

Strong wind development with no community participation. The case of Galicia (1995-2009)

Abstract

This paper aims to identify the factors leading to strong wind energy development in Galicia from 1995 to 2009, in the absence of social conflict. Using participatory research techniques, our work indicates that the absence of local opposition is associated to the regulatory framework throughout this period. The central elements contributing to a better understanding of the success of this wind energy development with no social conflict are vertical decision-making and wind energy planning; the lack of institutional information and participation mechanisms and, above all, the process that declared it as Public Utility, thus opening the possibility of land expropriation. Our work concludes that, in the case under study, communities had no relevant role; their participation in the wind energy development process was a mere formality emptied of decision-making capacity. The scope of community benefits therefore became irrelevant in explaining wind dynamics within that territory.¹

Keywords:

Wind energy; community benefits; local acceptance; Galicia.

¹ Abbreviations: BOE, Official State Gazette; BWP, Business Wind Plans; CMVMC, Comunidades de Montes Veciñais en Man Común; DOGA, Official Bulletin of Galicia; GIS, Geographic Information System; GSWP, Galician Sectorial Wind Plan ; INEGA, Galician Energy Institute; NIMBY, Not In My Backyard; PR, Participatory Research; SIDWEG, Socioeconomic Information Database of Wind Energy in Galicia. WS, Workshop.

1. Introduction

The strong expansion of global wind energy over the last decades has aroused growing scientific interest in several aspects such as its benefits in the fight against climate change (Kemmoku et al., 2002; Crawford, 2009) and its relevance in satisfying a substantial part of the energy demand (Sahu et al., 2013) or continuous technological improvement (Islam et al., 2013). At the same time, the promotion of wind energy has also received the attention of international literature, pointing to aspects like socio-environmental conflict (Moragues-Faus and Ortiz-Miranda, 2010; Zografos and Martínez-Alier, 2009), environmental impacts (Saidur et al., 2011; Masden et al., 2009; Desholm, 2009) and the social and local acceptance of wind farms (Nadaï, 2007; Gross, 2007; Evans et al., 2011; Wüstenhagen et al., 2007; D'Souza and Yiridoe, 2014) as determinant factors.

Literature indicates that this last aspect, social acceptance of wind farms, is one of the factors that best explains the rapid and broad expansion of wind energy. A high acceptance of wind farms is related to implementation processes with low visual impacts of wind turbines (Jobert et al., 2007), greater public and local shareholder participation (Toke, 2005; Musall and Kuik, 2011) and transparent processes in which the timely flow of information between the parties facilitates the participation of the social agents (Loring, 2007). Community participation in the economic benefits of wind power (Evans et al., 2011) is considered a determining factor in the social acceptance of wind farms, their pace of development and associated social conflict (Kerr, 2017; Dimitropoulos and Kontoleon, 2009; Liu et al., 2013; Nadaï, 2007).

However, despite the strong presence of wind power in Spain, no research has specifically addressed the importance of community participation. Neither has it addressed the role of community benefits in the local acceptance of wind farms for the case of Galicia, one of the Autonomous Communities with the greatest wind power deployment across the Spanish territory. Thus, the case of Galicia represents an opportunity to test the hypothesis concerning the importance of this factor in the social acceptance of wind farms as well as in the expansion wind energy.

In the period from 1995 to 2009, Galicia experienced unprecedented wind development, with no evidence of social opposition to developed wind projects. Following the literature, this could suggest the presence of implantation processes with low visual impact wind turbines, broad public and local shareholder participation and transparent processes. What is more, the process could reveal significant community participation in the economic benefits produced by wind farms. However, after quantifying community benefits derived from this strong wind implementation in Galicia, we find community participation is scarce and even practically nonexistent in some cases. Our results contradict the need, according to specialized literature, for the community to participate in the economic benefits of wind farms to encourage social acceptance as well as the rapid and broad expansion of wind energy within a territory.

Our findings indicate that the strong expansion of wind energy in Galicia with no social opposition may be explained by a regulatory framework that authorizes wind farms following what specialized literature calls *privileged projects* or *door-openers* for wind energy, as happened in Germany (Jobert et al., 2007; Sooriyaarachchi et al. 2015). Our results show that, in the case of wind development in Galicia, neither the type of community benefit nor its amount are relevant in explaining the fast

pace of wind development and the lack of conflict throughout this process between the year 1995 and 2009 because the legal framework gave communities affected by the wind farms no capacity to influence the siting of the wind turbines and their infrastructures. Our results confirm the findings of Cowell et al. (2011) who state that if communities have the capacity to decide where the wind farms are established, even to the extent of having veto power, the amount of community benefits will reduce social conflict and contribute to wind power development. However, when the role assigned to communities has no relevance and participation is a mere formality emptied of decision-making capacity, as is the case of Galicia, the scope of community benefits becomes irrelevant in explaining wind power dynamics in that territory.

This paper is organized as follows. Section 2 presents the methodology and the characteristics of the case study. Section 3 analyzes the processes of community acceptance of wind farms. Section 4 discusses the limited capacity of community benefits to explain the strong wind development in Galicia. Section 5 presents results on the importance of the regulatory framework in determining the success of wind expansion. Finally, Section 6 shows the main conclusions.

2. Methodology and case study

Analyzing the factors that explain strong wind power growth with broad social acceptance in Galicia required the use of different quantitative and qualitative methods to gain insight on its complex social process involving different actors with opposing interests (Gillham, 2000; Waddington, 2004; McKim, 2015). We followed the guidelines of triangulation processes (Ramsay, 1998) and used Participatory

Research approaches (PR) (Cassell and Symon, 2004)² to compile information. This PR process consisted in the following steps: i) identifying the authorized wind farms and the affected geographic communities; ii) monitoring the administrative procedure and establishing contact with geographical communities; iii) identifying, if any, communities of interests involved in the processes; iv) conducting semi-structured interviews, workshops or elaborating life stories; and v) obtaining quantitative and qualitative information on the mechanisms of community participation, above all, economic benefits for the community.

We held a total of 85 meetings with agents affected by operating wind farms, mainly with entities of community ownership, the most common form of land ownership related to wind farms in Galicia (Copena, 2015). These meetings resulted in 106 semi-structured interviews and 32 workshops³.

We complemented all this information with a systematic analysis of public statistics data bases; specialized reports from public and private entities; legislative databases within the realm of Galicia, Spain and Europe; the different public registers connected to renewable energies and specific scientific literature collected on the Web of Science.

Fruit of this compilation and analysis was the creation of the Socioeconomic Information Database of Wind Energy in Galicia (SIDWEG) (Copena, 2015). As seen in Figure 1, the Database is structured in 6 sub-bases that collect quantitative and qualitative information at 4 different levels: wind farm, municipality, province

²PR is a discipline proven in recent years in different fields of knowledge such as health (Minkler and Wallerstein, 2008), agroecology (Snapp and Pound, 2008) or natural resources (Fortmann, 2008). The Research Group on Ecological Economics and Agroecology of the University of Vigo has accompanied the processes of territorial and energy implementation of wind farms over the last 10 years to obtain evidence of the nature of this social process.

³We also visited 45 landowners affected by wind farms in administrative processing who currently have no administrative authorization. Through progressive approaches, the free delivery of useful information for the landowner (Simón and Copena, 2010) and/or prior intermediation by trusted people (Copena, 2015), we could overcome the logical initial mistrust shown to us at attempting to obtain "reserved economic and social information".

and the entire Galician territory. SIDWEG contains information related to wind energy from the technological (unit power, total power, number of wind generators, technology), economic (investment, annual production, premiums received, local public income, landowner income, community benefits), and territorial (affected areas, occupied territory, and distribution of wind turbines by municipality) scopes.

Figure 1: Outline of the Socioeconomic Information Database of Wind Energy in Galicia (SIDWEG). Source: Own elaboration from Copena, 2015.

Case Study

Case study analyses provide the opportunity to develop a rich understanding of the conditions, processes, and outcomes involved in the implementation of wind power programs. They represent a way to test the implications of current theories and develop critical discussion relative to the patterns of wind power deployment. To this end, we used this piece of information to develop a case study on Galicia to analyze the relationship between the acceptance of wind farms and the amount of community benefits. In recent decades, the Autonomous Community of Galicia has been a preferred location for the development of wind farms. Galicia's currently operating 3,341 MW and approximately 4,100 installed wind turbines have developed most of this wind power in a period of only 15 years, between 1995 and 2009, when 97% of its currently existing MWs were put into operation in 143 wind farms. See Figure 2.

Figure 2: Annual dynamics of wind power capacity installed in Galicia, 1995-2016. MW. Source: Own elaboration from SIDWEG (Copena, 2015).

As may be seen in Figure 2, the situation occurring in these initial 15 years of wind development sharply contrasts with the situation as of the year 2010, which hardly

reflects an increase of installed power (only 104 new MW were developed after 2009) given the socioeconomic context of the time with changing retribution and a slowing demand as a consequence of economic crises, as well as social-environmental conflicts at a local level linked to emerging wind farm projects, unknown until then (Copena, 2015). This increase in conflict is associated to the first wind farm projects in peri-urban areas, a higher level of social awareness and increased flow of information.

Another two main features characterized wind expansion. First was its degree of intensification. Galician wind power installed in 2009 represented almost 17% of the total power of the Spanish state despite only representing 5.8% of the Spanish land surface. Moreover, if we look at the territorial intensity of wind power (kW installed per km²), Galicia had an index of 110 kW/km² in 2009 as compared to the 38 kW/km² of Spain or the nearly 72 kW/km² of Germany, and well above the 17 kW/km² of the United Kingdom, the 7.3 kW/km² of France or the 3.3 kW/km² of Sweden, to name a few. Second is that wind expansion in Galicia was characteristically concentrated in rural forest areas with a unique property regime: community property organized through *Comunidades de Montes Veciñais en Man Común* (CMVMC), a specific form of Community land tenure and a singular legal category in Galicia (Marey-Pérez et al., 2010; Gómez-Vázquez et al., 2009). It is additionally worth noting that the installation of wind turbines takes place within the social context of an accelerated aging population (De Miguel et al., 2011), the economic context of a progressive loss of economic activity (IGE, 2017) and the abandonment of rural areas (Corbelle and Crecente, 2008).

3. The relevance of community acceptance of wind farms. Definition and scope

This section attempts to identify the concepts related to social acceptance and community by reviewing the factors indicated by different studies as determinants of social acceptance. Literature presents no clear definition on the social acceptance of wind farms (Wüstenhagen et al., 2007). Neither does it present any consensus on the concept of acceptance that includes all of the social reactions to wind farms (Cohen et al., 2014). Scientific research should explicitly define this concept and at least identify the following: (i) scope of acceptance, (ii) mechanisms of social participation in each of the phases of wind development and (iii) elements comprising antagonism (or agreement) with the renewable energy project.

Scope of acceptance

With respect to the scope of acceptance, Wüstenhagen et al. (2007) distinguishes three interdependent dimensions: the sociopolitical, community and market acceptance. Sociopolitical acceptance refers to social acceptance at a broader, more general level while market acceptance refers to the advancement of an innovation. Lastly, community acceptance refers to the specific acceptance of decisions concerning the location of wind farm projects by local actors, particularly residents and local authorities.

This paper focuses on community acceptance. In so doing, it incorporates mechanisms of social participation derived from the legal framework and highlights the most significant elements that allow us to understand the community's attitude towards wind farm projects.

Mechanisms of participation

In terms of the possible articulation of participation mechanisms, literature has indicated that effective participation in the first phase of energy and territorial planning is a very relevant factor in the acceptance of wind power (Wolsink, 2000). This phase is a complicated and laborious process involving developers, landowners, the general public, regional authorities and several local authorities (Katsigiannis and Stavrakakis, 2014) that affects distinct sectors (economic, cultural and environmental among others). The nature of the planning and the articulation of the different interests are fundamental to the wind energy implantation process. For example, in the UK, one of the main difficulties in obtaining a work license for wind farms happens when the approval of these large structures implies changes in land use policy in areas that have been historically protected for their natural beauty (Elthamet al., 2008). This circumstance is reinforced by the fact that, unlike in Galicia, in most countries municipal authorities have decision-making capacity (Toke et al., 2008). This prerogative allows them, as in the case of local English authorities, to deny wind farm permission due to the impact of wind turbines on the landscape (Breukers and Wolsink, 2007). In addition, rural protection groups such as the Council for the Protection of Rural England often had a significant impact on planning decisions (Toke, 2005).⁴ In the Dutch case, wind farm planning requires a proactive decision by the local authority to adapt territorial zoning prior to the start of permit processing (Breukers and Wolsink, 2007). Also worth noting is the case of Tehuantepec, Mexico, where social opposition to wind farms mainly arises from issues related to land access (Juárez-Hernández y León, 2014).

All these experiences reflect new modes of governance with participatory processes through which a group of people are capable of exerting influence on the

⁴ Analyzing 51 wind farm planning decisions across England and Wales, Toke (2005) found that planning permission had been rejected for all the projects disapproved by the Council for the Protection of Rural England.

final results of territorial political intervention (Florini and Sovacool, 2009), policies, resource management and decisions concerning public life (Parag et al., 2013) to produce results more in line with community interests, thereby favoring community acceptance of wind farm projects. In these new models of governance, communities participate in defining the most adequate areas to locate the wind farms (Frame and Brown, 2008). Greater local acceptance results from incorporating criteria to protect people, minimize environmental impact (including landscape impact) and promote structures that allow local communities to substantially participate in later phases (Dimitropoulos and Kontoleon, 2009). In this regard, in countries like Denmark, England, Germany or the USA the participation of local agents (farmers, landowners or local communities) may be directly linked to the development of community wind farms (Loring, 2007; Nolden, 2013; Yin, 2013).

Another participation mechanism occupying a relevant position for community acceptance is the participation in the income or benefits derived from these facilities. The community benefits are conceptualized as income or benefits unrelated to wind farm or landownership. They are amounts of money that benefit the whole community, not just a few individual agents (Centre for Sustainable Energy, 2009). The existence of these community benefits initially appears as a condition for community acceptance of wind farm sites (Evans et al., 2011; Jobert et al., 2007, Dimitropoulos and Kontoleon, 2009). So, the provision of community benefits should generate greater social acceptance (Roddis et al., 2018, Walker et al., 2014).

Other stances (against) wind development

Scientific work places opposition to wind energy development within a set of attitudes in the so-called NIMBY syndrome (Not-In-My-Backyard) (Krohn and

Damborg, 1999) and explains that local communities reject wind farms because of their acoustic and visual impact (Devine-Wright, 2004). In this sense, Wolsink (1994, 2000) limits the explanatory capacity of the NIMBY arguments to the case of The Netherlands and asserts that most of the local antagonism or acceptance focuses on the visual impact of these facilities (Wolsink, 2007). Johansson and Laike (2007) show, in the case of Sweden, the positive relationship between public resistance to wind turbines and the way local agents visually perceive them; Scherhauer et al. (2017) do the same for Austria. NIMBY attitudes therefore fail to collect all the stances on wind farms.

Dimension and scope of the community concept

Literature also points out that the role of community benefits in the acceptance of wind farms is difficult to understand given the complex and controversial nature of this concept (Munday et al., 2011). Recognizing the community first requires determining its members, its internal articulation, its operating rules, and the relationships between the community and the other agents (administrations and business developers) that participate in the wind power development process. The community will play, insofar as the regulatory framework permits, the role of an agent participating in territorial planning and wind energy development with the necessary legitimacy to negotiate the economic compensation required to accept the projects according to the modification and fragmentation of the landscape (Johansson and Laike, 2007; Jerpåsen and Larsen, 2011) and other local impacts (Taylor et al., 2013) of the planning and subsequent installation of wind farm infrastructures.

The concept *community* can be addressed from two different perspectives: as a geographic community linked to the local environment (Munday et al., 2011; Swofford and Slattery, 2010; Center for Sustainable Energy, 2005; Bristow et al., 2012) or a community of interests with an adjustable community concept creating a flexible space capable of accommodating different interest groups (Munday et al., 2011; Bristow et al., 2012; Musall and Kuik, 2011). However, territorial or geographical communities with no communities of interests (Goodlad et al., 2005; Walker et al., 2010) also develop common strategies to defend collective interests. Here the inhabitants of all kinds, ideas or conditions living in the area affected by the wind farm constitute a community, intertwined by a common element, the territory. The action of these territorial communities can occur during the planning phase or development phase, when the wind farm is established and year after year throughout the process of authorization for a given space. By contrary, when geographically dispersed people join in cooperative wind farm projects, as widely happens in the case of Germany, they form a community of interests (Musall and Kuik, 2011).

Empirical evidence therefore highlights the importance of the different participation mechanisms, both those involved in the planning phase and those shaped in the form of community benefits, as determinants of wind farm implementation processes. In our case study we found that strong wind development required no community benefits. In fact, communities of interests or geographic communities played no relevant role as actors either for the energy or territorial planning of wind development.

4. Scope of community benefits in Galicia

Community benefits in Galicia, when they existed, were characteristically coercive. They were imposed on developers through regulatory resolutions. Table 1 shows the type of community benefit and related information like their relevance, duration and level of compliance and the number of wind farms rejected by the local community.

Unlike the Galician case, in many European territories like the United Kingdom, community benefits derived from the installation of wind farms are voluntary (Center for Sustainable Energy, 2005; Gubbins, 2007). In these cases, wind farm developers have no obligation to provide community benefits (Powys County Council, 2009) and no regulation indicating how to provide or manage these benefits if the developers decide to do so (Aitken, 2010). In many places they are voluntary goodwill payments to the community (Ellis et al., 2009). The developer provides these economic benefits through funds created for the communities (Walker et al., 2014; Cowell et al., 2007) usually administered by a local institution such as local associations, parishes and city councils. In some cases, local entities are specifically created to handle these funds with the common participation of local authorities and representatives of the developer (Munday et al., 2011). Sometimes even charitable organizations (Aitken, 2010) manage them. In these cases, local communities have the chance to negotiate with the developer and ultimately build collective acceptance through community benefit in specific areas.

Coercive community benefits are also present in some of our neighboring countries but their scope and dimension are greatly different to that of Galicia. For example, in Denmark and parts of Germany, community benefits mainly arise from the cooperative ownership of wind farms (Breukers and Wolsink, 2007): the community nature of wind farm ownership is conducive to its total social acceptance. On the other hand, Greece (3%) (Dimitropoulos and Kontoleon, 2009) and Portugal (2.5%)

(Delicado et al., 2016) fix the percentages of wind farm invoicing destined to local communities. That is to say, the municipalities receive the income for the entire geographical community, which results in a higher acceptance of the new investments.

Table 1: Community benefits associated to the installation of wind farms in Galicia. 1995-2009.

In the case of Galicia, community benefits typified in Galician legislation⁵ consisted in some of the following four mechanisms: creation of an environmental fund, establishment of certain levels of industrial investment, public participation of the Autonomous Communities in the social capital of wind farms and, finally, the participation of municipalities in wind farm development (Table 1). The data analysis from this Table allows us to draw two conclusions: (i) the non-universality of community benefits and (ii) the partial non-compliance in their provision.

The non-universality of community benefits arose because individual resolutions to each of the developers led to the approval of wind farms and, arbitrarily, some geographic communities obtained community benefits while others did not. As a result, 97 wind farms were initially required to provide some kind of community benefit: public participation in the ownership of wind farms (17 wind farms), creation of an environmental fund (7 wind farms) and/or industrial investments (73 wind farms). At the same time, 56 other wind farms were authorized with no type of community benefit. The results of the semi-structured interviews showed more than

⁵Decree 205/1995 (see Xunta de Galicia, 1995) and Decree 302/2001 (Xunta de Galicia, 2001), both regulating the use of wind energy in the Autonomous Community of Galicia, set the key regulatory rules on wind energy development for the period analyzed in this paper.

80% of the communities were dissatisfied with these procedures and they were powerless to correct this asymmetry⁶.

We must add other asymmetries derived from the duration of the community benefits to that initial situation of inequality: the duration of community benefits was permanent for some of them, while it was limited for others. As we may see in Table 1, in Galicia the predominant type of wind farms are the ones whose community benefits are destined to industrial investments (89% of the MW) and their duration is limited over time while the absolutely testimonial ones (1.5% of the total MW) are those that have permanent community benefits through public participation. This participation may be aimed at a broad geographic community (the whole Autonomous Community when it participates in the share capital) or a more limited community (the population of a municipality, when the municipality is the one that participates in the wind farm). In addition to limited significant public participation in wind benefits, no local community directly participates in wind farms. We must therefore add to the non-universality of community benefits an uneven distribution between permanent and temporary mechanisms, and the total absence of community participation in economic benefits, a mechanism that brings about greater social acceptance (Kerr et al., 2017).

Non-compliance with the provision of community benefits has different reaches in function of the type of provision mechanism. The environmental fund was never constituted nor granted any economic benefit⁷. Therefore, the affected developers

⁶ “We do not understand the reason why this farm in O Valadouro was authorized without requiring (from the developer) any type of benefit for the community and close by, in Viveiro, the developer was required to provide some benefits” (CMVMC07. Viveiro. 18/10/2008).

⁷The Galician Government had formulated the environmental fund, called the Plan for the Promotion of Solar Energy, administered by the autonomous government through the Galician Energy Institute (INEGA). This fund will come from economic wind investment resources: a fixed contribution, borrowed only once, of 3,000€/MW for the total MW approved for each developer; and a permanent variable contribution according to the annual invoicing of the wind farms, ranging between 0.3% and 0.5% of the volume invoiced (from economic database)

executed the wind farms without transferring the income required of them by the resolutions for authorization, i.e., they executed the wind farms without having fulfilled community benefits. Likewise, as Table 1 shows, each of the industrial investments linked to the development of wind farms were also partially breached. The legislator intended to extend the positive economic effects derived from specific wind farms to the Galician geographic community. As shown by Montero et al. (2010), nearly one quarter of the investments were unfulfilled between 1996 and 2010 despite having been coercively established⁸. That is to say, in some situations the authorized wind farms breached their obligation to provide community benefits, but these wind farms experienced no community opposition⁹.

As aforementioned, 56 wind farms had not been assigned any kind of community benefit. This represents more than one third (36.6%) of the total number of wind farms and installed power. The semi-structured interviews and workshops permitted us to verify that no community opposition was present in this wind farm process either¹⁰. It is worth noting that this occurred in a rural territory like Galicia where communities, such as *Comunidades de Montes Veciñais en Man Común*, have extensive territorial implantation. Unfortunately, these geographic and interest communities neither promoted collective social processes to obtain more community income nor did they require full compliance with the economic obligations assumed by the developers.

⁸This non-compliance neither led to the control of the Galician Government by opening sanction proceedings or reversing the rights acquired for the permanent exploitation of wind resources in a given space.

⁹The review of the administrative records of the environmental evaluation of the wind farms and the newspaper library of the main media of the geographical area (secondary information) rendered no proof of organized opposition processes in any of the cases.

¹⁰ As seen in Table 1, no wind farm was rejected as a result of this fact. "We did not want the wind farm, but what could we do? They (the promoters) only pay the owner of the land and we, who are not owners, do not count at all." (CMVMC15. Lalín. 16/02/2010).

This situation resulted from the Galician legal framework, which established a no action protocol in the case of non-compliance by the developers. In addition, the legislator did not carry out its supervisory functions. Finally, some private benefits could be considered "communal" given the particular system of land ownership in Galicia. As previously discussed, the private landowners of a vast majority of wind farms were the "*Comunidades de Montes Veciñais en man Común*" i.e., a geographical community that represents all the open houses¹¹ in that territory (Department of Agriculture, Livestock and Forestry, 1992). This land ownership system generates confusion in terms of property payments and community benefits. As landowners, these communities were already supposed to receive collective economic compensation related to the land property that did have an economic impact throughout the community despite not being a community benefit *per se*, as previously defined¹². As we shall see in the following section, the success of wind power development was assured without having to apply this participation mechanism.

5. Discussion

As previously indicated, community benefits in Galicia were regulated and therefore purely coercive. In these cases, their amount and provision cannot be considered a mechanism facilitating community wind acceptance to a greater or lesser extent (Cowell et al., 2011). Thus, they cannot be used as determinants of wind energy expansion.

To explain the strong development of wind energy in Galicia between 1995 and 2009, with neither social nor local opposition, we must understand the regulatory

¹¹ 'Open houses' means houses occupied by their owners for at least 6 months.

¹² 100% of the CMVMC interviewed only received compensations as owners; they never received community compensation (from legal-economic database and database of landowner income).

framework at the time. Understanding accompanying administrative processes and rules may provide clues to explain the process in Galicia. Table 2, includes the norms and mechanisms of participation in each phase of institutional planning. Figure 3, establishes the temporal sequence of the administrative procedure, from the territorial planning by the Xunta de Galicia (Autonomous Community) through the period of admission, authorization and construction until the start-up of the wind farms and, finally, the request to the Ministry of Industry for its inclusion in the special regime. Figure 4, shows the main institutional agreements that propitiated wind development in Galicia. The regulatory framework includes (i) the approval of the Galician Sectorial Wind Plan (GSWP), (ii) the approval of Business Wind Plans (BWP), (iii) the admission to processing of new wind farms, (iv) the declaration of Public Utility, (v) the environmental declaration of the wind farm, (vi) the wind farm authorization and finally, its (vii) inclusion in the special regime.

Table 2: Content of the main institutional standards in Galician wind development and associated participation processes.

Figure 3: Administrative procedure and public participation for wind farms in Galicia from 1995 to 2009. Note: For a detailed description of phases (i) to (vii), see Section V. Source: Own elaboration from secondary information from SIDWEG (Copena, 2015).

Figure 4: Sequence of approval of the most relevant wind regulations for territorial and energy planning. Source: Own elaboration from Socio-administrative database (Copena, 2015).

(i) Approval of the Galician Sectorial Wind Plan (GSWP)

Territorial planning is the first, and perhaps foremost, of these institutional standards because it determines the areas that are apt to accommodate wind farms and the manner in which to establish them. In Galicia, this was carried out

through the approval in 1997 of the Galician Sectorial Wind Plan (Department of Industry and Trade, 1997). This Plan approved 98 wind research areas covering almost 473 thousand hectares of land, representing nearly 16% of the total surface area of Galicia. It was modified 4 years later, raising the wind surface to 21% (see Figure 4). This process had a strong territorial impact given that a single administrative procedure now included more than one fifth of the Galician territory as land where it was possible to build a wind farm¹³. Despite the territorial importance and the long validity of the GSWP, the autonomous government provided no additional information to the landowners, the municipalities, or the interested social and sectoral agents and/or those affected by the structural planning of the territory, even though it would cause important changes in landscape and land use¹⁴. The initial publication of the GSWP and its subsequent modification gave to the general public only a period of 30 days to make allegations (Table 2). The few submitted allegations¹⁵ referred to cartographic errors, land use compatibility and environmental impact minimization. All of them were of a technical nature, so no substantial modifications were made to the GSWP.

In any case, this formal participation process was empty because the Galician Government had already granted nearly 75% of the total power assigned (over 2,800) exclusively to the 10 holders of Business Wind Plans (Montero et al, 2010) months before this territorial planning process even started, as may be seen in Figure 4. In addition, prior to the formulation of the Wind Plan, the Galician Government had also authorized 141.7 MW to 7 wind farms and admitted another 24, representing 436.8 MW (Copena, 2015).

¹³ Territorial planning has undergone no modification since this last modification (Figure 4).

¹⁴ The semi-structured interviews and information derived from the workshops showed that most of the communities received no type of support from the regional government. The conclusions of workshops note that the government provided them with no relevant information on the wind farms affecting the communities nor the location plans for the wind turbines and referred them to the public information allegation process.

¹⁵ Information derived from the DOGA (Official Bulletin of Galicia).

Consequently, prior to defining and approving the Galician Sectoral Wind Plan and opening the 30-day allegation period, the autonomous government had already assigned exclusive private rights and authorized wind power in places still not classified as areas apt for wind farms. The process resulted in restricted participation: the administrative procedure carried out by the Galician Government resulted in a limited number of operators managed a significant part of the wind processes with territorial impacts. That is, the administrative procedure shown in Figure 3 was partially breached because an important volume of wind power had already been assigned prior to the approval of the territorial planning (Figure 4). However, it resulted in a broad and rapid growth of installed power with no social conflict.

(ii) Approval of Business Wind Plans (BWP)

Business Wind Plans were the central figure of wind development in Galicia. The Galician government approved 18 Business Wind Plans (BWP) (Montero et al, 2010) that implied having exclusive rights to wind development in specific areas, during a period of time (between 5 and 10 years) sometimes in exchange of community monetary compensation.

The 10 BWPs authorized prior to the approval of the Wind Sector Plan of Galicia played a key role in territorial wind planning given that the area they affected included 75% of the total power assigned by the Wind Sector Plan (see Figure 4). Moreover, 93.4% of the power from all the wind farms operating in Galicia precisely came from BWP wind farms (Copena, 2015).

Geographic communities and communities of interest had no participation in the allocation process (Table 2) or in the wind development. The institutional architecture only contemplated competition for the same spaces among

developers, without linking this competition to greater community benefits (Montero et al., 2010). Actually, a "peaceful distribution" of the territory took place between limited numbers of developers. The previous cataloging of land as apt for windfarms and the declaration of wind investment as Public Utility allowed the widespread and rapid expansion of wind development. No attention was given to the landscape or environmental value of wind lands; other economic value for agricultural holdings; or heritage value or natural value regardless of whether BWP had been approved without community benefits or whether the benefits existed but had not been provided (see Table 1). The institutional framework provided sufficient mechanisms, such as BWP and Public Utility, to grant the developer legal protection and ensure rapid wind energy development.

(iii) Admission to processing of new wind farms

After the approval of the BWP, and under the normative framework of Galicia (Figure 3), the Resolutions in the Official Bulletin of Galicia (DOGA) informed the general public, interested agents and communities in particular and, above all, the landowners about specific wind farm projects from the initial request of admission to processing to the final authorization. The first step to definitely install a wind farm, admittance to processing, incorporated no participation mechanism (Table 2 and Figure 3). It was also highly asymmetrical: preferential and exclusive rights were granted to BWP holders. All of the 4 competitive calls to admit new wind farms carried out between 2002 and 2006¹⁶ presented the criterion of "BWP ownership"¹⁷. The administration promoted no competition among developers

¹⁶ The existence of competitive calls to approve wind farms was a novelty introduced by Decree 302/2001. Until that date there were no such calls: each promoter individually went to the Xunta de Galicia to request admission to processing and subsequent authorization of one or more wind farms, but there was no competition with other promoters (from socio-administrative database).

¹⁷ As a consequence, 90% of the total 2,168 MW admitted during this period belonged to BWP owners (from socio-administrative database).

during this phase that could result in the acceptance of greater community compensation in specific places or other additional benefits for the local or general community.

The regulatory framework included no local or general compensation to facilitate the social acceptance of wind farms developed in areas of environmental interest, when admission for processing was requested in spaces of these characteristics. In fact, throughout the boom in wind development studied herein, wind farms were installed in environmentally relevant areas (Gómez-Orellana et al., 2014) within the Natura 2000 European Protection Network: 54 wind farms totally or partially affect 13 Sites of Community Importance, representing 1,254.72 MW of power (Copena and Simón, 2013). As already noted in Table 1, Galician regulations established an Environmental Fund for Solar Energy to manage a set of community benefits facilitating the social acceptance of wind farms. However, there was no need to provide this fund or limit the likelihood of occupying environmentally sensitive spaces. This was especially clear in the case of the Natura 2000 network called Serra do Xistral. In this ecosystem, unique at a European level, applications for wind farms were admitted and resulted in 28 wind farms with an aggregate power of 642.32 MW. According to various semi-structured workshops and interviews conducted in this area of northern Lugo, this wind development was carried out without specifically requiring the developers to compensate communities of interests or local communities.

(iv) Declaration of Public Utility

After the admission to process, the request for the declaration of Public Utility, which the developers could claim while requesting wind farm authorization¹⁸, opened the stage that would lead to the wind farm construction and start-up. This means that the Galician government could now expropriate private property to develop wind farms and make this private property available to developers upon request. Thus, the regulatory framework favors the occupancy of wind farms by developers without giving any of the agents (municipalities, rural communities or other communities of interests) the chance to prevent it. Indeed, no process was derived to reject the declaration of Public Utility within the 30 days available to formulate allegations (Table 2)¹⁹. This situates Galician Wind Development in what literatures calls “*privileged projects or door-openers*” (Jobert et al., 2007; Sooriyaarachchi TM et al, 2015). At most, landowners could try to increase their single lump-sum payment by appealing to different economic assessments (Lafuente, 2013) to base the amount on the yields this land produced “before” being catalogued as areas apt for wind farms. This and other landowner rights could delay the administrative expropriation procedure but, after the wind farm was declared as Public Utility, the developer could immediately expand investments on the expropriated land given the suggested “urgent occupation” of the land inherent to the declaration (Table 2). Within this context, the amount and provision of community benefits seems to have become marginal as a guarantee for wind energy development.

(v) Environmental Declaration of the Wind Farm,

¹⁸ This declaration was contemplated by the two decrees regulating the approval of wind farms during the entire period under study in this work (socio-administrative database).

¹⁹ Conclusion derived from the analysis of information included at database of expropriation.

The Environmental Assessment Statement, as seen in Table 2 and Figure 3, is a necessary requirement for the authorization of wind farms in Galicia and the entire public has the option of submitting environmental allegations to wind projects. However, no wind farm received a negative environmental assessment despite the fact that wind farms have been installed in environmentally sensitive areas, as discussed in the previous point. The wind farms causing noise pollution to affected communities received no negative assessments either; so there were no compensatory measures or community benefits²⁰.

(vi) Wind Farm Authorization

The aforementioned asymmetries are heightened from the perspective of wind farm authorization, the next step in the administrative procedure prior to the wind farm operation phase (Figure 3). Those preferential and exclusive rights to admit specific wind farm projects to the admission process were complemented by permanent rights, with no expiry date, to exploit the wind farms reaching this last phase of the administrative procedure (Table 2). The communities, general or local, were granted 30 days to present allegations to the particular project. In some cases, allegations were filed, but they did not result in higher incomes for the communities. They resulted in no community participation in wind farm income or the veto of any wind farm either for its visual or environmental impact on sensitive and fragile ecosystems or for its low amount of community benefits. When the wind farm had already gone through all the previous phases (located in a place declared apt by the GSWP, coming from one of the approved BWPs, having obtained the character of Public Utility, if this were the case, having been admitted to the process and

²⁰ This happened in some wind farms in the province of A Coruña, such as the one located in the Sierra de A Capela. Field work allowed to gather this information: "We are the only ones left here. The other families that lived in this town have gone away because the noise is too annoying, and the promoters have paid not compensated us for this problem" Private Owner¹⁸. San Sadurniño. 15/09/2010.

passed the environmental evaluation, as shown in Figure 3), authorization and subsequent commissioning occurred almost automatically despite possible breaches concerning community benefits, as previously discussed

(vii) Inclusion in the Special Regime

In the administrative process for wind development in Galicia shown in Figure 3, the role of the Spanish government is to manage the Registration of the Special Regime. Its importance is of the first level throughout the period under study because being included in it guaranteed the developer access to the Renewable Energy Support System in Spain (Del Río, P, 2008). Furthermore, 50 MW of installed power could not be exceeded and the start-up commission was required. As indicated in Table 2, no scope for participation was considered for this last institutional standard²¹.

Summarizing, the socio-demographic context of the areas affected by wind farms²², with an aging population whose income mainly derived from pensions, made the position of local communities more fragile. It is worth pointing out that these communities received no institutional information concerning the rights and obligations this process would imply. Moreover, the support generally received from other social entities (agrarian unions, environmental movement, universities ...) was also insignificant. A clear situation of asymmetrical information emerges not only because the wind farm developers had all the information concerning the process

²¹ As the information reaching the communities became more transparent, in some workshops it was pointed out that "the government could have conditioned subsidies to developers (relative to the Feed-In_Tariffs) on the fulfillment of their obligations concerning community benefits". WS 15. Paradela.

²² In 2015 over two-thirds of the wind turbines were located in 71 rural municipalities with population densities under 100 people/km² and fewer than 5,000 inhabitants (Copena and Simón, 2018)

from the very start, but because they were also specialized in this type of process and, foremost, the legal framework favored them.

The key element explaining the lack of local opposition to wind projects, despite the absence of community benefits, lies in the characteristics of the planning model decided by the regulator. In this case, the regulator was the Galician Government, which established areas apt for wind farms through administrative approvals that favored developers even prior to public participation in the territorial planning process, and declared wind farm investment as Public Utility, two key factors that explained the rapid and broad expansion of wind energy development in Galicia with no social or local conflicts²³. Furthermore, subsequent administrative processes, admission to processing and authorization of wind farms, contributed to increasing the asymmetries between the parties even further. This system gave the developers maximum guarantees to implement wind farms, but gave insufficient support to local and social communities by assigning them the role of mere acceptors of established locations²⁴.

The Galician scenario falls in line with the work of Van der Horst and Toke (2010), who associate high levels of citizen participation to higher rates of local project rejection. These authors claim that coalitions or special interest groups are relatively privileged in terms of capital- whether social, human and/or financial – and are therefore in a better position to influence and shape the results of the planning process than are the less organized local groups. In the Galician case, groups of economic and political interest designed a regulatory framework that

²³ All respondents received a communication from the autonomous government notifying the initiation of a Public Utility declaration process that opened the possibility of expropriation. That is to say, they knew they would be expropriated if they did not reach an agreement: 94% of the respondents declared they knew they could be expropriated as compared to 6% who responded they had no knowledge of this (from database of expropriation).

²⁴ “They (the developers) had all the rights and could place the wind turbines wherever they pleased. We could complain, but nobody paid attention.” Private owner 75. Carnota. 1/08/2012.

favored wind expansion through vertical planning, mainly arising from the request of the companies themselves. Far from participatory, the procedure provided little information and no decision-making capacity to local agents, associations, local environmental organizations, affected municipalities and landowners for the settlement of potential wind farms.

6. Conclusions and policy implications

This paper identifies factors that favored strong wind development with no social conflict in Galicia from the year 1995 to 2009. The literature points out that the active participation of the agents involved in territorial planning to determine sites for wind deployment, the lack of visual impact of the wind turbines, and/or the implementation of participatory processes expressing new models of governance are all relevant factors in guaranteeing the social acceptance of wind farms. In Galicia this so-called “social peace” was neither due to the active participation of agents in territorial planning nor the small visual impact of the wind turbines²⁵, nor was it due to new governing models. In fact, there were no collective social processes aimed at obtaining community benefits, one of the mechanisms of community participation that guarantee a greater social acceptance of this energy source. Likewise, community benefits had no place in the success of this wind implantation process with no local conflict either. The main characteristics of this type of benefit, determined by the regulator, were its non-universality and partial non-compliance with provisions. Interestingly, however, the presence of these

²⁵ The results of the interviews show that 83% consider the presence of a strong environmental impact, as compared to 17% who indicate little or no presences of environmental impact. 48% consider the main problem was noise, while 40% consider the visual impact of wind turbines.

circumstances in the case of Galicia motivated no social and local opposition to the wind projects.

Our paper concludes that the key element explaining the absence of local opposition to wind farm projects lies in the characteristics of the planning model chosen by the Galician Government. Specifically, we find that allocating suitable sites to house wind farms to developers, prior to public participation in the Territorial Planning process, and declaring wind farm projects as Public Utility could result in the expropriation and the urgent occupation of the lands affected for wind farms. These two key factors explain the broad and rapid expansion of wind development in Galicia with no social or local conflicts.

Moreover, subsequent administrative processes linked to the admission to processing and wind farm authorization resulted in increased asymmetries between the parties. This system gave the developers maximum guarantees to implement wind farms, but it gave insufficient support to local and social communities by assigning them the role of mere acceptors of established sites.

Our results confirm the hypothesis stating that the amount and scope of community benefits cease to be determinants of wind farm acceptance when these benefits are established by normative decision, as is the case of Galicia. As indicated by Cowell et al. (2011), community benefits set by law cannot be a mechanism to facilitate community acceptance of wind farms. The case of Galicia seems to fall in line with van der Horst and Toke (2010) who associate a high level of citizen participation to higher rates of rejection to local projects. These same authors claim that coalitions or special interest groups that are relatively privileged in terms of social, human and/or financial capital are more capable of influencing and shaping the results of the planning process than the less organized local groups. In other

words, taking this reasoning to the Galician case brings us closer to understanding how certain economic and political interests shaped a regulatory framework for wind energy development in Galicia that favored wind expansion by company developers and launched concrete wind installations through vertical planning, fruit of the request of these companies themselves. In so doing, the procedure was hardly participatory, providing little information to local agents, involved but void of decision-making capacity; associations and environmental organizations at the local level; affected municipalities and the landowners of potential wind infrastructure sites.

Our analysis illustrates that public support is of paramount importance in promoting wind energy. However, cases implying the allocation of local resources require an appropriate bidding procedure for wind farm authorization. A period of public information for all participants should precede this process to give all the parties the chance to negotiate at the same level. The Galician government could implement a policy to induce different results in terms of participation in benefits that would strengthen rural communities, both economically and socially, without hindering the development of the new green model. Moreover, our research alerts on the need to establish effective measures to guarantee developers' compliance with the community benefits imposed on them.

In short, the presence of regulated community benefits did not explain the absence of local opposition and the high level of wind energy acceptance in Galicia. The key element of the process was a regulatory framework offering local agents little participation and decision-making capacity that favored the installation of wind turbines by granting the developers different rights, such as the concession of exclusive land areas and the possibility of expropriating the land to develop wind farm projects.

The policy recommendations that are drawn from this study are basically two. Firstly, it would be important to increase the levels of community participation in processes related to wind energy, mainly at the distributive level. Secondly, it would be positive to have regulatory mechanisms leading to a more transparent process.

Finally, to advance knowledge about the community benefits derived from wind energy and its role in the development of this renewable energy source, it would be of great interest to carry out comparative studies in more regions in more countries with different economic, political and legal systems.

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