** Multi-stakeholder processes | FAO Capacity Development [WWW Document]. Food Agric. Organ. U. N. URL <http://www.fao.org/capacity-development/resources/practical-tools/multi-stakeholder-processes/en/> (accessed 6.30.20).
- ▶ **Firestone, J., Bates, A., Knapp, L.A., 2015.** See me, Feel me, Touch me, Heal me: Wind turbines, culture, landscapes, and sound impressions. *Land Use Policy* 46, 241–249. <https://doi.org/10.1016/j.landusepol.2015.02.015>
- ▶ **Firestone, J., Hirt, C., Bidwell, D., Gardner, M., Dwyer, J., 2020.** Faring well in offshore wind power siting? Trust, engagement and process fairness in the United States. *Energy Res. Soc. Sci.* 62, 101393. <https://doi.org/10.1016/j.erss.2019.101393>
- ▶ **Firestone, J., Kempton, W., Lilley, M.B., Samoteskul, K., 2012.** Public acceptance of offshore wind power across regions and through time. *J. Environ. Plan. Manag.* 55, 1369–1386. <https://doi.org/10.1080/09640568.2012.682782>
- ▶ **Gaynor, A., Walsh, S., 2018.** Social License to Operate and the Sustainable Energy Transition. *Pleanáil J. Ir. Plan. Inst.*
- ▶ **Gibbons, S., 2015.** Gone with the wind: Valuing the visual impacts of wind turbines through house prices. *J. Environ. Econ. Manag.* 72, 177–196. <https://doi.org/10.1016/j.jjeem.2015.04.006>
- ▶ **Gill, A.B., 2005.** Offshore renewable energy: ecological implications of generating electricity in the coastal zone. *J. Appl. Ecol.* 42, 605–615. <https://doi.org/10.1111/j.1365-2664.2005.01060.x>
- ▶ **Government of Ireland, 2020.** Terms and Conditions for the First Competition under the Renewable Electricity Support Scheme RESS 1:2020. Department of Communications, Climate Action and Environment, Dublin.
- ▶ **Government of Ireland, 2019a.** Draft Revised Wind Energy Development Guidelines. Department of Housing, Planning and Local Government, Dublin.
- ▶ **Government of Ireland, 2019b.** Climate Action Plan. Department of Communications, Climate Action and Environment, Dublin.
- ▶ **Government of Ireland, 2015.** Ireland's Transition to a Low Carbon Energy Future 2015 - 2030. Department of Communications, Energy & Natural Resources, Dublin.
- ▶ **Government of Ireland, 2014.** Green Paper on Energy Policy in Ireland. Department of Communications, Climate Action and Environment, Dublin.
- ▶ **Government of Ireland, 2012.** Strategy for Renewable Energy 2012-2020. Department of Communications, Climate Action and Environment, Dublin.
- ▶ **Government of Ireland, 2000.** Planning and Development Act 2000 (as amended).
- ▶ **Grafton, R.Q., 2005.** Social capital and fisheries governance. *Ocean*

Coast. Manag. 48, 753–766. <https://doi.org/10.1016/j.ocecoaman.2005.08.003>

- ▶ **Graham, J., Amos, B., Plumptre, T., 2003.** Principles for good governance in the 21st century (No. Policy Brief No. 15). Institute On Governance.
- ▶ **Granovetter, M., 1973.** The Strength of Weak Ties. *Am. J. Sociol.* 78, 1360–80.
- ▶ **Groothuis, P.A., Groothuis, J.D., Whitehead, J.C., 2008.** Green vs. green: Measuring the compensation required to site electrical generation windmills in a viewshed. *Energy Policy* 36, 1545–1550. <https://doi.org/10.1016/j.enpol.2008.01.018>
- ▶ **Gross, C., 2007.** Community perspectives of wind energy in Australia: The application of a justice and community fairness framework to increase social acceptance. *Energy Policy* 35, 2727–2736. <https://doi.org/10.1016/j.enpol.2006.12.013>
- ▶ **Hall, N., Ashworth, P., Devine-Wright, P., 2013.** Societal acceptance of wind farms: Analysis of four common themes across Australian case studies. *Energy Policy* 58, 200–208. <https://doi.org/10.1016/j.enpol.2013.03.009>
- ▶ **Hall, N., Lacey, J., Carr-Cornish, S., Dowd, A.-M., 2015.** Social licence to operate: understanding how a concept has been translated into practice in energy industries. *J. Clean. Prod.* 86, 301–310. <https://doi.org/10.1016/j.jclepro.2014.08.020>
- ▶ **Hall, N.L., 2014.** The discourse of "social licence to operate": case study of the Australian wind industry. *AIMS Energy* 2, 443–460. <https://doi.org/10.3934/energy.2014.4.443>
- ▶ **Hammami, S.M., chtourou, S., Triki, A., 2016.** Identifying the determinants of

community acceptance of renewable energy technologies: The case study of a wind energy project from Tunisia. *Renew. Sustain. Energy Rev.* 54, 151–160. <https://doi.org/10.1016/j.rser.2015.09.037>

- ▶ **Hansen, C., Hansen, K., 2020.** Recent Advances in Wind Turbine Noise Research. *Acoustics* 2, 171–206. <https://doi.org/10.3390/acoustics2010013>
- ▶ **Heintzelman, M.D., Tuttle, C.M., 2012.** Values in the Wind: A Hedonic Analysis of Wind Power Facilities. *Land Econ.* 88, 571–588. <https://doi.org/10.3368/le.88.3.571>
- ▶ **Hübner, G., Pohl, J., Hoen, B., Firestone, J., Rand, J., Elliott, D., Haac, R., 2019.** Monitoring annoyance and stress effects of wind turbines on nearby residents: A comparison of U.S. and European samples. *Environ. Int.* 132, 105090. <https://doi.org/10.1016/j.envint.2019.105090>
- ▶ **IFC, 2010.** Strategic Community Investment A Good Practice Handbook for Companies Doing Business in Emerging Markets. International Finance Corporation, Washington, DC, US.



- ▶ **Jobert, A., Laborgne, P., Mimler, S., 2007.** Local acceptance of wind energy: Factors of success identified in French and German case studies. *Energy Policy* 35, 2751–2760. <https://doi.org/10.1016/j.enpol.2006.12.005>
- ▶ **Klain, S.C., Satterfield, T., MacDonald, S., Battista, N., Chan, K.M.A., 2017.** Will communities “open-up” to offshore wind? Lessons learned from New England islands in the United States. *Energy Res. Soc. Sci.* 34, 13–26. <https://doi.org/10.1016/j.erss.2017.05.009>
- ▶ **Ladenburg, J., Dahlgaard, J.-O., 2012.** Attitudes, threshold levels and cumulative effects of the daily wind-turbine encounters. *Appl. Energy* 98, 40–46. <https://doi.org/10.1016/j.apenergy.2012.02.070>
- ▶ **Ladenburg, J., Dubgaard, A., 2007.** Willingness to pay for reduced visual disamenities from offshore wind farms in Denmark. *Energy Policy* 35, 4059–4071. <https://doi.org/10.1016/j.enpol.2007.01.023>
- ▶ **Langer, K., Decker, T., Roosen, J., Menrad, K., 2018.** Factors influencing citizens' acceptance and non-acceptance of wind energy in Germany. *J. Clean. Prod.* 175, 133–144. <https://doi.org/10.1016/j.jclepro.2017.11.221>
- ▶ **Liebe, U., Bartczak, A., Meyerhoff, J., 2016.** A turbine is not only a turbine: The role of social context and fairness characteristics for the local acceptance of wind power.
- ▶ **Long, F.J., Arnold, M.B., 1995.** The Power of Environmental Partnerships Long, F.J., Arnold, M.B., 1995. *The Power of Environmental Partnerships*. The Dryden Press, Forth Worth. The Dryden Press, Harcourt College Pub.
- ▶ **Macdonald, C., Glass, J., Creamer, E., 2017.** What Is the Benefit of Community Benefits? Exploring Local Perceptions of the Provision of Community Benefits from a Commercial Wind Energy Project. *Scott. Geogr. J.* 133, 172–191. <https://doi.org/10.1080/14702541.2017.1406132>
- ▶ **Markantoni, M., Aitken, M., 2016.** Getting low-carbon governance right: learning from actors involved in Community Benefits. *Local Environ.* 21, 969–990. <https://doi.org/10.1080/13549839.2015.1058769>
- ▶ **Masurovski, F., Drechsler, M., Frank, K., 2016.** A spatially explicit assessment of the wind energy potential in response to an increased distance between wind turbines and settlements in Germany. *Energy Policy* 97, 343–350. <https://doi.org/10.1016/j.enpol.2016.07.021>
- ▶ **Moffat, K., Zhang, A., 2014.** The paths to social licence to operate: An integrative model explaining community acceptance of mining. *Resour. Policy* 39, 61–70. <https://doi.org/10.1016/j.resourpol.2013.11.003>
- ▶ **Moran, D., Sherrington, C., 2007.** An economic assessment of windfarm power generation in Scotland including



externalities. *Energy Policy* 35, 2811–2825. <https://doi.org/10.1016/j.enpol.2006.10.006>

- ▶ **North, D.C., 1991.** Institutions. *J. Econ. Perspect.* 5, 97–112. <https://doi.org/10.1257/jep.5.1.97>
- ▶ **OECD, 2017.** OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector. OECD Publishing, Paris.
- ▶ **Onakpoya, I.J., O'Sullivan, J., Thompson, M.J., Heneghan, C.J., 2015.** The effect of wind turbine noise on sleep and quality of life: A systematic review and meta-analysis of observational studies. *Environ. Int.* 82, 1–9. <https://doi.org/10.1016/j.envint.2015.04.014>
- ▶ **OPG, 2016.** Designing and Managing an OGP Multistakeholder Forum. Open Government Partnership.
- ▶ **Ottinger, G., Hargrave, T.J., Hopson, E., 2014.** Procedural justice in wind facility siting: Recommendations for state-led siting processes. *Energy Policy* 65, 662–669. <https://doi.org/10.1016/j.enpol.2013.09.066>
- ▶ **Perman, R., Ma, Y., Common, M.S., Maddison, D., McGilvray, J., 2011.** Natural resource and environmental economics, Fourth edition. ed. Pearson, Harlow.
- ▶ **Portes, A., 1998.** Social Capital: Its Origins and Applications in Modern Sociology. *Annu. Rev. Sociol.* 24, 1–24. <https://doi.org/10.1146/annurev.soc.24.1.1>
- ▶ **Pretty, J., Smith, D., 2004.** Social Capital in Biodiversity Conservation and Management. *Conserv. Biol.* 18, 631–638. <https://doi.org/10.1111/j.1523-1739.2004.00126.x>
- ▶ **Pretty, J.N., 1995.** Participatory learning for sustainable agriculture. *World Dev.* 23,

1247–1263. [https://doi.org/10.1016/0305-750X\(95\)00046-F](https://doi.org/10.1016/0305-750X(95)00046-F)

- ▶ **Putman, R.D., 1993.** The Prosperous Community: Social Capital and Public Life. *Am. Prospect* 13, 35–42.
- ▶ **Putnam, R.D., 2000.** Bowling alone: the collapse and revival of American community. Simon & Schuster, New York.
- ▶ **Putnam, R.D., 1995.** Tuning in, tuning out: the strange disappearance of social capital in America. *PS Polit. Sci. Amp Polit.* 28, 664–684.
- ▶ **Rand, J., Hoen, B., 2017.** Thirty years of North American wind energy acceptance research: What have we learned? *Energy Res. Soc. Sci.* 29, 135–148. <https://doi.org/10.1016/j.erss.2017.05.019>
- ▶ **Ravikumar, A., Larson, A.M., Myers, R., Trench, T., 2018.** Inter-sectoral and multilevel coordination alone do not reduce deforestation and advance environmental justice: Why bold contestation works when collaboration fails. *Environ. Plan. C Polit. Space* 36, 1437–1457. <https://doi.org/10.1177/2399654418794025>
- ▶ **Reed, M.S., Dougill, A.J., Baker, T.R., 2008.** Participatory Indicator Development: What Can Ecologists and Local Communities Learn from Each Other. *Ecol. Appl.* 18, 1253–1269. <https://doi.org/10.1890/07-0519.1>
- ▶ **Reilly, K., O'Hagan, A.M., Dalton, G., 2015.** Attitudes and perceptions of fishermen on the island of Ireland towards the development of marine renewable energy projects. *Mar. Policy* 58, 88–97. <https://doi.org/10.1016/j.marpol.2015.04.001>
- ▶ **Sarmiento Barletti, J.P., Larson, A.M., Hewlett, C., Delgado, D., 2020.** Designing for engagement: A Realist Synthesis

Review of how context affects the outcomes of multi-stakeholder forums on land use and/or land-use change. *World Dev.* 127, 104753. <https://doi.org/10.1016/j.worlddev.2019.104753>

- ▶ **Swofford, J., Slattery, M., 2010.** Public attitudes of wind energy in Texas: Local communities in close proximity to wind farms and their effect on decision-making. *Energy Policy*, Greater China Energy: Special Section with regular papers 38, 2508–2519. <https://doi.org/10.1016/j.enpol.2009.12.046>
- ▶ **Thayer, R.L., Freeman, C.M., 1987.** Altamont: Public perceptions of a wind energy landscape. *Landsc. Urban Plan.* 14, 379–398. [https://doi.org/10.1016/0169-2046\(87\)90051-X](https://doi.org/10.1016/0169-2046(87)90051-X)
- ▶ **Tol, R.S.J., 2012.** A cost–benefit analysis of the EU 20/20/2020 package. *Energy Policy*, Special Section: Fuel Poverty Comes of Age: Commemorating 21 Years of Research and Policy 49, 288–295. <https://doi.org/10.1016/j.enpol.2012.06.018>
- ▶ **Upham, P., Oltra, C., Boso, À., 2015.** Towards a cross-paradigmatic framework of the social acceptance of energy systems. *Energy Res. Soc. Sci.* 8, 100–112. <https://doi.org/10.1016/j.erss.2015.05.003>
- ▶ **Walker, C., Baxter, J., 2017.** Procedural justice in Canadian wind energy development: A comparison of community-based and technocratic siting processes. *Energy Res. Soc. Sci.* 29, 160–169. <https://doi.org/10.1016/j.erss.2017.05.016>
- ▶ **Walker, G., Devine-Wright, P., 2008.** Community renewable energy: What should it mean? *Energy Policy* 36, 497–500. <https://doi.org/10.1016/j.enpol.2007.10.019>
- ▶ **Warner, J.F., 2006.** More Sustainable Participation? Multi-Stakeholder Platforms for Integrated Catchment Management. *Int. J. Water Resour. Dev.* 22, 15–35. <https://doi.org/10.1080/07900620500404992>
- ▶ **Warren, C.R., Lumsden, C., O'Dowd, S., Birnie, R.V., 2005.** 'Green On Green': Public perceptions of wind power in Scotland and Ireland. *J. Environ. Plan. Manag.* 48, 853–875. <https://doi.org/10.1080/09640560500294376>
- ▶ **Wolsink, M., 2018.** Social acceptance revisited: gaps, questionable trends, and an auspicious perspective. *Energy Res. Soc. Sci.* 46, 287–295.
- ▶ **Wolsink, M., 2007.** Wind power implementation: The nature of public attitudes: Equity and fairness instead of 'backyard motives.' *Renew. Sustain. Energy Rev.* 11, 1188–1207. <https://doi.org/10.1016/j.rser.2005.10.005>
- ▶ **Wolsink, M., 2000.** Wind power and the NIMBY-myth: institutional capacity and the limited significance of public support. *Renew. Energy* 21, 49–64. [https://doi.org/10.1016/S0960-1481\(99\)00130-5](https://doi.org/10.1016/S0960-1481(99)00130-5)
- ▶ **Woodhouse, A., 2006.** Social capital and economic development in regional Australia: A case study. *J. Rural Stud.* 22, 83–94. <https://doi.org/10.1016/j.jrurstud.2005.07.003>
- ▶ **Woolcock, M., Narayan, D., 2000.** Social Capital: Implications for Development Theory, Research, and Policy. *World Bank Res. Obs.* 15, 225–249. <https://doi.org/10.1093/wbro/15.2.225>
- ▶ **Wüstenhagen, R., Wolsink, M., Bürer, M.J., 2007.** Social acceptance of renewable energy innovation: An introduction to the concept. *Energy Policy* 35, 2683–2691. <https://doi.org/10.1016/j.enpol.2006.12.001>
- ▶ **Zerrahn, A., 2017.** Wind Power and Externalities. *Ecol. Econ.* 141, 245–260. <https://doi.org/10.1016/j.ecolecon.2017.02.016>