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Siting controversies analysis: framework and method for questioning the procedure

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Siting controversies are commonplace, as well against the construction of roads, railways, nuclear waste disposals, as against windfarms. Local citizens resist against siting decisions taken by the authorities, following a dynamics often quoted as 'Not In My Back Yard'. Yet contested for its lack of analytical value, NIMBY is still used strategically by actors to qualify citizens as irrational and egoistic. Beyond this labeling, many factors are investigated to understand the dynamics behind siting controversies. In this paper, we focus on the impact of the legal procedure structuring the implantation of windfarms in the Walloon Region (Belgium), and its *translations* within different decision-making processes in specific case studies. To that regard, we consider the legal procedure as a 'public policy instrument'. It is neither neutral nor natural, and carry values and interests. It organizes interpersonal relations between actors, and is potentially catalyzer of frustrations. In addition, this legal procedure is the object of *translations* within different contexts, including different actors participating to specific decision-making processes. The empirical approach of this paper is based on case studies data and on the use of an innovative methodology called 'Open Process Workshop'. This methodology consists of a structured workshop with key stakeholders, during which the legal procedure is questioned. Overall, we demonstrate that the focus on the legal procedure – and its *translations* within different decision-making processes – allows systemic analysis providing deep understandings of controversies and reaffirming the interlinks between 'the social' and 'the technical' in such controversies. In addition, we argue that the methodology used fosters the production of innovative knowledge, mutual understanding, and collective learning between the participants.

Keywords: siting controversy; participation; procedure; method

Introduction

The production and distribution of energy is a key political matter for every country (Helm 2002). Among the ways of production, renewable and sustainable ones are under the spotlights since climate change becomes a major concern for many governments, particularly in Europe (Jacobsson and Johnson 2000). The European Commission (2010) has clearly claimed ambitious goals to be achieved to reduce greenhouse gas emissions in 2020.

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> Reduce greenhouse gas emissions by at least 20% compared to 1990 levels or by 30%, if the conditions are right; increase the share of renewable energy sources in our final energy consumption to 20%; and a 20% increase in energy efficiency. (European Commission 2010, 9)

This political orientation raises questions concerning the development of renewable energy. It means that every member state has to adapt its energy policy in order to meet those objectives. To support renewable energies in the framework of the liberalization of the energy market at the European level, the Parliament of the Walloon Region (Belgium) has adopted, in 2001, a decree which organizes the 'Green Certificates' market. Producers of green energy receive one 'Green Certificate' for each MWh produced with renewable resources. Those certificates could then be sold on a specific market with a minimal price guaranteed by the regional authorities. This attractive financial system acted as a catalyzer for the development of windfarms projects … and increased the visibility of siting controversies related to windfarms implantation in the Walloon Region.

Generally, siting controversies arise in many large-scale industrial plants or infrastructure building projects. Roads, railways, nuclear wastes disposals (Bickerstaff 2012; Short and Rosa 2004), or windfarms for example (Aitken 2010b; Jobert, Laborgne, and Mimler 2007; Pepermans and Loots 2013; Wolsink 2010). Referring to previous researches, Boholm (2004) identifies various factors explaining the emergence of such controversies. A first factor consists in the divergence of interests between the risks imposers who talk from the perspective of the general interest, and the risk receivers who feel unfairly treated without enough compensation. A second factor is the way the local identity shapes what values are negotiable and what are not. The way those values are incorporated into the siting process has to be questioned. A last factor is situated in the discrepancy between different framings mobilized to qualify siting conflicts. Technical experts and decision-makers consider having 'the' rational framing of the siting situation, while local citizens are considered by those experts as having other egoistic concerns, reflecting irrational and narrow-minded attitudes (also called NIMBY – 'Not In My Back Yard' – attitude).

In this paper, our purpose is twofold. Firstly, we explore the analytical added-value of considering the legal procedure leading to the implantation of windfarms as a specific *instrument* (Lascoumes and Le Galès 2007) structuring the decision-making processes and acting as a catalyzer of frustrations and resistance within those. We show how different siting controversies can be disentangled and analyzed by exploring the different *translations* (Callon 1986) of the legal procedure in actual decision-making processes leading to the implantation of the controversial socio-technical object in different case studies. Within that framework, we investigate the dimensions of procedural justice and their impact on local citizens' acceptability (Kuehn 2000; Maguire and Lind 2003).

Secondly, we put at the test an innovative methodology called 'Open Process Workshop' to question the legal procedure. Indeed, after realizing four case studies of controversial windfarms implantation in the Walloon Region (Belgium) by conducting interviews and focus groups with citizens, we opened the black box of the legal procedure by engaging other types of key stakeholders during the 'Open Process Workshop'. We show how this exercise fosters a systemic understanding of controversies and allows formulating improvements of the legal procedure in order to potentially decrease the level of conflict in future projects.

After presenting a general framework on siting controversies (Section 'Siting controversies around windfarm projects: beyond the NIMBYism'), we elaborate why the legal procedure can by fruitfully considered as a 'public policy instrument' (Section 'Discussing the process, not the project'). Then, we present the results of our case studies (Section 'Citizens facing the procedure'). Finally, we describe the methodology of the 'Open Process Workshop' and present the results collected (Section 'Opening the procedural black box'). Then we discuss those results and the added-value of both our focus on the legal procedure, and the use of the 'Open Process Workshop' (Section 'Discussion'). Overall, we demonstrate that the focus on the legal procedure and its *translations* within different decision-making processes allows systemic analysis providing deep understandings of controversies, for the participants as well as for the researchers, and reaffirming the interlinks between 'the social' and 'the technical' in such controversies. In addition, we argue that the methodology used fosters the production of innovative knowledge, mutual understanding, and collective learning between the participants. Both the focus and the methodology foster the production of pragmatic results potentially inspiring to improve project management.

Siting controversies around windfarm projects: beyond the NIMBYism

If the general principle of developing renewable energy seems to be globally accepted, local groups get structured against the actual building of windfarms. The development of such large projects as windfarms raises problems of local public acceptance. This constitutes a macro–micro paradox based on two apparently opposite propositions. Firstly, it has been demonstrated a general citizens' support toward renewable energy across Europe. Looking globally, the general idea of developing alternative sources of energy, more ecofriendly or 'green', is supported (Eurobarometer 2006). But secondly, at a more micro-sociological level, many studies shed light on the existence of groups of citizens structuring their actions toward the resistance to the building of windfarms (Agterbosch, Glasbergen, and Vermeulen 2007; Aitken 2010a; Devine-Wright 2005; Devine-Wright and Howes 2010; Jobert, Laborgne, and Mimler 2007; Nadaï 2007; Wolsink 2007a).

To qualify such type of resistance, some in the 1980s referred to the acronym NIMBY, that can be defined as 'the protectionist attitudes of and oppositional tactics adopted by community groups facing an unwelcome development in their neighbourhood' (Dear 1992, 288). In order to address such resistance of groups of citizens, a widely held belief was that better informing the public could foster acceptance. This reflected a 'deficit model of public understanding of science' (Bodmer 1985) which relies on the idea that groups of the public are opposed to scientific innovation because they are not informed enough about it. They would have a 'deficit' of information and understanding.

Nevertheless – in the 1990s – both the NIMBY labeling, and the 'deficit model' have been heavily criticized. Many scholars elaborated on the pitfalls linked to the reference to 'NIMBY' and proposed other more comprehensive approaches to understand opposition behaviors (Burningham 2000; Devine-Wright 2005, 2013; Freudenburg and Pastor 1992; Wolsink 2000). At the same period – in opposition to the 'deficit model'– the 'Science and Technology Studies' movement promoted public engagement in the co-production of innovation (McNeil 2013). Following this, an increased interest in involving the public in decision-making about science and

technology policy has been observed (Rowe and Frewer 2000). Public engagement to co-produce siting projects became broadly recommended in the literature to overcome controversies (Gibbs 2000).

Lately, many studies have explored the impact of different factors on siting controversies – either concerning windfarms or other socio-technical devices – in order to understand the dynamics of opponents. Firstly, potential health (physical and psychological) risks lead local stakeholders to oppose windfarms (Blackburn et al. 2009). This is partly linked to the sound impact (Wolsink 1996) and the visual impact (Gipe 2002). Jobert, Laborgne, and Mimler (2007) have observed that those potential impacts negatively influence people's behavior toward the windfarms. Secondly, disruption (caused by the implantation of a socio-technical object) to the place attachment, meaning the human bonding with the physical environment, has also been investigated as a factor of opposition in siting controversies, by Vorkinn and Riese (2001) concerning a major hydropower project in Norway, and by Devine-Wright (2011) concerning a tidal energy converter in Northern Ireland. Such disruption could also appear in the context of windfarm projects. Thirdly, the ways the financial profits of the projects are distributed also influence people's acceptability, referring to the notion of distributive justice and injustice. Indeed, people may feel robbed, as they have to endure new annoyances generated by the implantation of windfarms without compensation. They thus feel that the distribution of bads and goods is not fair, which makes this project not acceptable (Aitken 2010b; Morthorst 1999).

In addition, it should be noted that – yet discredited by most scholars – the NIMBY label remains used nowadays by some policy-makers, windmills enthusiasts, or developers in order to qualify the resistance of local groups toward the windfarms implantation projects. As such, it can be understood as a rhetorical category mobilized by specific actors to pre-qualify the opponents (Wolsink 2007b), thus becoming 'a topic of research, not an activity for researchers', as indicated by the title of Burningham's paper (2000).

Our perspective differs in its foundation from the studies mentioned before. It is based on the idea that public resistance toward windfarms implantation develops in link to the characteristics of each decision-making process – understood as a specific *translation* of the legal procedure – shaping procedural injustice feelings (Maguire and Lind 2003).

Discussing the process, not the project

In this paper, the legal procedure leading to the implantation of windfarms is considered for an analytical purpose as a 'public policy instrument'. This concept developed by Lascoumes and Le Galès (2007) invites to explore the structuring power of the procedure in term of interpersonal relationships, and in term of values and interests that are subordinated to others. The legal process is a 'public policy instrument' because:

- It organizes specific social relations between the state and those it is addressed to.
- Those relations are structured according to the representations and meanings it carries.
- It carries a concrete concept of the politics/society relationship.

- It constitutes a device that is both technical and social.
- It is sustained by a concept of regulation.

As such, the process reveals a 'theorization of the relationship between the governing and the governed' (Lascoumes and Le Galès 2007, 3–4), and it cannot be seen as a neutral device, as it produces specific effects and structures relationships. By questioning this procedure, it becomes thus possible to identify power relations associated to it.

Firstly, one should know that the procedure takes place within the 'Green Certificates' framework which organizes the market of green energy in the Walloon Region. Following the principles of this framework, producers of green energy receive one 'Green Certificate' for each MWh produced with renewable resources. Those certificates can then be sold on a specific market with a minimal price guaranteed by the regional authorities. The key of this system is that the energy producers have to possess a certain amount – determined by the Regional Authorities – of 'Green Certificates' at the end of the year, either by receiving them in exchange of the production of green energy, or by buying them from other producers of green energy (Lejeune and Fallon 2011). The price of those certificates has been quite high during the first years of existence of this system, making it very interesting to produce green energy, which highly stimulated the development of green energy facilities, particularly windfarms.

Secondly, each project of windfarm's implantation requires a license (named *Permis Unique*) to be delivered by the regional politico-administrative authority (Decree of 11 March 1999). This legal procedure relies on three main steps which structure interpersonal relationships, as well as power relations and trade-offs between different values.

(1) The Preliminary Information Meeting. Within the framework of the 'Green Certificates' system, the legal procedure concerning every windfarm project in the Walloon Region formally begins with a public meeting, organized by the developer, and chaired by the local authorities. This is the first opportunity for the developer to present the project to the citizens. For the citizens, it is an opportunity to ask questions and to make remarks or suggestions. This meeting frames the project from a local and citizen point of view, and defines the orientations of the next step as such. It is justified by a certain acknowledgment of the consistency of citizens' local knowledge, as well as for democratic concerns.
(2) The Environmental Impact Assessment. A certified engineering office has to produce an environmental impact assessment for the siting project. Aspects taken into account are mainly technical ones, but also aspects related to the landscape and the protection of the existing environment. Yet, the questions, remarks and suggestions gathered from the public in the preliminary information meeting have to be taken into account for the assessment. This means that local citizen have a say – even marginal – in the framing of this environmental assessment.
(3) The License Application and Decision. After officially applying for the license, a public inquiry is organized. It constitutes the second moment during which the citizens are invited to express suggestions and remarks. To do so, they have to write a letter to the municipality. Alongside with this

inquiry, several agencies are consulted for opinions on the project: the municipalities near the project, the air traffic control agency, the regional agency in charge of waters and forests, the Walloon Environmental Council for Sustainable Development, and any other agencies judged relevant by the regional politico-administrative authority. Based on the environmental impact assessment, the public inquiry, and the opinion statements of the agencies, the regional politico-administrative authority decides to deliver or not the license for the project.[1] The legal process gives thus the control of the outputs to the regional politico-administrative authority.

Some stakeholders are included in the entire process (e.g. the developer and the municipality concerned by the siting) and some others are integrated during specific moments (e.g. the citizens and the official authorities) (Figure 1). During the whole process, the design of the project evolves.

Yet, this legal procedure – defined by formal rules – is never to be seen as such. Indeed – within the framework of the analysis of specific case studies – we are only able to analyze the procedure through its different *translations* (Callon 1986) in actual 'decision-making processes'. The analysis of actual case studies allows understanding the core of the relations between concerned actors, where their representations are built and shared. More importantly, it allows a reflexive yet pragmatic exploration of the complexity of siting controversies. Within this 'real life' framework, we are able to investigate the actual dimensions of procedural justice and their impact on local citizens' acceptability (Kuehn 2000; Maguire and Lind 2003). From this analysis of a legal procedure, it is possible to consider pragmatic ways to improve it in order to diminish the level of conflict it contributes to generate.

Citizens facing the procedure

Methodology

Four local siting controversies concerning windfarms implantation in the Walloon Region (Belgium) were selected in (1) Ath and Silly, (2) Aubange and Messancy, (3) Dour and Quiévrain, and (4) Modave. The selection of those controversies aimed

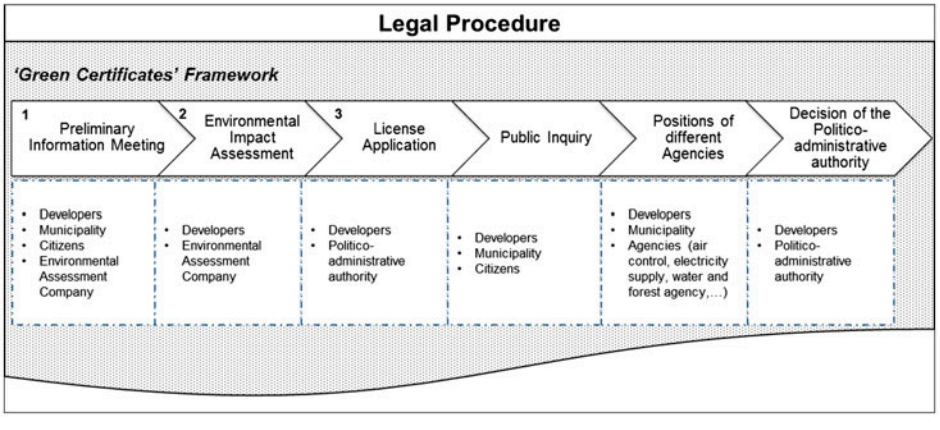

Figure 1. Chronological scheme of the legal procedure and stakeholders involved.

at representing a plurality of situations with regard to success/failure of the decision-making process, area and type of developer. This is summarized in Table 1.

To analyze those controversies, 38 semi-structured interviews with stakeholders were realized mainly with concerned citizens, but also with regional and local policy-makers, and with association's representatives (enthusiastic toward windmills such as 'Vent d'Houyet', or rather resistant to windmills such as 'Vent de Raison'). For each case, we conducted extensive official documents analysis and local press reviews. Additionally, we organized one focus group by case with concerned citizens. The focus groups aimed at collecting representations of windfarms project implantation and understanding the citizens' perceptions of the decision-making process.

Trustworthiness and generalizability of the inquiry

Within a positivist rationalistic paradigm, *internal* and *external validity, reliability and objectivity* of an inquiry are to be demonstrated. Nevertheless, the trustworthiness of qualitative inquiry cannot rely on the same criteria. Indeed – in this paper – it is based on a constructivist paradigm in which the criteria of *credibility, transferability, dependability,* and *confirmability* supplant the positivist ones (Guba 1981; Lincoln and Guba 1985). Within the limited framework of this paper, the results collected and the analysis provided are *credible, transferable, dependable,* and *confirmable. Credibility* and *confirmability* are ensured by the triangulation realized between the four different case studies, as well as through the

Table 1. Characteristics of the windfarm projects in each case study.

	Ath and Silly	Aubange and Messancy	Dour and Quiévrain	Modave
Number of license(s) asked	1	1	3	1
Date of the preliminary information meeting(s)	2007	2008	2003, 2007 and 2008	2009
Status of the project	License granted by the Minister, but decision dismissed by the State Council	License rejected	Licenses granted	License rejected
Number of windmills in the project	9 reduced to 7	8 reduced to 7, then reduced to 6	7 + 4 + 3 (14 in total in the same windfarm)	4
Types of developers	Cooperation between a national private company and an association of municipalities	National private company	Cooperation between a multinational private company, a small local company and a local association of citizens	Cooperation between a multinational private company and the municipality

archiving of the audio recordings and full transcriptions of the interviews and focus groups, in order to allow other researchers to test the interpretations made. *Transferability* is ensured by a purposive sampling of the cases, meaning that the choice of the case studies has been made in order to maximize the range of information collected and provide the best condition for theory grounding – see Tables 1 and 2, displaying a diversity of situations. *Dependability* has been maximized by the overlapping use of different methods: we realized documents analysis, interviews, and focus groups. Unlike in quantitative methods in which statistical representativity is sought, it is the deepness of results that is targeted with qualitative methodologies (Marshall 1996).

Nevertheless, one should be careful when generalizing the results of the case studies to other cases in other countries for example. Indeed, the decision-making processes under scrutiny are specific in two ways. Firstly, because they are structured by a specific legal procedure taking place in the Walloon Region (Belgium). Secondly, because this specific legal procedure is translated in different ways within different local contexts that have different characteristics (e.g. quality of the landscape, role of the local community, political culture). However – even limited to our cases studies – the results displayed in this paper constitute a detailed material suited for comparison purposes. It would be very interesting to rely on what is presented here to build larger analysis including other type siting controversies or case studies in other countries. The specificity of this study is not an obstacle for comparison.

Results

Table 2 summarizes the different characteristics of each project. Even if we will not get into many details about each case, it seemed important to display key elements allowing understanding the transversal results following.

The analysis of those four controversies highlights various problematic elements related to the *translations* of the legal procedure in actual decision-making processes, regarding knowledge production and communication about the windfarm projects. Those can be synthesized as such.

Citizens' trust towards the developers

Procedural justice is a very important factor influencing people's acceptability. To that regard, a feeling of distrust emerges from the preliminary information meeting, as the developer presenting the project is perceived in three of our cases as an outsider by the public. He is seen as the representative of a big company, coming from outside to benefit from a local good. He is often perceived as a salesman imposing his project to the local and regional politico-administrative authorities, regardless of the public opinion. The public tends to resist to the 'invasion'.

On the contrary, one example in our case studies shows an opposite trend, when two local brothers associated themselves with a big company to initiate a windfarm project. Those two brothers were not seen as outsiders by the locals. People trusted those brothers. Beyond the legal procedure character of not fostering the building of trust, those developers were accepted as insiders of the community in this case. The resistance toward this project was marginal and rapidly stopped.

Table 2. Summary of the project and the decision-making process in each case study.

Ath and Silly	Aubange and Messancy	Dour and Quiévrain	Modave
This project of windfarm has been initiated by an association of municipalities and a national private company, in an industrial zone where one windmill was already exploited (owned by the private company). The project approved by the Minister was composed of 7 windmills. However, the license delivered for the project by the Minister in charge has been dismissed by a decision of the State Council, which was requested by a very active – already since the preliminary information meeting – local group of citizens opposed to this project. This group describes itself as not opposed to windmills in general, but well opposed to this particular project which is not correctly designed following them. It is to be noted that other groups of citizens are opposed to this project, but are less active to demonstrate it.	This project of windfarm has been initiated by a national private company in an agricultural zone, near a forest on one side, and an industrial zone on the other side. The project presented during the preliminary information meeting was composed of 7 windmills. Yet not formally or financially involved in the project, the local authorities concerned support this one. However, it is to be noted that a group of citizens opposed to the project got structured and active after the public inquiry, thus very late in the decision-making process. They sent letters to the Regional Authority in charge of the project to explain their opposition to it. Finally, the license has not been delivered because of the impact of the project on the landscape.	This windfarm has been built in a rural area in three phases, each of them requiring a license. The first phase has been initiated by cooperation between a Big External Company and a local company held by two brothers well known by the local citizens. The local authorities in charge in the two concerned municipalities supported the project. The brothers took the lead in the process of convincing citizens. This first phase faced opposition of local groups of citizens. After adapting the project accordingly to some citizens' demands, it faced much less opposition. The two other following phases of the project did not meet with opposition. A Local Association of Citizens was involved in the third phase of the project. This association owns two windmills in the windfarms.	This project of windfarm has been initiated by a multinational private company in a rural zone, where a project had already been proposed by the same company. The license of this first project has not been delivered. Only few people from this municipality were opposed to the project, and they were not very active. The municipality and the private company agreed on a partnership which would allow the municipality to beneficiate financially from the project. The existence of this partnership was not communicated to the citizens. Finally, the license for the project has not been delivered because of the impact of the project on the landscape and on the wildlife.

In addition, the independence of the experts in charge of the environmental impact assessment is questioned by the public. Indeed, following the legal procedure, experts are asked and paid by the developer to conduct this assessment. Yet, as the public does not trust the developer, they tend to contest the quality of the assessment conducted in actual decision-making processes, despite the control of the Walloon Environmental Council for sustainable Development.

Engagement of citizens in the project

Citizens feel globally excluded from the decision-making processes. During the preliminary information meeting, the public is disappointed because of the lack of information communicated and the complexity of it. Information is complex and technical. It is combined with communication on the importance of green energy development. The actual local concerns of people are rarely addressed. The public tends to perceive the project as being already wrapped-up, and that the request for their inputs (suggestions and remarks) is only rhetorical. To that regard, one might say that the degree of participation is limited to a 'consultation'. Citizens may hear and be heard, but they lack of power to ensure that their views will be taken into account by the developers (Arnstein 1967). In addition, it must be highlighted that the process of developing a windfarm does not start at the preliminary information meeting, as the developers have to find an appropriate spot, design the project, and engage with landlords to see if they are willing to rent and to sell the land concerned. Once the project seems robust, it is then presented during the meeting. This actually correspond to what has been called – and heavily criticized in the literature – the 'decide-announce-defend' model (Muro et al. 2012).

During this meeting – following the legal procedure – the role of the municipality representatives is supposed to be central. The Mayor is supposed to chair the meeting. Yet – in practice – the developers in our case studies tend to take the lead, which undermines the democratic character of the meeting giving more of a marketing stance to the show. As a consequence, citizens do not feel engaged to the process; they feel asked to 'buy' a windfarm.

In principle, information about the project is public and everybody can have access to it by going to the municipality hall. Yet, the information is very technical, stored in huge boxes without much structure. It is very difficult to understand the meaning of the documents. Co-production is not possible in this context.

The public inquiry constitutes a last chance for the public to participate to the decision-making process. However, the participants perceive it generally as a waste of time, as everything seems to be already decided.

Finally, the way the decision to deliver or not the license is taken by the regional politico-administrative authority is not transparent. The public does not understand which criterion is more important than another, as it is not specified in the final decision document, which is perceived as unfair.

Opening the procedural black box

By focusing on the framing power of the legal process as a 'public policy instrument', we were able to shed an innovative light on structural factors explaining resistance behaviors toward windfarms, going beyond the identification of isolated socio-technical factors directly linked to the project (e.g. sound and visual impacts, distance to the project, and disruption to place attachment). Yet, this analysis provides us a fine understanding of the local controversies only from a citizen point of view. This is already interesting, but it should be deepened by addressing also the decision-making process with other actors. To conduct such analysis, we used the 'Open Process Workshop' as an innovative tool allowing to address controversies in a structured and opened way. In this section, we will elaborate on the methodology itself, and display innovative results that we were able to collect from this 'Open Process Workshop'.

Methodology

The added-value of involving stakeholders in research processes or for the purpose of public policy evaluation is generally acknowledged (Daigneault and Jacob 2009; Patton 2012; Reed et al. 2009). Weaver and Cousins (2004) identify three main justifications for stakeholders' participation: pragmatic (problem-solving orientation), political (social justice orientation), and epistemological (validity of knowledge orientation). To that regard, various tools and approaches have been developed to include stakeholders: focus group, semi-structured interviews, snow-ball sampling, interest-influence matrices, social network analysis, knowledge mapping, Delphi, future search conference, scenario workshop, etc. (Reed et al. 2009; Slocum et al. 2006). Also, several kinds of stakeholders' dialogs are possible; science-based stakeholders dialogs, policy dialogs, multi-stakeholders dialogs for governance, and corporate dialogs (Welp et al. 2006). Many parameters of participation may vary: the moments of the research or evaluation process during which the stakeholders are involved, the deepness of the involvement, and the types of stakeholders involved (Bayley and French 2008; Daigneault and Jacob 2009). The resources available (human, time, and financial) and the aim of the participation influence those parameters, as well as the type of tools used to include the stakeholders (Welp et al. 2006). Choosing a tool means first and foremost defining the objectives (Bayley and French 2008) of the stakeholder's inclusion in the research process but also the character and the scope of the research's issue (Slocum et al. 2006).

Among all the available tools, the 'Open Process Workshop' has been chosen in the framework of this project. According to Joris and Claisse (2011, 5), the 'Open Process Workshop' is a variant of Scenario workshop's method applied to a stakeholder's panel. It includes an exercise of interactive mental mapping, which constitutes a privileged access to very personal cognitive representations of a situation, by capturing how people make sense of their world (Reuchamps 2013). Mental mapping has already been successfully used in many contexts: to solve complex issues (Eden 2004), or to facilitate decision-making process for disaster management process for example (Pfeiffer et al. 2008). For an 'Open Process Workshop', the panel of participants is usually composed of 12–20 individuals. They are policy-makers, experts, citizens', and business' representatives. It is important to gather a variety of stakeholders in order to mobilize a plurality of frames in the exercise. This method aims at creating in only one afternoon a framework for dialog on a specific topic among policy-makers, experts and citizens. It is also characterized by its ability to stimulate the creation of collectively shared knowledge (Andersen and Jaeger 1999). At the same time, this exercise keeps tracks of every possible opinion. It does not aim at aggregating all the positions into one (fake) consensual one. On the contrary, the results of this exercise remain 'open' as it displays all the opinions, even the marginal ones (Stirling 2008, 2010). In our case, 16 individuals were invited during one afternoon. Those were key stakeholders: policy-makers at the regional, provincial, and local levels; administrative officers, developers, experts, and citizens (concerned by windfarms' implantation in their municipalities). Recruiting those participants has been a relatively easy process, as we had already met many of them during the 'case studies' phase of this research. In addition, a majority of them was very enthusiast to participate to the research, probably because being part of the 'Open Process Workshop' constitutes a rare opportunity to debate during a whole afternoon with many key actors of the 'windmill community' in the Walloon Region.

Practically, the 'Open Process Workshop' is composed of two parts.

The first part, named 'fixed part', is imposed by the researchers to the participants. The purposes of 'fixed part' are, on the one hand, to gather the different stakeholder's point of views and on the other hand, to create common sense around the decision-making processes in which each actor is included. The researchers present the different legal stages of the procedure, which is represented on a board visible by everyone. Then, the researchers ask two questions to the participants, and let them 10 min to think. Firstly, in what stages and how do you intervene in the procedure? Secondly, what are the problems that you associate to these stages? Then, each stakeholder is invited to share his opinion to the others, and to associate its points to different stages of the legal procedure by sticking little notes around its illustration on the black board. Their contributions were written on green post-its. The problems they identified were written on yellow ones. Other participants were invited to ask clarification questions. This part has to be understood as a descriptive step fostering mutual understanding about what is at stake, who are the actors, and what is the purpose of specific momentum. This 'fixed part' constitutes the reflections' basis of the second part of the 'Open Process Workshop' that is more creative.

In the second part, all participants are invited to discuss ways to modify the legal procedure in order to foster citizens' acceptance. For practical issues, the group of participants was divided in two heterogeneous sub-groups. They were asked to discuss improvement to the legal procedure during 40 min. To stimulate a collective thinking dynamic, in addition to the first exercise, they are given six scenarios for improvements which they could discuss and criticize. These scenarios had been written by the research team beforehand, on the basis of insights and ideas suggested by stakeholders during the case studies. Six scenarios were suggested to the participants. Some scenarios focused on specific step of the procedure, others focused on general adaptation of it. Each of them aimed at improving the quality of the procedure, in order to achieve a technically sound and socially acceptable decision. Concretely, each scenario was described on a single page. Each one presented a short explanation of the scenario, potential problems and opportunities of it, identified by stakeholders during the case studies, and quotations of actors about it. Those were submitted to the participants for discussion. Here is a description of them:

(1) In order to affirm the central role of the municipality in the communication process between the actors, it was suggested that the Mayor actually acts as chairman of the Preliminary Information Meeting, as it is foreseen by the legal procedure. This would reinforce the democratic and collaborative character of the decision-making processes.
(2) The creation of a Local Commission for Wind Energy (composed of citizens) was proposed. This Commission would contribute to the design of the project as well as the communication process between actors. This could reinforce the democratic collaborative character of the decision-making processes during the development of the local project.
(3) In order to clarify the justification of the regional politico-administrative authority decision to license or not, it was proposed to create a public and mandatory list of criteria to be taken into account. This would contribute to clarify to decision-making processes.

(4) The creation of a 'regional wind energy map' was proposed. This map would represent the areas where windfarms could be implanted, by taking into account the entire legal obligation to be respected (distance to house, distance to natural areas, wind capacity, etc.). This map would be communicated to all the stakeholders, including the public. This would contribute to clarify to decision-making processes.
(5) It was suggested to realize an additional environmental impact assessment (by another company) in order to increase the transparency of the knowledge production about the project, as well as the quality of the project.
(6) It was proposed the establishment of a public competition between projects on a same area, during which the potential projects would be publically evaluated. The aim is to allow the 'best' project to apply for licensing, not the 'first' to be proposed.

Then, to wrap up the 'Open Process Workshop', the researchers summarized the two discussions to the general audience, providing an overview of the main points addressed during the second part.

Results

During the discussion of the 'Open Process Workshop', either step 1 or 2, different points have been discussed, concerning (1) the harsh competition between developers during the first phase of development of a windfarm project, (2) the relations between the developers and hostile citizens, (3) the difference of rationale between the Regional Authorities and the Local ones, (4) the independence of the environmental impact assessment experts, and (5) the clarity and the transparency of the regional authorities decision to deliver the license.

Competition between developers

The decision-making process concerning a specific project actually starts when developers initiate the design of the project, and starts the negotiation with landowners. The stakeholders directly pointed the fierce competition existing between the different companies developing windfarms, as the fields appropriate for implantation are less and less available. The developers have to 'hunt' appropriate areas, be the firsts to propose an acceptable deal to the landowner. They have to develop projects as fast as possible to be the firsts to organize the preliminary information meeting . This is very stressful for them. This competition is of course highly stimulated by the 'Green Certificates' system, which makes the exploitation of windfarms a very profitable business.

Yet being part and contributing to this competition, the developers consider this step as very problematic and are in favor of more regulation and transparency in order to peace down the process of finding appropriate fields to initiate projects. This could consists in the elaboration of a Public Wind Energy Map on which all the legal parameters to be taken into account to implant windfarms would be displayed, ultimately revealing the potential areas where windfarms could be implanted. This kind of map already exists in the Province of Oost-Vlaanderen, in Flanders (Belgium).[2]

Developers and hostile citizens in a controversial dynamic

The controversies are stimulated by a lack of trust between actors. This hostile context is not adequate to the co-production of the project. Indeed, the developers regret the uncomfortable character of organizing the preliminary information meeting . They are alone facing hostile citizens during a public meeting. The public has generally already heard rumors about the project and is very suspicious. Also, representatives of anti-windfarms associations (coming from other municipalities, sometimes far from the actual project) usually assist to those meetings, using sometimes aggressive strategies to stop the presentation of the project (e.g. handcuffing themselves to the developer). Developers also regret the lack of competence and involvement of the local representatives to initiate a peaceful dialog and communicate about the project. As a result of this context, developers take the control of those meetings, and supervise them themselves, instead of the Mayor of the municipality concerned.

Also, the letters send during the public inquiry are mainly objections, rather than suggestions and remarks. Many windfarm opponents, even not directly concerned by the project under inquiry, send hostile letters in order to pressure the politico-administrative authority.

To improve the quality of the communication, participants pointed to few measures inspired by the scenarios proposed. Firstly, the use of online tools to communicate about the ongoing and future projects has been discussed by the participants. The information should be available even before the preliminary information meeting and it should be up to date during the whole process, which should be detailed and explained in order to be understood by everybody. Also, before the public inquiry, a meeting should be organized in order to present the final project to the public. It would allow improving the communication between actors as well as allow people to participate properly to the public inquiry. Their suggestions and remarks would be based on the actual projects and not on an old memory of it (as it was presented in an older version during the preliminary information meeting). Finally, regular meetings could be organized in the framework of a local committee composed by interested stakeholders and citizens.

Regional rationale vs. local rationale

Dialogs during the ‘Open Process Workshop’ made obvious the coexistence of two different ways of acting as an authority: the regional one and the local one (Table 1). On the one hand, the politico-administrative authority at the regional level regulates windfarms implantation with a ‘plan’ rationale. Over the whole regional territory, this authority has to plan the implantation of windfarms giving respect to different criteria. This authority has a global overview of the situation in the Walloon Region, and is supposed to take decision for the general interest. It is composed by professionals and experts who are not threatened by electoral sanction in case of election.

On the other hand, the local authority (the Mayor and its team) acts with a ‘project’ rationale. There is one project submitted in the municipality, for which the local authority has mainly to play an informational part. The local authority has a low level of power in the legal procedure (it is supposed to give an opinion statement as other agencies). The local authority has the power to block the project via indirect ways, taking an active part in the decision-making process (e.g. the local authority is often asked to deliver authorization to adapt the roads to reach the fields where the

windfarms could be implanted). It has no regional overview and decides for the local interest. It is composed of non-experts of the field (yet, that can evolve if they engage themselves in the process). The representatives of the local authority are threatened by electoral sanction (Table 3).

The municipality representatives have an uncomfortable role in this context. They have to please the public as they constitute future electors. Sometimes, a majority of the electors of the municipality is in favor of the project, only a minority is against. Sometimes, it is the opposite. But in any case it is uneasy to determinate it clearly. In addition, some municipality representatives are willing to collaborate with the developers (because they share ecological values, or because of financial interest for the municipality). They thus have to deal with the public opinion and with the local interests. In this context, municipality representatives do not easily make clear statements about their opinion on the project, which could generate frustration for the public.

For the participants, diminishing the influence of those opposed dynamic is fundamental. To do so, a global approach for the Walloon Region is needed. This could include the elaboration of a Public Wind Energy Map on which all the legal parameters to be taken into account to implant windfarms would be displayed, ultimately revealing the potential areas where windfarms could be implanted. This map should be public and communicated to the public. The participants insist on the fact that this map should be created in collaboration with all the agencies supposed to give opinions on windfarm projects. Based on this map, public calls for projects could be organized in order to improve the transparency of the process and improve the quality of the projects. The public could be included into the decision of the projects to be built.

Developers and environmental impact assessment experts: a controlled yet questioned collaboration

The participants to the 'Open Process Workshop' acknowledged the importance of the Environmental impact assessment experts to co-design the project. As they assess the project, they give de facto orientations for adaptation. The independence of the assessment experts was not questioned per se by the participants, as the Walloon Environmental Council for sustainable Development (CWEDD) is responsible of controlling the quality of the assessment and they can propose to resign the agreement of the office. The trustworthiness of this cooperation relies entirely on the control of this public authority. This is why the scenario of an additional assessment realized by another engineering office was considered as counterproductive: it would

Table 3. Comparison of regional and local politico-administrative authorities' logics.

	Regional politico-administrative authority	Local politico-administrative authority
Interest they are working for	General	Local
Strength of decision-making power in the decision-making process	Strong	Formally weak Actually strong
Level of expertise a priori	Experts	Non-experts
Electoral responsibility	Marginal impact	High impact

just reinforce technical uncertainty about the project and reinforce the level of controversy. The issue would rather be to work at increasing public trust toward the CWEDD.

Clarity and transparency of the decision

Different agencies are requested to make an opinion statement on the project. Those statements inform the decision to deliver or not the license to build the project. Participants pointed to the lobbying of developers with agencies to influence their statement in exchange of modifications in the project. In fact, some agencies are willing to revise their statement if the developers modify the project in order to fit with the rationale of the agencies concerned (e.g. moving a windmill away from a forest in the project). In this context, modifications of the project occur without much explanation for the public. To that regard, participants mentioned that the use of online tools of communication, and the establishment of a local committee could be useful to ensure the dialog about the modifications of the project and keep tracts of the history of the project.

The politico-administrative authority has a general overview of the windfarm situation in the Walloon Region, and takes decision about it following a 'plan' rationale. Yet, to inform its decision, this authority asks to different agencies to make an opinion statement about the project regarding different parameters. In this context, a lack of coordination between these agencies has been noted by the participants, even if this seems quite logic as the regional politico-administrative authority is composed of several policy fields, themes, and agents having different framings and representations. As an example, some agencies are willing to negotiate the modalities of the projects with the developers while some others do not. Yet common, the existence of such diversity creates uncertainty. In addition, some agencies lately used very restrictive criteria to justify their opinion statement, which led to the rejection of many projects just before the organization of the 'Open Process Workshop'. It was a very sensitive topic during the discussion, because most of the participants – and developers in particular – questioned the legitimacy of such agency to act accordingly.

The moment in the legal procedure during which different agencies are requested to give an opinion on the project constitutes a sensitive phase. For the developer, the citizens (and sometimes, the municipality), this step is seen as a 'black box': there is a lack of transparency and coordination between the different agencies. For the developers, the reasoning of the agencies, the way they assess the project and the criteria used lack of transparency. In the same logic, developers and citizens regret the lack of transparency in the way the regional politico-administrative authority takes the decision of according or not the license for building the project. In the document transmitted to the stakeholders, in which the positions of the regional politico-administrative authority are explained, no hierarchy between the points is to be found. The document only consists in a list of pro and cons. For the participants, the key points are to be highlighted, regarding a clear pattern of weighted criteria.

Discussion

A focus on the decision-making process

The first originality of this paper relies on its focus. We argue that the procedure – as a public policy instrument – should be questioned. The way the procedure is

translated in actual decision-making process structures and organizes the relations between people, the parameters to be investigated or the trust between stakeholders. If this procedure is translated in different ways within different contexts, it never completely loses the values and interests it carries. This is why it is important to question the procedure itself (as done during the 'Open Process Workshop'), as well as its *translations* in actual decision-making processes (as done with our 4 case studies).

Such a focus on the legal procedure and actual decision-making processes displayed results related to project characteristics and not directly related to the wind turbines, which is very interesting. Here, we insist here on the procedural – thus social – aspects of the projects, which allow us to highlight other types of results. As demonstrated, resistance toward a windfarm project has to be linked to procedural justice. Beyond the potential nuisances related to the noise produced by the windmills or by the modification in the landscape, the characteristics of the legal procedure – and its *translations* in actual decision-making processes – can be determinant for public acceptance, diminishing the impact of the nature of the project or its technical characteristics. In summary, we show that a focus on the legal procedure and its *translations* reaffirms the interlinks between the social and the technical in such controversies.

The second originality of this paper is related to the method used to question each decision-making process in each case (via the interviews and the focus group), as well as to question and formulate propositions of modifications of the legal procedure (via the 'Open Process Workshop'). Of course, these results were produced through deliberative devices. Other participants gathered at another time, faced with a slightly different material presented by another facilitator – or the same participants speaking just in a different order – may have put forward significantly divergent elements. If we had varied the conditions and parameters of the protocol, we might be led to very different conclusions. This is because the device is not intended to 'discover' the universal reasons of the controversies, in full generality. Yet, two main reasons justify the use of such tool: it fosters the co-production of innovative knowledge, and it allows mutual understanding and collective learning between the participants. As such, it constitutes and hybrid tool. It is suited to inform scientific research about siting controversies – and thus could be used for other case studies – as well as it can potentially inform amendments to the procedure under scrutiny, even if this seems more hypothetical or complex.

Production of innovative knowledge

As we realized semi-structured interviews and document analysis, no interaction between the different stakeholders was possible. We collected, step-by-step, person-by-person, document-by-document, little pieces of the general puzzle for each controversy. The focus groups we realized in each case enriched already our understanding in a more dynamic way. Interpersonal relations between citizens on the one hand, and the regional politico-administrative authority, the local authority and the developer, on the other hand, became clearer, but only from a citizen point of view. We started to understand the reasons of the frustration of the public due to the nature of the decision-making process they lived, as showed in our results in Section 'Trustworthiness and generalizability of the inquiry'. These insights are precious. But they should be completed. To that regard, the 'Open Process Workshop'

allowed to open the black box of the legal procedure. Thanks to the interaction of key stakeholders about the legal procedure – during a whole afternoon – we became able to understand these dynamics. And as all the stakeholders were in the same room, they had to answer each other directly. They asked questions one to another, so did we. Different interests, rationales, and values were mobilized at the same time to answer interrogations. The 'Open Process Workshop' allowed the production of innovative knowledge that we had not collected during the case studies and that would not be gathered by interviewing each actor individually. The results presented in Section 'Results' testify of the added-value of organizing such an exercise.

Mutual understanding and collective learning

In addition, as the participants were invited to communicate and share their opinion and perception about the legal procedure, mutual understanding between the participants was fostered. We do not say that they agreed on a consensual understanding of the controversies. We argue that they became aware of other ways to frame the same situation. The table they co-produced during the first step of the 'Open Process Workshop' (during which they had to identify problems on a representation of the decision-making process) constitutes a shared representation of all the problems. The formalism of the discussion setting during the 'Open Process Workshop' helped create conditions for debate. The 'Open Process Workshop' data can help policy-makers to improve legal procedure involving social and technical issues. Indeed, the 'Open Process Workshop' design encourages public actors to develop a reflexive approach and to rethink legal procedures in the light of its *translations*. This dynamic is seen as necessary for the construction of public operational instruments and ultimately legitimate because it is co-constructed. The method stimulates that the interaction between the participants highlight the barriers that decision-making processes are likely to face. The 'Open Process Workshop' has provided participants with a forum in which they were able to present, in a framework of operational constraints, what they would like. The space for dialog opened by the 'Open Process Workshop' is also, and above all, a space to confront mutual expectations and to build new ones. However, we should not be misunderstood. The fostering of mutual understanding and collective learning we observed was allowed only for the people who took part in the study. It cannot replace larger participatory devices including all stakeholders that want to participate. But the modalities of such devices could be inspired by the methodology we set up for this study.

Conclusion

Siting controversies involve networks of actors, values, and interest over years of resistance, opposition, and debates. Disentangling such situation imposes to go beyond the NIMBY labeling. It also invites to propose innovative analytical path and methodologies able to shed new lights on controversies.

In this paper, our purpose was twofold. Firstly, we showed how siting controversies can be disentangled and analyzed by questioning the legal procedure organizing the implantation of the controversial socio-technical object. We demonstrated the added-value of considering the legal procedure as a specific instrument – and its *translations* in specific decision-making processes – acting as a catalyzer of frustrations and resistance. In this respect, the selection of the four cases allows us to draw

conclusions mainly about wind projects initiated and carried out by 'community outsider' developers. The potential role of 'community insider' developers is only to be seen in the case of 'Dour and Quiévrain', which displays a dynamic different to the other projects. This observation suggests again that community-developed windfarms might demonstrate a different type of acceptance/opposition pattern, potentially displaying less resistance, as already observed (see e.g. Wüstenhagen, Wolsink, and Bürer 2007). Secondly, we demonstrated the added value of using an innovative methodology called 'Open Process Workshop' to question the legal procedure, in addition to classical controversy analysis. We opened the black box of the procedure by engaging various types of key stakeholders. It should be noted that 'Open Process Workshop' has already been used to analyze controversies on the construction of antenna for cellphones networks and electromagnetic fields control (Joris and Claisse 2011). This methodology helps to define a plurality of frames and by so doing it recalls all stakeholders the social and political dimensions of a technological project. To conclude, we invite researchers interested by siting controversies to further test how this approach and this methodology could be used in other contexts, in order to continue and improve such type of siting controversy analysis.

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Notes

1. The decision of the administration could be contested by an appeal addressed to the Walloon Minister of Urban Planning and Environment. Ultimately, the Council of State may be asked to judge the legality of the procedure.
2. Provincie Oost-Vlaanderen, Beleidskader en actieprogramma windturbines: Potentiële inplantingslocaties, Addendum aan het Provinciaal Ruimtelijk Structuurplan, Ministerieel Besluit van 25 augustus 2009, http://www.oost-vlaanderen.be/docs/nl/av/6091definitief%20vastgesteld%20beleidskader.pdf (consulted on the 17 October 2014).

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