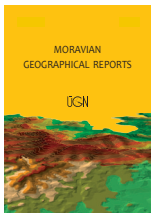

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Wind farms and rural tourism: A Portuguese case study of residents' and visitors' perceptions and attitudes

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Abstract

Residents' and visitors' perceptions of and attitudes towards existing wind farms, as well as the perceived impact of wind farms on tourism, are examined in this article with reference to a built heritage site in the Portuguese countryside. Based on a set of semi-structured interviews, the paper sheds light on the positive impact that the community's or local actors' involvement in the constitution, management and decision-making processes has on the residents' perceptions and attitudes regarding wind farms, and also on the trade-off with the perceived effect of wind farms on local tourism. Moreover, it shows that although most visitors criticised the proximity of wind turbines to medieval architecture, a clear majority of them accepted their presence and virtually all of them stated that these facilities had no impact on their choice of destination.

Keywords: *wind farms; built heritage sites; rural tourism; residents' perceptions; visitors' perceptions; Portugal*

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1. Introduction

In recent decades, we have witnessed a remarkable growth in the generation of electricity through wind power in Europe and other parts of the world (e.g. International Energy Agency, 2015). The growth of wind energy is both part and reflex of the contemporary "energy transition", a technological transition that has impacts on all spheres of life (Smil, 2010), some of which potentially carrying negative dimensions. The issue is that whilst wind energy is considered a sustainable form of electricity generation, the technologies used for its production have potentially negative local impacts, including those on tourism, as demonstrated below.

This article presents a Portuguese case study of the residents' and visitors' perceptions and attitudes towards wind farms, and of the perceived impact of wind farms on tourism, at a rural destination. The article will be developed as follows.

After introducing the state of the art, the article describes the study methods and the context under scrutiny, respectively. The subsequent section presents the empirical evidence, starting with the residents. Then, the article discusses the research results. The main conclusions are put forward in the final section.

2. State of the art

Various scholars (e.g. Barry, Ellis and Robinson, 2008; Bell, Gray and Haggett, 2005; Haggett and Futák-Campbel, 2011) have identified a gap between the widespread support of the production of wind energy and local objections to the siting of wind turbines. Although local objection was at first ascribed to the Not In My Backyard (NIMBY) syndrome (e.g. Wolsink, 1989), that concept has been questioned by several authors (e.g. Bell, Gray and Haggett, 2005; Devine-Wright, 2009; van der Horst, 2007; Wolsink, 2006). Some other scholars (e.g. Pasqualetti, 2004; Sowers, 2006; Warren et al., 2005) even identified the opposite of NIMBY, Please In My Backyard (PIMBY), which emerges when the wind turbines are regarded as a source of revenue.

Despite the existence of other potentially negative local impacts such as noise and birds/bats mortality (e.g. Groothuis, Groothuis and Whitehead, 2008; Pasqualetti, 2011; Warren et al., 2005), tourism is a recurring motivation in the campaigns against wind energy facility siting.

There is concern that the wind farms may adversely affect local tourism, by visually polluting the most valuable tourist resources or products and their settings, above all the landscape (e.g. Brittan Jr., 2001; Devine-Wright and Howes, 2010; Frantál, Pasqualetti and van der Horst, 2014;

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Warren and McFadyen, 2010), but also heritage items or sites (e.g. Clarke, 2009; Jerpåsen and Larsen, 2011), including some in Portugal (e.g. Afonso and Mendes, 2010; 2012; Delicado et al., 2013; 2014).

This is particularly so in the countryside, notably in those areas where tourism has been growing in recent decades, both in terms of demand and of supply, due to the rise of a lifestyle-led and leisure-oriented society, and the widespread mobilisation of tourism as a strategy for rural development and regeneration (Walmsley, 2003). In other words, the "wind turbines – tourism" conflict is particularly pronounced in areas where the productive functions of the countryside come into conflict with the consumptive functions. As Woods (2003, p. 312) mentions, "in the new rural economy, the commodification of rural space, culture and lifestyle is more important than the physical exploitation of rural land". Hence, landscape and heritage items or sites, including historic buildings and vernacular architecture, are now part of "countryside capital", a wide range of rural resources or products that are bought and sold through tourism (Garrod, Wornell and Youell, 2006).

Moreover, although the tourist consumption of rural assets is a multisensory experience (e.g. Daugstad, 2008; Frisvoll, Forbord and Blekesaune, 2016; Woods, 2011, pp. 110–119), the visual dimension is usually considered the most important (e.g. Abram, 2003; Urry, 1992; Woods, 2011, p. 101). Hence, visual change and its potentially negative effects on local tourism are stressed strongly in the campaigns against wind energy development in rural areas.

The relative impact of existing wind turbines on landscape images has been examined by various authors. Research has shown that the fit of wind turbines in the landscape varies significantly according to a number of factors, mainly the type and aesthetic quality of the landscape at stake: potential negative impacts on the images of landscapes are lower in unattractive, industrial or modern agriculture landscapes (e.g. Lothian, 2008; Molnarova et al., 2012; Wolsink, 2006); but also the size of wind farms is a factor, as small-scale development tends to be more positively viewed than large-scale development (e.g. Devine-Wright, 2005; Molnarova et al., 2012; Thayer and Freeman, 1987; Wolsink, 1989). Residents and tourists are also believed to have different viewpoints (Devlin, 2002; Frantál and Kunc, 2011), although findings from Scotland suggest the contrary (Warren and McFadyen, 2010).

The relationships between wind farms and rural tourism have also had considerable scrutiny in the scholarly literature. Research on this topic shows conflicting results: some studies show that wind farms may have a negative effect on tourism demand and tourism expenditures in the affected area (Broekel and Alfken, 2015; Riddington et al., 2010), whereas others demonstrate that they are innocuous in terms of local tourism demand, expenditures and experiences (Aitchison, 2012; Frantál and Kunc, 2011; Sousa and Kastenholz, 2015; Warren and McFadyen, 2010), and can even function as tourist attractions per se in some rural areas (Aitchison, 2012; Frantál and Kunc, 2011; Pasqualetti, 2004).

Most of these studies are specifically concerned with general rural tourism destinations, but the case of heritage items or sites remains largely unexplored. Besides, most of the studies deal with the actual or potential impact of wind energy projects on tourism. Less attention has been devoted to the perceived impact.

Our contribution addresses those gaps. The purpose of this article is twofold. On the one hand, it aims to empirically assess the impact of the community's or local actors' ownership/involvement on the residents' perceptions and attitudes towards wind farms, and the trade-off with the perceived impact of wind farms on tourism. On the other hand, it aims to scrutinise the visitors' perceptions and attitudes regarding wind farms and their effect on destination choice. The primary research question is: Do wind farms adversely affect the attractiveness of heritage-based rural tourism destinations? The study is centred on a Portuguese case.

Portugal has had a very significant investment in the production of wind energy in recent years. The number of wind farms increased from a residual number (8) in 1999 to more than 250 in 2015, while the capacity of wind energy increased from 18 MW to 5,034 MW (Direção Geral de Energia e Geologia, 2012; 2016). All but one of the wind farms are located onshore, mostly in rural areas, as is often the case in Europe and elsewhere in the world (e.g. Frolova, Prados and Nadai, 2015; Munday, Bristow and Cowell, 2011; Pasqualetti, Gipe and Righter, 2002). Unlike other countries (e.g. Toke, 2005; Toke, Breukers and Wolsink, 2008; Munday, Bristol and Cowell, 2011), in Portugal, there are no community-owned wind farms and just five companies hold 76% of the market share. This is because, in the 2000s, the national government opted for a bulk sale of wind energy licences, which favoured concentration over small-scale generation.

In terms of public opinion, according to Eurobarometer data, 70% of Portuguese are in favour of the use of wind energy, in line with the European average (71%) (European Commission, 2007). With respect to agreement with the European Union 2020 targets – to increase the share of renewable energy to 20% (European Commission, 2010), in 2012, just 13% of Portuguese respondents considered them to be too modest, slightly below the European average (17%) (European Commission, 2012).

Although planning permission for wind farms (above a certain size) is subject to environmental impact assessment (EIA) under strict European rules, in contrast to other countries (e.g. Aitken, 2009; Bell, Gray and Haggett, 2005; Devine-Wright, 2005; van der Horst and Toke, 2010; Wolsink, 2007), in Portugal, a clear majority (71%) of wind farm projects that undergo EIA have been approved (Delicado et al., 2014). Direct benefits for the municipal authorities (2.5% of the annual revenue of wind energy facilities) and centralised planning practices have led to low levels of controversy and a high rate of project approval (Delicado, Figueiredo and Silva, 2016). Often public consultation procedures, in most cases deeply flawed in terms of dissemination to potential stakeholders (e.g. Gonçalves, 2002; Lima, 2004), have no participation from civil society (citizens, local business people, environmental non-governmental organisations) and when they do, opinions tend to be divided, some in favour, others against the projects (Delicado et al., 2014).

3. Study methods

This report is part of a broader investigation on rural tourism developed by the lead author in Sortelha (e.g. Silva, 2009; 2014). The case study is grounded on a set of semi-structured interviews conducted in 2012 (one week), 2013 (one week) and 2016 (three weeks), during which the lead author worked and stayed in the village, gradually expanding

the network of acquaintances and respondents. Over time, we interviewed 21 residents and 68 visitors. In both cases, the interviews were structured on the respondents' perceptions and attitudes towards wind energy in Portugal and Sortelha, addressing the following topics: wind energy generation and utilisation; utility owned wind farms in the village; concerns; landscape change; wind farms and tourism destination choice; the local opposition movement; and involvement in the wind energy projects.

The interviews with residents were conducted in 2012 and 2016, both with men and women, eight of whom were linked to the tourism sector. In 2012, the work was focused on tourism entrepreneurs while, in 2016, along with the same tourism entrepreneurs, who expressed similar attitudes and opinions in both phases of study, the research was broadened to encompass other residents. The interviews with visitors were conducted in 2013 (40) and 2016 (28). Visitors were selected for interviewing following nationality and basic demographic characteristics. The aim was to include respondents from the two most important visitors' country of origin (in proportion), a balanced gender representation and across the age spectrum.

Table 1 presents the interviewees' profile, both residents and visitors. The visitors interviewed represent the Portuguese and the Spanish markets – who accounted for 78% and 9%, respectively, of the 437,270 visitors registered by the local tourist office between 2007 and 2015[1], mainly urban or periurban dwellers with high education levels, and mostly aged between 31 and 45 years. Residents have low levels of education and are mostly over 46 years old. About half of the interviews with residents and a third of the interviews with visitors were recorded, transcribed and subject to a content analysis, while notes were taken on the remaining ones.

4. Geographical context and background

Sortelha is a village located in a mountainous area, with stone outcrops of granite, in the municipality of Sabugal, some 30 km from the city of Guarda in central eastern Portugal, close to the border with Spain (see Fig. 1). Sortelha includes two separate places: the walled village, a designated built heritage site, and the outskirts of the village, where the great majority of its about 150 permanent residents live[2]. Sortelha has socio-economic features characteristic of many other places in rural Portugal: an ageing population (47% of people are over 65 years old) with low income and low levels of formal education and training (the illiteracy rate is 17%).

The main sources of income for local families are employment in public or municipal administration, small-scale retail, money transfers from pension and retirement payments, and tourism, complemented by a small-scale agriculture for family consumption. Today, tourism occupies 12% of residents – who work in tourist accommodations (8 units, providing a total of 19 bedrooms), restaurants (2), cafés/snack-bars (4), the tourist office, handicrafts, or home-made food products, but also relies on the built heritage site and its rural setting/landscape.

Ideas of historical conservation emerged here in 1910, when the castle was awarded official protection status as a "national monument". Subsequently, in 1933, the pillory was designated a "building of public interest"[3]. Later, in 1996, historical conservation was extended to the whole citadel and the urban fabric became subject to the strict requirements of historical conservation in terms of architecture and building materials. Quickly, the site was restored and rendered "historical" (Silva, 2014)[4], but also discursively associated with the Middle Ages (Silva and Leal, 2015). These were outcomes of the village's integration into the Recovery

	Visitors	**Residents**
Number of interviewees	68	21
Nationality	53 Portuguese; 15 Spaniards	Portuguese
Gender	36 females; 32 males	10 males; 11 females
Age	16–30 years: 8;	16–30 years: 3;
	31–45 years: 31;	31–45 years: 7;
	46–60 years: 20;	46–60 years: 6;
	≥ 61 years: 9	≥ 61 years: 5
Place of origin	Urban/periurban: 63; Rural: 5	Urban/periurban: 2; Rural: 19
Education level	≤ high school: 13; high school: 55	≤ high school: 19; high school: 2
Number of visits	1st visit: 58; 2nd visit: 4; 3rd visit or more: 6	

Tab. 1: The profile of the interviewees
Source: authors´survey

[1] Whilst the tourist office in Sortelha was created in 2003, the information produced by it until 2007 is unreliable because it did not operate on a daily basis, and its previous location was less visible than its current position at the entrance to the walled village.

[2] The site consists of about 100 stone buildings, most of which are representative of vernacular architecture; with narrow streets, a few cafés and tourism accommodation establishments; a restaurant and a church; as well as pillory and a castle. The built fabric is embraced by well-preserved fortress walls.

[3] An artefact is considered of "public interest" when its protection and enhancement represents a cultural value of national importance, but for which the system of protection for "national monuments" is considered disproportionate.

[4] That was accomplished through the preservation of monuments; the restoration of facades and roofs of buildings; the removal of elements considered "modern" from the facades and roofs of buildings (e.g. television antennas and gutter pipes); the placement of wooden doors and windows in the facades; the uncovering of the stonework of buildings; and the replacement of television antennas and aerial electrical power lines by underground communication and electrical cables (Silva, 2014, p. 621).

Fig. 1: Location of the case study area

Programme for the Historic Villages of Portugal (1995–2006), a state-led programme aiming to renovate the historic buildings and the built environment and to generate tourism revenue for the populations of 12 villages in the eastern side of the Central region of the country.

In 2010–2011, Sortelha witnessed the construction of two wind farms close to the village, the wind farm of São Cornélio (39.1 MW) and the wind farm of Troviscal (18.4 MW). Situated about two kilometres from the citadel of Sortelha, the wind farm of São Cornélio (with 17 wind turbines, 85 metres height) was licensed with a favourable conditional EIA, which required only the monitoring plans for noise and mortality of birds and bats, and small restrictions on the construction (see Fig. 2). There was no landscape or visual impact assessment, even though, according to the Portuguese law of cultural heritage, it is illegal to change

Fig. 2: The wind farm of São Cornélio viewed from the citadel of Sortelha. Photo: L. Silva

Fig. 3: The castle of Sortelha and the wind farm of Troviscal. Photo: L. Silva

the landscaping of built heritage or to significantly disturb its understanding and appreciation (Article 52°, Law No. 107/2001, September 8th 2001). Despite its greater proximity to the citadel of Sortelha (800 metres), the wind farm of Troviscal (with 8 wind turbines, also 85 metres height) was not even subject to an EIA, because it is located outside of the National Ecological Reserve and has less than 10 turbines (see Fig. 3).

Both projects were approved by the Portuguese Institute for the Management of Architectonic and Archaeological Heritage, the Commission for the Development and Coordination of the Central Region, and the Ministry of Economy, on the grounds that wind energy would contribute to balance the national energy trade while abiding by legislation on the protection of built heritage in Portugal, particularly in what concerns the metric distance from the protected artefact (50 metres). The Municipal Government of Sabugal took the same stance, considering the aforementioned factors but also, and above all, the subsequent direct economic benefits for the municipality, then estimated in between 750,000 and 1,000,000 Euros per year (Assembleia Municipal do Sabugal, 2010). These figures include the wider project of which these two wind farms are part, namely, the wind farm of Raia, made up of 50 wind turbines (128.8 MW), all in the municipality of Sabugal. The wind farm of Raia was funded and owned by the company ENEOP2 – Eólicas de Portugal, S.A. until 2015, when the company was split and its assets were allocated to shareholders, in this case the companies Finerge – Gestão de Projectos Energéticos, S.A. and TP – Sociedade Térmica Portuguesa, S.A. But it was constructed and it is managed by the company Eólica do Campanário, created by the first owners and a local partner in the late 2000s.

There was a mandatory public consultation period, held in June 2009, in Sabugal, but this had very scarce participation, as is often the case in Portugal, as noted above. As mentioned in the EIA decision, the project received only two written statements, from the parish council of Sortelha and from a neighbouring parish (Águas Belas), "expressing its full support to the project"[5]. This, despite the existence of an opposition movement, led by the so-called "Let's Save Sortelha [of the wind turbines]" movement, founded in 2010 by a recently arrived resident and a local artisan, both engaged in tourism activities. Through actions on the ground, such as putting up posters in the village and collecting signatures, and in electronic platforms, such as creating a blog (see http://vamossalvarsortelha.blogspot.pt/) and an on-line public petition, the movement sought to prevent the siting of wind turbines in Sortelha, considering them threats to the "historic heritage" and attractiveness of Sortelha (see http://www.petitiononline.com/Sortelha/petition.html). That movement gathered support from outside the village, the municipality and even the country – for example, the on-line petition reached 1,251 signatures, but it mobilised only a few residents (the petition was signed by only half a dozen Sortelha inhabitants).

5. Study results

5.1 The viewpoint of residents

All residents interviewed were supportive of wind energy generation and utilisation in Portugal. The idea that this is a necessity of our time because we need to find sources of energy alternative to fossil fuels, is a recurring refrain in the residents' discourses. They did, however, show conflicting perceptions and attitudes about the siting of the currently existing wind energy facilities in Sortelha. Most of them (14 of 21) declared themselves against it, though only a few (3) have joined the aforementioned opposition movement. Many of the others, when asked why they did not join the opposition movement, stated that it was due to the "lack of credibility" of its founders, including "an outsider", but also for "fearing reprisals" from the people involved in the wind energy business, notably the local promoter and his family. The reasons given for opposition include the environmental justice issue of "fairness of process", distributive justice regarding the allocation of economic benefits, and visual impact. In terms of process, residents complained that the public consultation process was hidden from them. As a resident in his 40s put it: "the public consultation process was carried out in secret; the wind farm of São Cornélio was already under construction when we realised what was going to happen".

Residents also criticised the uneven distribution of direct economic profits resulting from the generation of wind energy, of which the owners of the wind farms and the local partner of the company Eólica do Campanário, along with the municipality of Sabugal and the land owners, are considered the main beneficiaries. An additional catalyst for discord is the upward economic mobility of the local promoter by means considered illegitimate, because, as head of the parish council of Sortelha, he issued a favourable opinion in the public consultation process while being also an interested party in the matter.

Plus, and above all, there is concern with the impact of landscape change as determined by the perceived match or mismatch between the landscape on site and the wind turbines (in the eyes of the beholder) and its impact on tourism. Opponents criticise the installation of wind turbines close to a Historic Village, not because of any potential or actual threat to the physical preservation of heritage, which they consider non-existent, but for other reasons, namely, the anachronism resulting from the visual intrusion of modern technologies, made up of modern materials such as steel and concrete, in a historic environment, built in traditional materials such as stone and wood, and the subsequent negative effects on local tourism. This, for example, is the case with the local co-founder of the "Let's Save Sortelha [of the wind turbines]" movement, according to whom

> "we cannot spoil the best we have and what differentiates us from others, so we can really be players in international tourism. In Sortelha, the wind turbines are an offence to the landscape, […] because these eyesores are out of place. [...] This is a village with medieval characteristics, where there is a kind of return to the past, and, suddenly, anywhere I look, I see these eyesores intruding into the fortress walls".

In addition, according to these residents, in contrast to their initial expectations and fears, the wind turbines do not exert a negative outcome on tourism demand, including on return visits. "Tourists continue to come to Sortelha" is a common refrain in their discourses. However, residents have complained that the wind turbines have a detrimental impact on the tourist experience, because of the contrast between the modern wind turbines and the medieval architecture. For example, a civil servant in his 40s stated that,

[5] All translations by the authors

> "in terms of tourism, the wind turbines are an attack; those on the mount of São Cornélio no, but these ones closer to the walled village are an attack. When people walk around the castle and the fortress walls, people see a historic site with high antennas made up of steel with three blades on the top. One in every two tourists complain about that contradiction".

The words of this resident also indicate a good reason to note that – and this one of the few points in which the opinions of opponents have changed over time – critics are now centred on the wind farm of Troviscal, especially on the wind turbines that are located closer to the citadel, where the contrast between the natural/traditional and the modern/industrial elements is more pronounced. Meanwhile, the mount of São Cornélio, which triggered objection, is now considered suitable for the siting of wind turbines because of its relatively greater distance from the built heritage site.

In contrast, a third of the residents interviewed expressed support for the existence of wind farms in Sortelha, with no concerns about it. What is significant is that they all are involved in the wind farms, either directly, as occurs with the local promoter and the owners of the rented land (3), or indirectly, as happens with their relatives (3). The reasons specified for support include the location of the wind turbines outside the citadel and the perceived neutral impact on heritage, the landscape on site and tourism, but also the economic benefits. This group includes some tourism entrepreneurs and tourism workers. In fact, what caused surprise and indignation and still is an object of condemnation amongst many residents, regardless of their occupation, is that the local promoter of wind energy development is himself a tourism entrepreneur who runs, along with his two sons and their wives, three tourist accommodation establishments and a café/snack-bar inside the walled village. Another example can be seen in the words of a tourism worker: "I have one of them [the wind turbines] installed on my land, which provides me about 2,000 Euros per year, and I wish I had more". Another tourism entrepreneur, who opposed wind farm development in the village and signed the petition, similarly commented: "If I owned any land, I would also allow the installation of a wind turbine there to receive the 2,000 Euros of rent per year".

5.2 The viewpoint of visitors

The responses of the Portuguese and Spanish visitors who were interviewed are analysed here as a single group due to their similarity. Virtually all respondents reported having seen the wind farms during their visit to the village, considered them noticeable or quite noticeable and believed that they do not constitute a threat to the physical preservation of the heritage site. But most of them (42 of 68) mentioned concerns with the visual impact, particularly the perceived incongruity between the landscape on site and the wind turbines. In the words of two respondents:

> "The wind turbines are out of place. Here [in the citadel] we have the ancient: granite, stone architecture, typical houses, small stone houses and the castle. The wind turbines in front are modern things" (Portuguese man, 53 years of age);

> "This is [bad]. The wind turbines spoil the aesthetics of the village. This is a medieval village and modern things such as the wind turbines don't fit here" (Spanish man, 44 years of age).

In comparison, these negative perceptions of the presence of wind turbines at the destination were counterbalanced by the positive view of wind energy as a "clean", "environmentally friendly" electricity. Indeed, almost all visitors declared themselves in favour of wind energy generation and utilisation in Portugal, and most of them (43 of 68) accepted the presence of wind turbines in Sortelha. In the words of a visitor in his 30s: "I think that the modern and the ancient co-exist peacefully here. See, what is typical is inside the fortress walls and what is modern is outside". Another interviewee similarly commented: "this [the site] is what interests me: the rustic environment, the stone architecture, the stone houses and the castle, the absence of modern elements […]. I don't care about the wind turbines; they are outside of the fortress walls".

Moreover, a clear majority of the visitors, including most of the returnees, stated that they were unaware of the presence of wind farms before arriving in the village. In addition, almost all of them believed that wind turbines do not interfere with their choice of destination, either positively (attraction effect) or negatively (avoidance effect). See, for example, the following statements:

> "It's possible that they [the wind turbines] destroy the landscape to some people, but not to me. I want to return to Sortelha and I will recommend it, because it's a very beautiful place" (Portuguese woman, 27 years of age);

> "Who has never seen and has never been near a wind turbine, when approaching, one feels the impact of the size. But this is not enough for a person to make a tourism journey" (Portuguese man, 35 years of age).

6. Discussion and conclusions

The study shows that the residents' perceptions and attitudes towards the currently existing wind farms in Sortelha, and their readings of the impact of these wind farms on tourism, diverge, despite the existence of a widespread opinion that they have no impact on local heritage preservation. Most residents showed opposition to wind energy facility siting in the village, criticised the perceived contrast between the landscape on site and the wind turbines, and have a negative view of their impact on the tourism experience. Economic benefits derived from wind energy generation seem to exert far more influence on the attitudes of residents, and its distribution plays a significant role in explaining acceptance and opposition. Exclusion from decision-making, however, also tends to generate negative feelings towards wind farms.

The most significant study finding therefore is that the involvement of the local actors in the establishment, management and decision-making processes generates a positive effect on the residents' perceptions and attitudes towards wind farms, including the perceived impact of wind turbines on tourism. This research finding is consistent with the findings of studies conducted in other countries, where the community's or local actors' ownership increases both local support and the levels of planning acceptance of wind farms, being also more equitable (e.g. Breukers and Wolsink, 2007; Toke, 2005; Toke, Breukers and Wolsink, 2008; Walker and Devine-Wright, 2008; Warren and McFadyen, 2010).

Visitor attitudes are also marked by divergence. Most visitors are appalled by the proximity of wind turbines to medieval buildings, but the majority declared themselves in favour of wind energy generation in both Portugal and

Sortelha. Plus, virtually all visitors stated that wind farms have no impact on their choice of destination. The case of Sortelha thus parallels the findings of other studies in Portugal and in other parts of Europe, where there is no empirical evidence to support the assumption that wind farms are likely to cause negative impacts on tourists' destinations choice (e.g. Aitchison, 2012; Frantál and Kunc, 2011; Sousa and Kastenholz, 2015; Warren and McFadyen, 2010).

Our results, however, do run contrary to the results of other case studies carried out in the country (Delicado et al., 2015), and elsewhere in the world (e.g. Aitchison, 2012; Frantál and Kunc, 2011; Pasqualetti, 2004), where wind farms work as tourist attractions, or, in other words, where there is "energy tourism" (Frantál and Urbánková, 2017). This can be attributed to the specific characteristics of locations. In areas where there is little in terms of cultural or natural heritage or where the landscape is already perceived as "industrialised", wind turbines can be seen as symbols of progress, modernity and green credentials (Cowell, 2010; Firestone, Bates and Knapp, 2015; Selman, 2010; van der Horst, 2007; Warren et al., 2005).

This study has provided empirical evidence from Portugal that wind farms do not make heritage-based rural tourism destinations less attractive. Visitors' perceptions may be considered partly critical, but they have no consequence for the final assessment not to visit the village of Sortelha because of the wind farms. In comparison, the residents' attitudes vary according to the perceived benefits and involvement in the decision-making processes for these wind farms, which are owned by investors from outside the village, large companies, and which were built within an institutional setting favouring investments by community outsiders. It just so happens that the regulation framing large-scale, utility-owned wind farms, seems to impede participation processes: it results in mere consultation – non-participation according to Arnstein (1969) – which in these processes tend to be perceived as "secretive", as in the case under examination.

The implication is strong that decisions on the siting of these facilities ought to be based on more participatory processes. Mostly secretive public consultations may help in maintaining planning approval rates at high levels, but do little to generate acceptance in the communities. When local actors state that they only became aware of the wind farms once they had started to be built, this is a hallmark of very feeble public discussion and engagement. Alternative locations or impact mitigation measures that could have come out of that discussion are thus rendered impossible. A change in the regulation framing of wind farms in the country could therefore promote co-operation or any other kind of civil society participation in initiating and investing in wind energy generation and hence increase the acceptability of wind farms in local communities.

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