

## Article

# Three Wind Farm Developments, Three Different Planning Difficulties: Cases from Denmark

Kristian Borch <sup>1,2,\*</sup> , Julia Kirch Kirkegaard <sup>3</sup> and Sophie Nyborg <sup>3</sup><sup>1</sup> Department of Planning, Aalborg University, 9000 Aalborg, Denmark<sup>2</sup> Ruralis—Institute of Rural and Regional Research, 7049 Trondheim, Norway<sup>3</sup> Department of Wind and Energy Systems, Technical University of Denmark, 4000 Roskilde, Denmark; jukk@dtu.dk (J.K.K.); sonyb@dtu.dk (S.N.)

\* Correspondence: kristian.borch@ruralis.no

**Abstract:** The aim of this paper is to provide a new perspective on the conditions for the multiple dimensions of concerns and to understand why some wind power projects run smoothly, while others lead to unexpected outcomes due to local resistance. The paper considers three Danish wind farm developments with different planning difficulties, from “smooth” to intensified resistance and conflicts between local communities and the planning authority. To better understand the different planning pathways, we use a research framework where social acceptance is viewed from a conflict management theory perspective, with a focus on the uniqueness and different dimensions of conflicts. The paper discusses how the framing of the planning system considers specific types of tangible concerns, while more intangible concerns are neglected, and how this leads to escalating conflicts. The paper is concluded with several policy recommendations on how to avoid conflicts and how authorities and politicians should reflect on their own agency in provoking conflicts, which can be avoided by proactively involving affected communities at early stages.

**Keywords:** wind energy planning; conflict management; community concern; overflowing; public participation; agency; green transition



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## 1. Introduction

Denmark has climate law stated aims of becoming non-reliant on fossil fuels by 2050 and achieving a 70% reduction in CO<sub>2</sub> emissions by 2030 [1]. A specific goal is to quadruple the renewable energy production from land-based wind and solar, which in 2020 and 2021 were both above 17 TWh. More than 90% of the renewable electricity production comes from wind turbines, due to the abundance of wind resources in the country, especially along the west coast. To achieve this goal, Denmark will need to make huge investments in both wind and solar power plants. Renewable energy is outperforming conventional energy in terms of the levelized cost of energy (LCOE), with onshore wind and solar PV in the lead [2].

The majority of EU citizens (83%), including Danes (85%), support a minimum percentage of renewable energy, for example wind energy, due to concerns on climate change and global warming [3,4]. Yet, both wind turbines and large areas of PV panels inevitably represent significant socio-technical change and, therefore, also risk potential conflicts over concerns from local communities. Thus, in a recent mapping of vacant space for renewables, only five municipalities out of 98 were able to utilize the potential space for wind power [5,6].

The existing literature on the NIMBY myth (i.e., arguing that other and more significant barriers to wind power implementation exist beyond neighbor attitudes) has offered valuable insights into the reasons for community concerns and resistance against wind power deployment, e.g., [7,8]. In general wind power has served as a study case for the social acceptance of energy projects, which has also resulted in several frameworks to analyze social acceptance or social acceptability, e.g., [9,10].

During our discussions with wind power stakeholders it appears that different concerns have different conditions when they ‘meet’ the institutionalized planning process. Therefore, the aim of this paper is to provide a new perspective on the conditions for the multiple dimensions of concerns and to understand why some wind power projects run smoothly, while others lead to unexpected outcomes due to local resistance.

The paper considers three Danish wind farm developments with different planning difficulties, from “smooth” to intensified resistance and conflicts between local communities and the planning authority (in Denmark: the municipality), even though the official procedures for public participation were followed with full respect for the rule of law. To better understand the different planning pathways, we use a research framework where social acceptance is viewed from a conflict management theory perspective, with a focus on the uniqueness and different dimensions of conflicts. We use this theory to build a ‘typology of community concerns’ that underlines how some concerns are more readily ‘calculable’ and, thus, ‘tangible’, while others are qualified as ‘unquantifiable’ and, thus, ‘intangible’. Our typology and discussion are inspired by Callon’s notion of framing and overflowing [11–13]. By doing this, we illuminate how the framing of the planning system prefers to consider specific types of tangible concerns, while more intangible concerns are neglected, and how this leads to overflowing, i.e., escalating conflicts, namely conflicts that can arguably be related to a ‘systemic’ issue in the planning procedure for renewables as it is institutionalized and practiced in Denmark [14].

To guide our research on conflicts that build up during the planning procedures between the planning authority (here, the municipality) and local communities, we have posed the following three research questions:

- How can concerns over wind turbine development be described in accordance with the type of conflict they represent?
- Why do certain concerns overflow to, e.g., newspapers and social media?
- How can planning authorities avoid the overflow of certain concerns?

### *1.1. From Concerns to Conflict*

Inappropriate consideration of the local community and their concerns and values often leads to severe conflicts that escalate and spread in several directions, whereby the number of unhappy community members increases [15,16].

Generally, conflicts can be defined as disagreements, dissensus, or struggles between two or more parties (opponents), which cause stress for or between the parties concerned (modified from Vindeløv (pp. 57–86) [9]). Conflicts evolve whenever incompatible activities occur and when there is a perceived divergence of interest, or a belief that the parties’ current aspirations cannot be achieved simultaneously [17].

Behind this definition lies an assumption that conflict is the normal, basic social attribute for potential change in modern societies. Moreover, conflicts often escalate and follow distinct trajectories, as both a metaphor and a method to diagnose a conflict as represented in the conflict ladder by Hammerich and Frydensberg [18] and Glasl [19]. The conflict ladder describes a series of escalating steps with increasingly destructive intensity, from disagreement to open hostility and, finally, polarization.

However, all conflicts are unique and have their own characteristics depending on both the issue and how it is being handled. This suggests that a constructive approach to conflicts at the earliest stages might avoid escalation into deadlocks, leading to the broader advantage of delivering renewable technologies and low-carbon societies [20].

The uniqueness of all conflicts calls for a more nuanced view and conflicts between tangible concerns (e.g., issues of substance, instrumental concerns and interests) should be distinguished from intangible concerns (i.e., procedural issues, issues of relationships, social and human values) [21] (pp. 28–30, 35–37, 154). For example, economic interests are more tangible because they can be negotiated using a non-zero-sum thinking approach (a situation where one’s win does not necessarily mean another’s loss, and one’s loss does not necessarily mean that the other party wins), and calculation is made possible.

Social values, on the other hand, are subtle, harder to calculate and, thus, more ‘intangible’ as they do not easily translate into monetary value. Such qualitative values can best be comprehended and appreciated through dialogue.

Inspired by Vilhelm Aubert’s work [22], Vindeløv describes the different dimensions of conflicts [9] (pp. 66–69). We have adapted these dimensions to make them more operational for the different dimensions of concerns regarding wind farm projects and their siting:

Different dimensions of conflicts applied to wind farm projects and their siting (inspired by Vindeløv) [9].

- (1) Instrumental concerns are tangible issues that consider technical features (size, output, noise), regulations and procedures.
- (2) Interest concerns are tangible and economic issues both for the owners of the technical installation (cost structure, profits, financing, etc.) and for stakeholders who live in the vicinity, but with no economic shares (economic compensation, compulsory acquisition and legal rights, such as the right/ability to object).
- (3) Value concerns are intangible and concepts that are often referred to as “social values” or “human values” to distinguish them from economics [23]. Value concerns include social capital, as well as the subjective aspects of the citizen’s well-being, such as their ability to participate in making decisions that affect them (democratic and procedural issues). Value concerns can also arise when new developments disrupt pre-existing emotional attachments and threaten place-related identity, referred to as place attachment [24]. Finally, this dimension includes concerns about the loss of cultural values and moral or ethical beliefs.
- (4) Personal concerns encompass intangible inner qualities, such as individual life ability and appreciation of life. Thus, personal anxiety about technologies, risk and health perceptions are considered a type of concern in this category.

Aubert already argued for the usefulness of distinguishing between different dimensions of conflicts, as conflicts over values, for instance, should not be treated as a conflict with something else:

“As conflicts of value concern aspects of one’s identity, they cannot successfully be subject to negotiation or the application of power [17]. The way forward is when parties acknowledge the value-based aspect of the conflict and try to understand it. Thus, the aim is to understand both one’s own values and those of others, and the means to do this is dialogue” [8] (p. 69).

In other words, while conflicts originating from tangible concerns can be approached through negotiation, intangible conflicts need to be approached through methods that emphasize constructive communicative interaction: dialogue, deliberation and learning [25].

### 1.2. Framing and Overflowing

The notion of framing and overflowing was introduced in 1998 by Callon in his seminal work on market construction [11]. To shed light on how market transactions occur, the framing of an emerging product or technology is seen as a prerequisite for mobilizing and assembling a coalition/network around a product. In the case of wind power planning, for example, spokespersons for the project must use framing tools (e.g., public hearing rules and regulations or calculations, projections, and visualizations in the environmental impact assessment (EIA)). They also need to invest resources (time and money) to associate the wind project siting with certain qualities that can mobilize a broader network around it.

However, the nature of framing is often contested because it is never just innocent facts. Instead, for something to be framed, it must be simplified and ‘black boxed’, as the many potential qualities of the thing must be bracketed and disentangled. However, such simplification/framing is prone to power struggles, as the very act of framing is an exercise of power, as certain actors, issues and concerns will have to be included within the frame at the expense of others that are left out of the framing [26–28].

In wind power planning, framing is often related to “who is allowed to participate, how their voices are heard, how the various positions are negotiated, and how the project plan is adapted to the views expressed” [7]. As national planning institutions (and their public hearing processes) produce certain framings (e.g., a legalistic framing), they can also be rejected by local communities. In these cases, the issues may travel (overflow) to other settings (e.g., social media), escalating the conflict [10]. As put by Callon, “transformation of an issue into well-identified problems—which can be addressed by planning specific actions—is never completely consensual nor total” and “framing and overflowing can be conceived as a participation process based on analysing power relations and controversies” [29] (p. 48). In the context of wind power planning, “Overflows might arise when other actors do not conform to what was expected from them: parties that were not invited to the table invite themselves in or start to carry out their own alternative scenario” [7].

We will use this framing and overflowing lens to shed some light on the impossibility of reducing people’s often multidimensional concerns into quantifiable risks. Moreover, we understand framing in a very narrow sense, as the way the planning system frames the concerns that are legitimate and the concerns that are not.

## 2. Materials and Methods

To form a foundation for comparison of the concerns between wind power cases, we selected three Danish wind farm projects: Nørrekær Enge, Ovnbøl and Ulvemosen (Table 1).

**Table 1.** Stem data from the three onshore wind farm projects studied [30].

Wind Farm Project	Capacity (MW)	Rotor Dimension (m)	Hub Height (m)	Municipality	Commissioned
Nørrekær Enge	13 × 2.3	93	80	Aalborg/Vesthimmerland	July 2009
Ovnbøl	4 × 3.0	101	90	Varde	December 2012
Ulvemosen	10 × 3.3	117	94	Varde	November 2017

Nørrekær Enge was selected as a reference since it received hardly any complaints from neighbors. The two projects from Varde municipality (Ovnbøl and Ulvemosen) were selected because they were very alike in terms of the ownership model (local businesspeople and farmers) and the approval procedure (the same local authority), and the technology (size and model of the wind turbines), but demonstrated different levels and conflict dimensions.

To obtain a systematic overview of the concerns expressed in the three cases, we manually collected the following material:

1. Coverage in the local press via a Danish media search engine, InfoMedia (articles and letters to the editor), in the period from when the wind turbine site was publicly known until the wind turbines were in operation. No distinction was made between whether the author was a journalist affiliated (interviews or part of running commentary) with the media or a private person;
2. Materials made available by the local municipal authorities regarding case management (objections, enquiry and complaints);
3. Quotes from media articles concerning the wind turbine siting;
4. Hearing statements from neighbors about the planned wind turbine siting;
5. The city council’s assessments of the hearing responses from the neighbors and the potential adjustments this might give rise to.

The collected material was analyzed qualitatively by means of the ATLAS.ti software, using 21 codes to categorize the citations on concerns (Table 2). The codes were formulated first by reading all the material in one of the cases and continuously updating these in the analysis of the remaining cases. The first step in the analysis was to code the entire empirical

material qualitatively and create a list of citations where each citation and argument was assigned in accordance with the codes. The next step was the filtration of each document to make sure that each code only counted once per document. This procedure allowed for quantitative analysis that could otherwise be biased due to multiple appearances of the same subject in the same document or even due to technical difficulties for ATLAS.ti in the handling of the data, e.g., page shift. The third and final step in the analysis was the primary sorting into 4 categories (Table 3). How the municipalities framed the public hearing responses was analyzed, with a focus on how different types of concerns were addressed and categorized by the municipality.

**Table 2.** Concerns expressed (codes) and how they were assigned to each of the four categories of concerns used in the analysis.

Type of Concern (Code)	Type of Concern (Code)
Instrumental (Tangible) <ul style="list-style-type: none"> <li>• Size of wind turbines</li> <li>• Noise</li> <li>• Flickering (shadows from wings)</li> <li>• Threats towards Annex IV species</li> <li>• Visual discomfort</li> <li>• Environmental impact assessment</li> <li>• Building permission</li> <li>• Planning procedure</li> </ul>	Values (Intangible) <ul style="list-style-type: none"> <li>• Amenity value</li> <li>• Political views</li> <li>• Place attachment</li> <li>• Democratic values (also procedural)</li> <li>• Moral/ethical</li> </ul>
Interests (Tangible) <ul style="list-style-type: none"> <li>• Ownership</li> <li>• Compensation</li> <li>• Legal right</li> </ul>	Personal (Intangible) <ul style="list-style-type: none"> <li>• Health perception</li> <li>• Risk perception</li> <li>• Loyalty</li> <li>• Previous experience with authorities and/or developers</li> <li>• Neighbor conflicts</li> </ul>

### 3. Results and Discussion

#### 3.1. Case: Nørrekær Enge, Staying Low on the Conflict Ladder

The Nørrekær Enge wind farm (2008–2009) was subject to a remarkably low number (two) of local concerns expressed during the public hearing, although it was well covered by local media (35 articles), placing the development of the wind park low on the conflict ladder (step 1). The wind farm is sited in the Northern part of Denmark in a meadowy and relatively sparsely populated area close to the Limfiord, which is an area where conditions are optimal for wind power. The site constituted a large repowering project, replacing 77 smaller and old turbines with 13 wind turbines. Nørrekær Enge wind farm was also the first Danish site to issue ownership shares in the wind farm to local neighbors inside a radius of 4.5 km from the turbines. Approximately 60 citizens accepted this option to buy shares. The offer to buy shares was provided by the developer even before the legislation in the form of the Danish Renewable Energy Act (2009) introduced four different schemes to enhance ‘social acceptance’ of wind power in Denmark, including the mandatory offering of 20% shares to locals inside a radius of 4.5 km [31]. Table 3 lists the number of different concerns expressed by locals in the hearings and in the media (several codes may occur in each document). The low number of complaints is mirrored in the sparse media coverage, which only reported on the factual activities around the planning and development process.

**Table 3.** Number of codes: Nørrekær Enge.

Nørrekær Enge	Incoming Responses to Public Hearing: 2	Number of Articles in Local Press: 35
Type of Concerns	Counted Codes	Counted Codes
Instrumental (tangible)	2	10
Interests (tangible)	1	1
Values (intangible)	0	2
Personal (intangible)	0	0

### Concerns Explained

**Instrumental concerns (tangible):** One neighbor objected to the placement of the turbines too close to the small city of Bollerup, including his property, due to concerns about shadow flickering (estimated to be 10.5 h per year on his property). A group of citizens expressed their expectation that issues about low frequency noise from the turbines should be investigated before the plans were finally adopted. Finally, during the construction phase one neighbor complained in relation to their annoyance about heavy traffic.

**Interests (tangible):** The same group that was concerned with low frequency noise also expressed interest in the possibility of buying shares in the wind park.

**Values (intangible):** The value complaints expressed were only related to the visual impact of the wind turbines. The group of citizens mentioned above argued against the three western-most turbines, amongst other things, due to the consideration of an impaired view of the local church. They argued that only the alternative suggestion (i.e., a reduced number of turbines) would live up to the appropriate landscaping and cultural–historical considerations.

**Personal (intangible):** A group of citizens expressed their expectation that health issues about low frequency noise from the turbines should be investigated before the plans were finally adopted. The neighbor mentioned under instrumental concerns also expressed concerns about low frequency noise. At this time, low frequency noise had recently emerged among the opponents' arguments against wind turbines.

### 3.2. Case: Ovnbøl, 'By the Book' and on Time despite Considerable Protests

Climbing several steps up the conflict ladder (step 4), the Ovnbøl wind farm was not well received by the local community. The Ovnbøl wind farm is sited in the Varde municipality close to the North Sea in southern Denmark, where four turbines replaced 16 older ones in the vicinity. In spring 2011, the municipal thematic plan and the EIA was concluded and, despite local protests, Ovnbøl wind farm was connected to the grid in 2012 without delay. As it appears from Table 4, this project encountered more problems compared to the Nørrekær Enge wind farm and triggered different types of concerns (In this site, one of the four turbines was closer to residences than the statutory minimum distance, which meant that the status of the buildings as a habitation was abolished in agreement with the owner, who received compensation).

**Table 4.** Number of codes: Ovnbøl.

Ovnbøl	Incoming Responses to Public Hearing: 36	Number of Articles in Local Press: 68
Type of Concerns	Number of Codes	Counted Codes
Instrumental (tangible)	81	48
Interests (tangible)	25	17
Values (intangible)	69	32
Personal (intangible)	76	28

### Concerns Explained

**Instrumental (tangible):** The most expressed concern was noise from the wind turbines, especially at night. In addition, skepticism towards the legal framework on noise regulations was expressed. Some of the noise issue was directed towards low frequency noise and the uncertainty about how this might affect people (low frequency noise is also regulated by Danish legislation). After noise, citizens were concerned about the wind turbines' visual dominance of the landscape and how they might impact on scenic values. Finally, possible flickering from the blades raised some concerns.

**Interests (tangible):** Neighbors expressed concerns about the sufficiency of the compensation for the reduction in house prices and the fear of 'serfdom', i.e., of being unable to move away from the area due to price drops because of the neighboring wind park.

**Values (intangible):** The media coverage especially demonstrated a distrust in both the municipality and the developers. Many of the contributions talked about a democratic deficit, claiming that the municipality was not safeguarding the rights of the local community. This is illustrated by the following citations: "[ . . . ] the city council needs to think carefully before they make the final decision—and not just fall into line, because a wind turbine company [developer] wants to cash in money" and "It appears that the city council only favours commercial interests and not those of the citizens".

**Personal (intangible):** In several instances the media coverage was characterized by emotional communications, where both the municipality and the developer were described as untrustworthy. This is illustrated by the following citation: "The model pictures [visualizations] are sheer manipulation and downplay the enormous impact of the wind turbines on nature" and "why try to sell owner shares to a wind turbine project [ . . . ] that has not yet been approved by Varde city council?"

The concerns related to low frequency noise and health could also have fallen into this category, but we found no reports of people feeling sick and connecting it to low frequency noise from the wind turbines. Nonetheless, noise and low frequency noise from wind turbines were debated issues leading to anxiety among the neighbors.

### 3.3. Case: Ulvemosen, Procedural Errors and Conflicts

Moving even further up on the conflict ladder to step 5, and with all communication eventually transferred to the court, we find Ulvemosen wind farm, also located in the Varde municipality, not far from the Ovnbøl wind farm (Table 5). It demonstrates an even more conflict-ridden process, with procedural errors and significant delays. The municipality received an application from the developer in 2013 to replace 10 older wind turbines in the vicinity. However, the statutory EIA report was eventually rejected by the National Board of Appeal in 2014 due to significant legal shortcomings, particularly because of inadequate accounting for the visual impact, not abiding by the distance requirements, and not accounting sufficiently for the short- and long-term effects on the groundwater. As a result, construction, which had already been initiated (accepted by Varde municipality, but at the developers' own risk) was halted right after casting the 10 foundations. This caused a significant delay, but in 2016 construction resumed after a new and corrected EIA was completed and finally approved in 2015.

**Table 5.** Number of codes in the case of Ulvemosen.

Ulvemosen	Incoming Responses to Public Hearing: 48	Number of Articles in Local Press: 245
Type of Concerns	Number of Codes	Counted Codes
Instrumental (tangible)	272	118
Interests (tangible)	87	37
Values (intangible)	269	155
Personal (intangible)	282	173

### Concerns Explained

Instrumental (tangible): Noise was one of the primary instrumental concerns among the neighbors. One of them argued that by putting noisy wind turbines in the area, the “municipality forces citizens to relocate”. The visual impact was expected to look like “white mastodons” or a “Berlin Wall” of “giant turbines” and it was claimed that the turbines would create a “barrier in the landscape”, spoiling the experience of “wild nature and the beautiful view over the fields”.

Interests (tangible): Concerns were centered around the possible negative impact on the value of the houses close to the wind turbines. Many contributions in the media talked about houses that would become unsellable and that the taxation authorities could not be trusted to provide fair compensation. Others talked about “being tied to our property like a chained dog with turbine noise, flickering, and potential health risks for the next 30 years or the rest of our lives”. (Referring to the feudal serfdom-like institution (“stavnsbaandet”) introduced in Denmark in 1733 that bonded men of a certain age to live on the estate where they were born in accordance with the wishes of the estate owners and the military).

Values (intangible): The process handling by the municipality was criticized for imposing unwanted technology changes on the community, and the hearing process was alleged to be a mockery, with accusations about conspiracies and a democratic deficit in the municipality. Other value-based concerns were linked to the issue of uncertainty regarding the scientific rigor and validity behind the ‘facts’ that they were presented with, particularly regarding the health impacts from noise and flickering. Lastly, other value-based concerns related to the loss of the ‘sense of place’. This was expressed by a family who feared that they could not use their garden with a small pond, “which we walk to every day to enjoy nature and the tadpoles”. Another family lamented the “[...] loss of their little paradise [...]]. Never again will we be able to enjoy the morning sun in the yard”.

Personal (intangible): Wind turbine noise and flickering were repeatedly expressed as a health concern. For instance, a citizen was “concerned about the impacts on neighbours in regard to noise, low frequency noise and flickering, and the result of long-term impact from the turbines”. Another citizen raised a concern not only that the developer was responsible for the noise calculations, but also that the neighbors next to large wind turbines must “fight and struggle on a daily basis to make their life hang together without breaking down”. Consequently, the neighbors wanted the city council to wait for the results from an ongoing Danish national investigation on the impact of wind turbines on human health (report by the Danish Cancer Society [32]). A citizen rhetorically asked what the planners and politicians meant by notions such as ‘a good life’, health considerations, empowerment and issues of public participation, arguing that these official expressions were in conflict with the municipality’s actual arrogant and authoritarian attitude.

#### 3.4. Framing: One-Dimensional Responses from Authorities

As shown by our analysis, Ulvemosen was ridden with procedural errors, which partly explains the high level of resistance and conflict, but a lot of the intangible concerns were also about how the citizens’ participation was framed and whether legitimate concerns were being considered appropriately. In the following, we will provide some brief examples on how the planning process and the institutionalized hearing system experiences difficulties in handling intangible and less calculative concerns that fall ‘outside’ the hearing system framing. Our aim is to address a ‘systemic’ issue relating to the hearing process as it is institutionalized and practiced in Denmark. Ovnbøl is, thus, more exemplary in terms of illustrating the practices in the hearing system. The point with this analysis is to demonstrate that only following the statutory procedures for public participation may be the root of the problem. For example, when intangible concerns are not framed appropriately in state procedures and when the local authorities settle with this, citizens lose trust in the system, as expressed both by the incoming responses during the public hearing phase and by the tense debate in the local press [33].



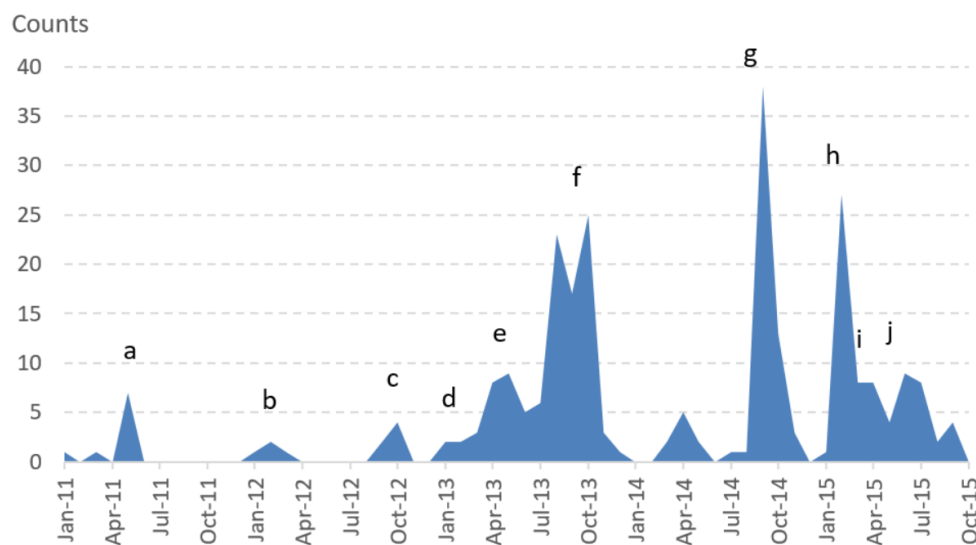
The processing of the hearing responses in relation to the Ovnbøl and Ulvemosen wind parks demonstrates a very meticulous process, which can be described in short as following these steps: (1) The municipality planners grouped all the incoming comments into specific categories (see example from Ovnbøl (Table 6). (2) Each category was assessed with respect to the impact of the specific concerns and whether adjustments to the project were necessary. This could, for example, address concerns about the low frequency noise and its impact on children’s learning, and whether this had been scientifically documented. (3) For each category, a statement was made on whether ‘engendered adjustments’ to the project were recommended. (4) The recommendation was forwarded to the city council for approval or rejection. (5) The decision by the municipality council was published as a “Resumé of the incoming contributions to the Municipal Plan, (Amendment 03, local plan 18.10.L01 in the case of Ovnbøl), including the city council’s evaluation of these”. This document was published on the municipality’s webpage and mailed directly to individuals who had responded during the hearing process.

**Table 6.** How the municipality categorized the concerns expressed in the public hearing and the associated accommodative adjustments in connection with the Ovnbøl project.

Hearing Response Category	Engendered Adjustments (Summary)
Noise	Implementation of noise monitoring programme
Low frequency noise	None
Loss of amenity value	None
Loss of (property) value and compensation	None: belongs under the independent taxation authority
Shadowing	Maximum of 10 h/year
Animal welfare	None
Annex IV species	None
Light flash (air traffic warning) nuisances	None
Health	None
Other	None

### 3.5. Overflow: Response from Authorities Is Perceived as Inadequate

Since the Ulvemosen wind power project was the most conflict ridden of the three investigated, we used it to demonstrate how the conflict builds up and overflows to local media, where criticism of the decision process and distrust in the authorities were expressed. Thus, we illustrate how the opponents use other channels than the statutory/planning system framing, because their intangible concerns fall outside this framing. Figure 1 shows the numbers of articles and letters to the editor of the local press as a function of time. Incidents and public information are marked, from the first time the local community got information about the project (Figure 1a, Table 7). It appears that local newspapers were increasingly used by opponents to express their concerns and dissatisfaction. Generally, the opponents voiced their concerns in the local newspapers (overflow), while the authorities and local politicians were as good as silent and only used the statutory framing in the planning system, such as announcements on the municipality homepage and hearings as instruments for communication.



**Figure 1.** Number of articles and letters to editors in the local press over time concerning the Ulvemosen siting. The last recording was 3 months after the final approval of the project. Only very few appearances concerning the siting were registered after this date. The labels indicate different incidents during the approval process (see Table 7).

**Table 7.** Incidents during the public outreach to the local community, referring to Figure 1.

(a)	Public meeting where the wind power project is presented by the Varde municipalities, in the so-called “ideas phase”.
(b)	The city council announces that the developer can continue project preparations.
(c)	First meeting on another project in the vicinity (Næsbjerg). The municipality labels this project “a high priority”.
(d)	Pre-assessment is finalized ultimo February 2013.
(e)	The hearing period is announced as from 13 March to 8 May.
(f)	The Department of Planning and Technique recommends the approval of the project and the city council effectuates the approval.
(g)	The environmental impact assessment (EIA) is declared void by the National Nature and Environment Board. All building activities must be stopped. The press coverage is focused on how quickly the building activities are stopped.
(h)	A new EIA is carried out at a new public hearing process initiated in March 2015.
(i)	Public hearing ultimo April.
(j)	The city council approves the project for the second time. The amended EIA is later approved by the National Nature and Environment Board.

After the initial public meeting (ideas phase) (Figure 1a), the first significant peak in the number of articles in newspapers was recorded when the municipality bureaucracy (Department for Planning and Technique) initiated the statutory 8-week hearing process (Figure 1e). The local newspapers continuously published letters of concern to the editor and articles throughout this hearing period, and right up until the day when the project was approved by the city council (Figure 1f). During this period two members of the city council decided to publicly announce that they had voted against the approval due to the increasing resistance from the local community.

For a period, only a few articles were published describing the progress of the project, but this changed abruptly when the EIA was declared void by the National Board of Appeal (Figure 1g). Many of the articles in the local newspaper expressed the view that this proved that the city council was biased in favor of the developer and, therefore, could not be trusted (Figure 1g). In particular, the EIA's visualizations on the impact on neighboring properties were problematized and deemed to be untrustworthy or even manipulated. An amendment to the EIA addressing the shortcomings pointed out by the National Board of Appeal was completed and a new 8-week hearing process was initiated (Figure 1h–j). Again, critical letters to the editor and articles were published by opponents, but with little effect, as the project had already been approved by the municipality, although with a severe delay. Unfortunately, this led to mistrust in the otherwise recognized EIA process, which the opponents described as an instrument used “to conceal or distort the negative impacts on the environment”.

Our analysis also shows how intangible concerns were excluded from the planning system frames in terms of what was a legitimate concern and what was not. Issues that can be calculated or measured are more easily framed by the planning system and, thus, included as a basis for decision making. However, when it comes to issues that cannot be solved by reference to a statute in the law or where calculations are not easily made, these concerns easily become ‘unruly’ and hard to frame. Framing and overflowing in the cases studied in this work mostly relate to how community responses were categorized in the planning documents, but also relate to what is known as ‘externalities’ (both negative and positive) that may emerge whenever a framing is too constraining or excludes something that should be included.

In other words, framing relates mostly to how the authorities categorize the answers to hearings coming from the local community. Issues of power and politics lie inherently in such categorizing: who has the power to define (frame) what the concerns are, and which concerns to include as worthy of a response/solution, and which concerns are to be put into the ‘miscellaneous’ category? Overflowing in the shape of increased opposition and conflict and/or overflowing to the media happens when the community cannot recognize their concerns among the official framing of the concerns, i.e., their concerns overflow to a domain where the authorities have little legitimacy and, thus, control, for example, social media, which is a powerful mobiliser of resistance [16].

#### 4. Conclusions

In this paper we initiate our analysis of three Danish wind power projects by asking three questions. The first question considered how concerns over wind turbine development can be described in accordance with the type of conflict they represent. To answer this, we have described how multiple community concerns about wind power project planning can be described using conflict management theory and introduce an analytical framework that distinguishes between tangible and intangible concerns. The framework proved useful in the cases of the three Danish wind power projects, explaining the public responses to different types of concerns, and we see no reasons why it should not be transferable to other wind power cases and renewables in general in the context of energy planning.

Then, we answered the question about why certain concerns overflow to, e.g., newspapers and social media by showing how the authorities avoid giving answers to expressed community concerns because they are difficult to quantify and, thus, also difficult to solve instrumentally, for example, when assessing economic compensation for a loss involving place attachment issues. This is not a deliberate procedure imposed by the local authority, but rather a reflection of insufficient ‘legalistic framing’ and insufficient democratic dialogue between all the relevant actors. Intangible concerns are best handled through dialogue; however, the planning system is not helpful in facilitating such dialogue. What conflict theory also shows is that the experience of ‘falling outside the framing’ leads to distrust that further escalates the conflict between the local community, the municipality and the developer.

Furthermore, we have described how Ulvemosen wind power project ran into a ‘perfect storm’ of concerns that overflowed to the local newspapers, where opponents raised critical voices and frustrations. We described several reasons for this: Firstly, non-tangible concerns were not considered as a basis for decision making by the authorities. Secondly, the EIA was declared void by the National Board of Appeal, which confirmed the local community’s suspicions about unfair and undemocratic processes, where the regional authorities did not appear to be impartial. To make the situation even more polarized, the opponents in Ulvemosen consulted with those who had fought against the neighboring and preceding Ovnbøl wind power project. We showed how distrust built up during the approval process, leading to accusations about collusion and to conspiracy theories. It also led to a problematic demotion of the otherwise recognised EIA. Thus, the distrust in the process was expressed as accusations about concealed information and an undemocratic process, where capital interests overruled local social values.

The opportunity to engage in dialogue during the planning process crumbled because the local community felt left out and marginalized. Even though the first public hearing (ideas phase, Figure 1a) preceded the 8-week hearing period by one year, the local community had the experience of being invited to participate very late in the process; at least, for something so concrete, 8 weeks may not allow enough time for deliberation and debate between legitimate actors with different values and personal concerns. Therefore, stronger municipality efforts to engage with the local community during the ideas phase might have proved fruitful. The reality was that the members of the local community became suspicious when they realized that several years of “black-boxed” planning had been going on prior to this 8-week public hearing. This explains why not only the intangible concerns overflowed to both the traditional and social media, but also the tangible concerns, because the inappropriate procedural handling of the concerns led to a general distrust.

#### *Policy Recommendations to Avoid Overflowing*

**Minimize overflowing:** It is imperative to minimize overflowing as it increases the risk of the conflicts spinning out of control. Therefore, the relevant authorities must address emerging public concerns promptly and appropriately. This will reduce the risk of transferring the debate to platforms, such as social media, where they escalate and often lead to distrust and even more problematic (and expensive) conflicts in both current and preceding wind power planning.

**Avoid “boxing” community concerns into categories:** Our study illustrates the planning system’s categorization of people’s concerns into boxes, some of which can be dealt with and some that are left largely unnoticed (boxed into the ‘miscellaneous’ category). Yet, such framing has socio-material effects on which voices (and concerns) come to matter and which do not. We, thus, recommend treating framing and overflowing as a matter of participation, where power relations and controversies can be deliberately debated and the local community can object to framings that produce marginalizing effects when, for example, intangible and non-quantifiable concerns are neglected.

**Politicians and authorities should reflect on their own agency:** Overflowing cannot be entirely avoided, but we argue that policymakers and regulators should reflect more on their own agency in turning legitimate concerns into conflicts about the green transition. Thus, more attention to the intangible and less calculable concerns is recommended, otherwise their marginalization will remain engrained in the planning system and continue to produce uncontrollable overflow in the form of conflict.

**Appropriate and early planning with the proactive involvement of local communities with potential for the development of renewables:** New spaces for discussion and participation may evolve from such re-categorization and re-framing so that wind farm projects do not spin out of control. The key here is to avoid the instrumentalization of intangible concerns, allowing for a deliberate debate about social or human values.

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