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Examining the social acceptance of wind energy: Practical guidelines for onshore wind project development in France

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ABSTRACT

This study investigates methods for increasing the local social acceptance of onshore wind projects in France. It is based on input from semi-structured research interviews and insight from a French wind energy company. That company had noted that a lack of local social acceptance of wind projects increased the risk of failures, cost escalation, and project delays. In this study, we first summarize recent scholarship concerning local social opposition and acceptance of wind energy through a selected literature review and case studies of wind projects throughout Europe. We then use this data to create guidelines on how to increase the likelihood of social acceptance for onshore wind project development in France, and to inform current debates in the energy studies literature over the acceptance of wind energy and energy transitions.

Contents

1. Introduction

During the past 40 years, wind power has grown into a major international industry [1–3], having 670,000 people employed worldwide in 2011 [4] and roughly 225,000 wind turbines operating at the end of 2012 [5]. Furthermore in 2011, onshore wind power was the second-largest contributor to renewable electricity, after hydropower, producing 434 TWh [5]. Calculations reveal that wind energy had turbine installations worth about $37 billion in 2008 [6]. The developments in the wind industry are furthermore expected to rise dramatically over the next decades [2] due to a global push to decarbonize energy systems [7]. The social acceptance of renewable electricity, however, remains under-explored and perhaps underappreciated in the energy studies literature [7–9].

France reflects both the promise of wind power and this conundrum of social acceptance. France have a history of harnessing wind energy, as in 1800, about 20,000 wind mills were operating. For the past decade the country has experienced a substantial growth in the wind industry [10,11]. There are currently 723 wind farms located in France [10], most of them in the northern and western region, most likely due to the higher wind speeds and flat terrain in these areas. The entire installed wind power capacity in

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the end of 2012 in France amounted to 7.6 GW [10]. This places France in the global top ten of countries with most installed wind power [10,11].

However, during 2012 installers added only 757 MW of capacity to this base [10], far less than in most other European countries [11]. The disappointing numbers appeared despite the fact that French energy policy favors wind power more than ever [12,13]. The lack of installed wind power capacity in France has led to several studies [14,15] focusing on the difficulties of developing wind farms in France, such as; the complex terrain in the southern and eastern part of the country, the political favoring of nuclear energy [14,15] and environmental considerations regarding and impact on humans and animals [12]. However, another obstacle seems to be more important when investigating the lack of developed wind farms in France: a lack of social acceptance [16–20]. Each wind project in France, for instance, depends on the acceptance from the local mayor and city council, who acts in the interest of the local inhabitants [12]. In sum, local inhabitants need to be in favor of wind projects in order for them to proceed.

Therefore, in this study we ask: how can onshore wind projects achieve greater social acceptance in France? The article begins by summarizing recent scholarship concerning social acceptance of wind energy before presenting a synthetic guideline on how to realize this social acceptance in practice.

2. Methods

To collect data for our study, we relied on two interconnected methods: semi-structured research interviews in France, and a targeted literature review. We conducted 19 in-depth interviews with "elite" stakeholders (those with significant power and legitimacy) in France over the period September 2013 to January 2014. Stakeholders were carefully chosen, based on the experience of the wind project developer and the results discovered by Nadaï and Labussière [20] and Jobert et al. [19]. Fig. 1 offers more details about our respondents, which we kept anonymous to protect confidentiality, something mutually agreed upon at the start of each interview.

The majority of the interviews were conducted via face-to-face meetings. The interviews with the president of the European Platform Against Wind (EPAW) and a few follow-up interviews with project managers from the wind project developer were conducted through phone, following the guidelines and principles from Körmendi et al. [21] to ensure data quality. Our most significant interviews were the ones performed with project managers and financial and technical responsible employees from the wind project developer. The employees of the wind project developer were asked about the general development principles of French onshore wind projects. The questions were based on theories for generic wind project development [22–24], including the costs, risks and the importance of social acceptance. The other stakeholders were asked questions that revealed their acceptance (or lack of acceptance) of onshore wind projects. Furthermore, possible activities increasing social acceptance were discovered.

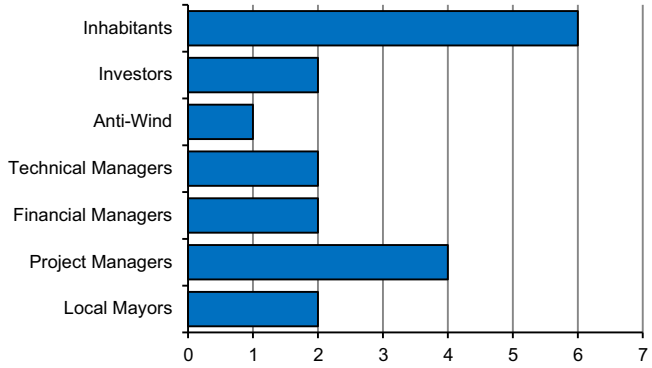

Fig. 1. Number of stakeholders interviewed.

To triangulate our data, the interviews were supplemented with a search of the peer-reviewed literature on the topic of social acceptance and wind energy. Using the Scopus database, we searched for the word "wind energy" together with one of the following set of words or combinations in the abstracts or keywords of articles: acceptance, social acceptance, adoption, attitudes, approval, opposition, and NIMBY. Scopus was chosen since it is a database of peer-reviewed literature that includes much of the social science in addition to the natural science literature. To supplement our findings from Scopus, we identified complementing examples found in publicly available reports and our research network. The result is a literature review theorizing social acceptance by dividing it into reasons for opposition and contributing factors for acceptance.

The theorizing of social acceptance in this research can be used for investigating the social acceptance in any country, however, when defining specific reasons for opposition, and possible methods for increasing social acceptance, a research approach like the one applied with interviews with "elite" stakeholders offers an established tool for soliciting perceptions and identifying obstacles.

3. Examining the key concepts of social acceptance

One poll found that a large percentage of the French people supported wind energy [17]. Yet publics have in many instances protested, and even postponed and "killed", the development of wind farms in France [20], where the overall concern is the wind turbine's impact on the landscape. Why does this occur? To provide an answer, this section of the study summarizes the outcome from semi-structured research interviews conducted with stakeholders from the French wind industry. In addition, a comprehensive literature study has revealed recent advances in scholarship looking at the social acceptance (or lack of acceptance) to onshore wind projects, justifies France as our case study, and then synthesizes lessons from three case studies involving Scotland and France.

3.1. Theorizing social aceptance

Before recommending actions on how to achieve social acceptance one needs to clarify the extent and importance of social acceptance for the development of onshore wind projects. The reason why they oppose to wind turbines [17,20], may be caused by a process known as "Not In My Backyard," or NIMBY [25], further elaborated on in Table 1 below.

As readers of this journal may know, acceptance and rejection at the scale of local communities tends to revolve around issues related to local environmental quality, procedural justice,

Table 1
Four types of social opposition to wind energy [25].

The four types of NIMBY	
NIMBY 1	Positive attitude to wind power installations in general, but negative attitude to installations in the immediate vicinity.
NIMBY 2	Generally negative attitude towards wind power.
NIMBY 3	Positive attitude to plans to develop wind power, which change to negative when there are plans to install wind turbines in the vicinity.
NIMBY 4	Negative attitude to the planning procedure rather than to wind power.