Energy made in Northern Friesland: fair enough?

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Abstract: *Citizen wind parks* in the German district of Northern Friesland are a well-known example of the citizen-funded development of wind power. This paper follows the careful (and successful) collective structuring of wind power in Northern Friesland, along with the State of Schleswig-Holstein's attempt, which was challenged and ultimately overturned, to replicate and generalize participation as a basis for scaling up wind power in the region through planning. In so doing, the paper explores the processes of fair public participation and the modalities through which a shared sense of *fairness* is constructed. Following John Dewey's theory of valuation (1939), fairness is considered here as a value that emerges from collective practices. Furthermore, by approaching fairness as a

dimension of the wind energy *assemblage*, we capture the finer details of how it is constructed and embedded in everyday life. We argue that this enmeshment of practices and values challenges our definition of energy justice because it requires the making of norms to be connected with shared values. Finally, the *recognition* of differences among territories plays an important role as wind power scales up.

Keywords: fairness; recognition justice; assemblage; energy; participation; Northern Friesland

Number of words: 9955 (without abstract and references)

Introduction

Northern Friesland is a German district bordering Denmark on the shore of the North Sea. It forms part of the Land (State)[1] of Schleswig-Holstein. In 2016, along with 150,000 inhabitants, the area also had about 750 windmills, 90% of which had been erected inside a *citizen park*, according to the German Wind Association (Bundesverband Wind Energie). The wind pioneer stories of Northern Friesland started in the 1980s and have continued despite numerous technical and organizational tribulations (see Oelker et al. 2005). From the beginning, these stories took place in local assemblies in different villages or polder communities and involved landowners,

[1] Germany is a federal state. It comprises 16 federated states called *Länder (Land*, singular) in German. In the article, we refer to the *Land* of Schleswig-Holstein and to the federal level, or Germany as a whole, as the state.

inhabitants, and the local administration. The *citizen wind parks*[2] ("Bürgerwindparks"), as the inhabitants named them in 1991, are known for representing the German co-operative model. This model is based on *fairness*, a term we will return to in order to explain the values that are constructed through inhabitants' practices in the development of wind power. This paper will question the scaling up of this model at the regional level in the Land of Schleswig-Holstein as this Land government attempted at regulating the decision-making processes in order to reach an outcome that could be acceptable to the inhabitants and a process that could encourage them to engage. In other words, the paper will explore both the making of fairness through practices of wind power development and its transformation when participation is institutionalized through planning. By approaching fairness as a shared value that is assembled through inhabitants' practices over the course of some 30 years, the paper will also analyse the relations between this value and the different dimensions of justice that have been foregrounded in social sciences.

Our empirical description is based on 27 interviews with actors in wind energy development that were carried out in German as either collective open discussions or semi-directed interviews during six field sessions between 2014 and 2016. These sessions were part of ongoing doctoral research. In-depth research was also carried out in local and regional administration and newspaper archives during a three-month stay at the Nordfriisk Instituut in Bredstedt.[3]

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[2] Instead of using the more common "wind farm", we have decided to remain faithful to the German expression.

[3] Because of the limited size of the article, only a small part of these collected qualitative data is mentioned here. More will be published in the final thesis in 2018; please feel free to contact the author in this regard.

Since the end of the 1990s and until recently, the exponential evolution of wind energy production has called for new forms of regulation at the level of not only the Northern Friesland district but also the Land of Schleswig-Holstein. The need to regulate wind power development was motivated by the desire to promote the expansion of Schleswig-Holstein's wind power capacity while limiting the number of windmills dotting the landscape. In an attempt to balance these two conditions, the administration perceived the communities' public participation as positive and essential to wind power acceptance. Thus, across the entire Schleswig-Holstein, municipalities were endowed with the power to consult their inhabitants and express a will to have (or not to have) wind power zones on their lands. As these new frameworks were being implemented, some landowners and inhabitants of Schleswig-Holstein – from districts other than Northern Friesland – were dissatisfied with the proposed process because they did not agree with their community's final decision. Consequently, in order to develop wind power, they decided to assert their rights at the Regional Higher Administrative Court. In January 2015, the court approved their request by declaring that the political will of a community could not be considered legal grounds for regional land planning.[4]

The story of Northern Friesland's wind power expansion is interesting in that its reversal may challenge our notions and definitions of energy justice (see Bickerstaff, Walker, and Bulkeley 2013; Fuller and McCauley 2016; Hall, Hards, and Bulkeley 2013; and Jenkins et al. 2016, among others). At first glance, it displays a process that succeeds in scaling up wind power while nurturing acceptance thanks to its *fairness*. However, its fairness is ultimately challenged when it reaches a new scale: Is "the will

[4] See decision: Schleswig-Holsteinisches Oberverwaltungsgericht, 1KN 6/13, 20 January 2015.

of the community" a fair criterion for accessing the wind resource? How is it that "the will of the community," even if fairly constructed, can change status as it changes scale? Does the Northern Friesland–Schleswig-Holstein wind power story provide any clues that can assist discussions about the shifting grounds on which the *fairness of the citizen model* is assessed? Can *local fairness* be reproduced, amplified? Under which conditions, and why?

The paper will explore these questions by first following the course of the learning process and collective structuring around the development of wind power as experienced in Northern Friesland. Without coming back to the initial technical experiments and the constitution of a landscape as a polity (Chezel and Labussière 2017), we will show how a certain fairness was constructed and preserved over the years among inhabitants and between communities. Then we will follow the diffusion of this model at the Land level by examining the Schleswig-Holstein administration's attempt to undertake a fair process based on political participation. In the final part, returning to the Northern Friesland experience, we will discuss the conditions for its collective structuring as a fair process and point out the reasons why fairness can be damaged as the experience scales up. But first, we look at the key concepts of assemblage, justice, and fairness, which we want to use in the analysis.

1/ Fairness and justice in the construction of energy projects

While citizen wind parks are a well-known example of crowdfunding or public participation, they have not yet been analyzed through the prism of their *citizenship* dimension. For the inhabitants of Northern Friesland, the name "citizen wind parks"

implies direct democracy – the right for everyone to speak and take risks.[5] They constantly refer to the solid organization of their practices for voting, for collectively making decisions, and for recognizing their differences:

"The important decisions are always made in the assembly of our society as direct democracy"[6] [Interview, FWLübke-Koog, 12 August 2015].

"When I see how the societies function and how they are organized, everyone has their say, everyone can open their mouth, there is critical discussion, there is a lot of discussion, there are always capable people who can put it into practice. But people decide together. [...] so that is sometimes a bit uncomfortable, but it works quite well!"[7] [Interview, Husum, 24 April 2015].

Our interviewees do not use the term fairness, or Gerechtigkeit, to describe their situation. We chose fairness to name the forms of organization they have built themselves over the years in addition to the forms of regulation imposed by the institutions. In the case study (section 2), fairness will be used to report on practices: what was constructed as acceptable within the given conditions. In this paper, our goal is to emphasize fairness as rules based on practice and to examine how they are intertwined with justice as a set of norms rooted in law. In so doing, more attention will

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[5] As quoted in different interviews with pioneers of wind development in Northern Friesland. Interviews were all conducted in German, English translations are from the author.

[6] "Die wichtigen Entscheidungen werden immer nach wie vor bei uns basisdemokratisch in der Gesellschaft Versammlung getroffen."

[7] "Wenn ich sehe wie die Gesellschaften funktionieren, und wie die organisiert sind, jeder hat Mitspracherecht, jeder kann den Mund aufmachen, es wird kritisch diskutiert, es wird viel diskutiert, es werden immer fähige Köpfe ausgeguckt, die das umsetzen können. aber Entscheiden tuen die Leute gemeinsam. […] also das ist mitunter auch ein bisschen unbequem aber funktioniert ganz gut."

be given to the former, which have not been analysed as much as the latter. The focus, however, will remain on how they are all intertwined. It is important to consider these two notions first because they have recently been employed by academics. In this context, the term "fairness" is mainly used to describe the necessity to ensure fair participation in energy projects.

1.1 Fairness and the justice dimensions of energy assemblages

Fairness is usually associated with "procedural justice", which implies having fair access to decision procedures. However, it is worth broadening the meaning of fairness to associate it with other dimensions of justice, as we will show with our case study.

Fairness as a dimension of energy assemblages

Fairness tends to be used more often in discussions on justice theories, especially when the current tendency for "active citizenship" in a "participatory turn" (Butler and Simmons 2013, 150) is considered. In her 2007 paper, Catherine Gross paves the way to go beyond the classical debate over justice theories – in particular, as developed by (Rawls 1971) – by showing how important the perception of fairness is in decision-making and participation processes: "Justice is accepted as central to the well-functioning of society with fairness being an expectation in day-to-day interactions" (Gross 2007, abstract). Thus, she posits "fairness" as both the perception of a process that increases its legitimacy and a dimension of its procedures. On the basis of the work carried out by Hart (1961), she shows how the right to participate, as well as transparency of information, trust, and space for opposite opinions, is crucial for decisions to be acceptable (see also Cowell, Bristow, and Munday 2011). While mentioning distributive and procedural justice, she focuses on the fairness of decision

making and its perception to "increase social acceptance". As we will see below, fairness might represent much more for the democratic construction of opportunities. In this paper, we would like to show that fairness is constructed along concrete activities and depends on the relationships and the type of collective organization that is undertaken around these activities. Regarding energy issues, fairness is based not only on energy justice but also on practice.

Our approach also refers to value construction in John Dewey's theory (Dewey 1939; Dewey 2011). The main idea is that there should not be any distinction between norms and values because of the process of "immanent normativity to action" (Dewey 2011, 46). The value we attribute to things is not absolute: It is deeply empirical and depends on a concrete experiential context. Values are determined only in their "concrete makeup" (Dewey 1939, 26). Considering fairness as a value obliges us to attach the construction of fairness to the assemblage it belongs to. As we will demonstrate, fairness is a key aspect of energy assemblages. Consequently, we should research fairness along all three dimensions of justice: procedure, distribution, and recognition.

Fairness and the energy justice triangle

Energy justice is "multifaceted" as related to both "production and consumption" and to "distribution and procedure" (Fuller and McCauley 2016, 2). In addition, and in order to "politically frame" energy justice, Fuller and McCauley "highlight the significance of not only ensuring forms of representation or involvement in decision-making processes but also the cultural and political recognition of vulnerable and marginalised social group" (ibid.). In order for "recognition" to be seen as the third dimension of energy justice, we suggest calling these three dimensions the *energy justice triangle*.

Distributional justice is a notion that was first defined in environmental justice to acknowledge and address "both the physically unequal allocation of environmental benefits and ills and the uneven distribution of their associated responsibilities" (Jenkins et al. 2016, 176). In energy issues, distributional justice flags the distribution of both the costs incurred by the production of energy (pollution, loss of resources etc.) and the latter's associated benefits. For instance, the decentralization of energy production in Germany (distribution in space) can be viewed negatively as more and more people live closer to energy infrastructures and experience them on a daily basis (ibid.). The benefits from decentralized energy production, however, can be perceived as better distributed than before, since 40% of renewable energy production capacity is owned by private individuals or cooperatives that benefit from the associated feed-in tariffs. So distributive justice aims to achieve a fair distribution of advantages and disadvantages.

Procedural justice is a second fundamental dimension of energy justice. It takes into account which effective powers are handed over to the community (see Cowell, Bristow, and Munday 2011; Aitken 2010). Procedural justice concerns "access to decision-making processes that govern the distributions […]. It manifests as a call for equitable procedures that engage all stakeholders in a non-discriminatory way" (Jenkins et al. 2016, 178). Access to political debate and decision procedures, however, is not always enough to guarantee fair distribution.

A third dimension, coined "recognition justice", recognizes and accounts for differences between the concerned parties. Although it is a less developed aspect in the literature, we consider it to be fundamental to our case study. Recognition justice was first developed in the domain of climate justice. The notion leans on the claim that a "just response to climate change" with regard to distribution requires us to recognize "the structural conditions that create vulnerability and produce uneven landscapes of

greenhouse gas emissions" (Bulkeley and Fuller 2012, 3). Procedure-wise, it calls upon us to recognize "the basis upon which exclusion and inclusion from decision making is currently structured"(*ibid.*) . In following this claim, Jenkins and others (2016, 177) point at "various forms of cultural and political domination" that can occur and be interpreted as a "misrecognition" or "disrespect" (*ibid.*). Catney and others go even further by showing the importance of recognizing positive differences such as local knowledge created around energy practices (Catney et al. 2013, 516; Eames and Hunt 2013, 48; Walker and Eames 2008). This is very important for our case study. As we will discuss in the third part, recognition justice could benefit from a deeper investigation on how fairness is constructed to strengthen democratic participation.

Furthermore, the three dimensions of energy justice should not be considered separately but as part and parcel of a renewed perspective on energy issues inspired by assemblage thinking.

1.2 Assemblage thinking in energy justice

Assemblage theory, based on Deleuze's philosophy of assemblage (Deleuze and Guattari 1980), has gained ground in geography and in thinking relationally about energy systems (Anderson et al. 2012; Haarstad and Wanvik 2016). Harrison and Popke (2011) were the first to describe energy poverty as not only the duality of household income and energy costs but also a socio-technical assemblage. They emphasize the multidimensional and historical character of energy situations (see also Harrison 2013), including the description of socio-technical processes in time and space. Day and Walker (2013) paved the way for making greater use of assemblage thinking to analyze energy situations. They emphasize the way in which it "embodies particular understandings of agency, emergence and dynamics" (ibid., 15) and make "visible the way that non-human entities have a strong role in how situations play out" (ibid., 17)

This shift, they say, allows for a better comprehension of the material world and how it moves, displaces, and transforms humans. The potentialities of humans and non-humans is changed in and by the relations in which they are engaged – hence, by the assemblage, with a constant capacity to disengage and re-engage in new relations. This is a point that is also emphasized by De Landa (2006). Emphasizing these changing potentialities is a way to point at the performativity of the assemblage and the importance of acknowledging, as we describe it, who/what is inside, who/what is outside, and who/what will finally counts (or not). In underscoring the heterogeneity, messiness, instability, and dynamic of the assemblage, Day and Walker make it more an approach to discuss energy issues than a proper theory of its object. The choices made in describing the assemblage, they argue, are an interpretation of reality that should be legally challenged (ibid., 18).

This relational and dynamic point of view is very appropriate for describing pioneering (wind power) experimentation, which also corresponds to a "time-space inherently unstable and infused with movement and change" (Marcus and Saka 2006, 102). The time-space of the socio-technical assemblage in Northern Friesland is also the time-space of the construction of energy justice. The lens of assemblage is one of the tools that allow us to go beyond the perceived stability of energy systems and show a more complex picture through which varying degrees of fragility or stability can be explored and different instabilities can be analyzed (Bickerstaff, Walker, and Bulkeley 2013; Haarstad and Wanvik 2016). Describing them is very important, especially when it comes to questioning the fairness of transition processes.

1.3 Fairness, participation, and the dynamic of energy assemblages

It has often been noted in the literature on energy justice that public participation in decision-making processes is one of the keys to success in transition processes. However, it remains very hard to evaluate how *fair* participation processes really are. Aitken (2010) shows that decision makers and participants have different ways of generating power relations and exerting power in decision processes and that these ways depend on multiple factors. Despite a somewhat shared understanding of issues of public participation (Catney et al. 2014), the construction of "community benefits" (Cowell, Bristow, and Munday 2011) should be considered in great detail in order to describe the various levels of participation – in terms of access to the processes, but also in terms of who is endowed with the possibility to speak, which requires being properly informed and listened to. Achieving such a level of detail is not easy in empirical studies. Similarly, accounting for such detailed processes is difficult in policy action. A scale issue then arises in issues of participation and power. While we may be able to follow, control, inform, and experience participation at the level of one community (or village), it is hard to know what is going on with participation in another community (or district) or in several communities at once. How then is fairness achieved in different places with different backgrounds and people? Can fairness be scaled up? Can it be displaced, replicated?

Following the work done by Bickerstaff, Walker and Bulkeley (2013), we can see how the construction of energy justice and energy assemblage are intertwined and how they might frame each other. Rules of law, as well as practices of fairness, determine how the social, the spatial, and the temporal are distributed across society, who has access to decision making, and which forms of knowledge are recognized (Eams and Hunt, 2013). Fairness is not just a matter of perception, as Catherine Gross's

analysis might lead us to believe. Fairness is embedded in energy assemblages. It is a matter of which relations are constructed, who or what is made part of the assemblage or not, and how.

Energy assemblages are as unstable as fairness is fragile: They co-evolve. The scaling up of an assemblage results in the integration of new entities – both humans and non-humans. They all convey their claims and framings, which may challenge the existing balance of attributions – distribution, procedures, and recognition – until a new balance and fairness is reached, which contributes to stabilizing the new assemblage. As assemblages scale up, the underpinnings and the conception of fairness co-evolve.

The case of Northern Friesland is illustrative of such a co-evolution. The setting up of a (wind power) socio-technical assemblage goes along with a construction and a practice of fairness in project development. It results in a definition of fairness that steers the setting up of that same assemblage. Fairness is both a dimension of the wind power assemblage and an assemblage in itself. As wind power scales up and develops in the Land of Schleswig-Holstein, people's claims challenge the incumbent notion of fairness based on local participation. We follow the assemblage of Northern Friesland wind power and its scaling up and try to understand why a well-established practice of fairness could not be shared or scaled up together with the assemblage.

In developing our analysis, we assume Northern Friesland wind power development to be the perimeter of the assemblage and fairness one key dimension of it. Furthermore, we consider that elements of the assemblage are also taken into other assemblages and have "exteriority relations" (Anderson et al. 2012). The regional dimension (in Schleswig-Holstein) is therefore discussed as both a part of the

assemblage (internal relation) and an exterior point of view (exteriority relation), potentially conveying another reading and practice of fairness.

2/ Scaling up energy project dynamics and fairness in Northern Friesland and Schleswig-Holstein

2.1 Making decisions collectively: a fair process initiated by a citizen dynamic

In the 1970s and 1980s, several countries in Europe – Germany and Denmark, in particular (see Evrard 2010 and Bruns et al. 2008, among others) – were looking for alternatives to oil and coal. Unsurprisingly, when the German Federal Ministry of Research and Technology started financing large-scale projects in 1974, the very windy shores of the North Sea and especially the Dithmarschen district and the North Frisian Islands were chosen as the preferred places for experimentation. Pilot projects like GROWIAN, MAN, and Aerodyn were constructed and tested on Schleswig-Holstein's western coast. In addition to these research experiments, individual experiments were carried out, and the local Husumer Shipyard (HSW) entered the field in 1987 with a project to build the biggest wind park in Europe with 50 windmills.[8]

Fifteen years of technical experiments constituted a "messy and dynamic" network of wind power actors that could be described as the first "wind power assemblage" (Day and Walker 2013, 23–24), which we have also described as the first practices shaping the future energy landscape of the region (Chezel and Labussière 2017). While experimenting with technical solutions and gaining expertise, inhabitants and administrations were also constructing a new fairness based on a trial-and-error

[8] Husumer Nachrichten, Europas größter Windpark entsteht in Nordfriesland/ bis zu 50 Windkraftanlagen geplant, 4 January 1989.

approach and a sharing of risks. Considering energy justice relationally, we have identified a key moment in the "messiness" of the pioneer period: In 1991, when a few people decided to organize themselves collectively. This period also corresponds to the first "wind energy boom" (Bruns et al. 2008, 41).

Gathering individual initiatives: the early engagement of mayors and inhabitants

In 1991, when the first wind feed-in tariff was implemented in Germany, several landowners were willing to invest in wind energy and own a windmill. In the polder of Friedrich-Wilhelm-Lübke-Koog (FWLK), where the HSW had erected its windmills, as well as in the nearby community of Bredstedt-Land, 20 people asked the mayors for a construction permit. Quite cleverly, both mayors asked the petitioners to consider whether they could join together for a common proposition. Their motivation was to avoid the dispersion of windmills on the land. It was also driven by an aspiration for a long line of windmills to follow the dike, as the Danes and the HSW had done.[9] At the time, it was associated with the idea of having modern, powerful technology. Yet, in so doing, the mayors also set up the conditions for a collective decision process. Indeed, right after their gathering request, petitioners in both polders had the idea to open their project to other inhabitants in their community. Those in Bredstedt-Land even advertised it in the newspaper. It was initially for both spatial and economic reasons (the more investors, the bigger the wind park). In Bredstedt-Land, the mayor had determined an appropriate area along the dike for the construction of windmills, which excluded

[9] Husumer Nachrichten, Windmühlen wie eine Perlenschmur am Deich des Lübke-Koogs?, 6 February 1989

some of the initiators. In FWLK, a vision of a shared landscape was described as follows:

> "We knew we would need lots of money, and we also knew, because we had already seen it [with the first HSW windmill line], that the landscape would change a lot. And so, already at that time, we said: a) We need money, and b) we need acceptance. And then we looked at each other and said, 'What if we enrolled all the households, every family, in the FWLK?' If they are interested in building a wind park with many people from the community." [Interview FWLK, 12 August 2015]

The direct outcome was the organization of weekly meetings to discuss the project, which were open to everyone from the outset. How much investment? How many windmills? Which technology? Which bank loan? Where should the windmills be placed? Who would be able to rent out part of his or her land, and for how much over how many years? Which firm structure should be adopted? Who should manage it? How will the benefits be shared? And so forth. This very local kind of negotiation lasted over a year. The initiators also started to negotiate with banks, tax advisers, and construction permit authorities.

In Bredstedt-Land, only 28 people committed to the project in the end, but within eight months they had built the first four wind turbines (Enercon 33, 300 kW each), which were rapidly followed by four Vestas 39s (500 kW each) and four Nordtank 37s (500 kW each).

In FWLK, 44 inhabitants engaged in the project, with their land standing in as a guarantee for the bank loan. In 1992, they received authorization to build 22 wind turbines (Enercon 33, 300 kW) with a total capacity of 6.6 MW along the dike. They built the first half in 1993 and then waited several years before securing enough money to build the rest. The benefits from the first investments were reinvested in new wind turbines: four in 1992, four in 1994, five in 1995, one in 1996, one in 1997, two in

1998, and one in 1999. They started with small wind turbines: 30 meters high at first, then 40 meters high; 250 kW, and then 500 kW. In 2003 and 2004, new 1.5 and 2 MW windmills came out on the market. After a great deal of discussion, they decided to repower: They removed the existing windmills and replaced them with these new windmills that could produce three times more electricity than the first ones.

From the beginning, the inhabitants of the FWLK polder named their park "Bürgerwindpark", (citizen wind park). Many other citizen wind parks, eventually totaling about 50 parks in Northern Friesland alone, were built after 1995 without any legal definition or labelling. We will now describe in detail its functioning, as the inhabitants understand it, to get a better understanding of their citizen organization. As is very often emphasized in the literature (Eames and Hunt 2013; Jenkins et al. 2016), self-governance capabilities and procedural justice guaranteeing access to and participation in decision making are key conditions for the establishment of a just energy transition. Other authors have shown that there are different levels of participation and that it may be useful to distinguish between the form and the substance of participation (Aitken 2010; Cowell, Bristow, and Munday 2011).

Fairly assembling citizen wind parks

Although there is no legally binding definition of a citizen wind park, the latter usually takes the legal form of a limited liability company. The good quality of information circulating from one village to another relies on the motivation of the *wind farmers* and the value they attach to transparency. Most of the citizen wind park managers were initially farmers or landowners in the region but very often with an ongoing agricultural activity. Because they were there at the beginning of the development of wind parks and because they were initially also taking care of the functioning of the machines, they are often called "wind millers" (from windmill) or "wind farmers". In the early 2000s,

several of these pioneers developed a consultancy activity, which allowed the model to be reproduced in other places. What is very important for them in a citizen park is the inclusion in the project proposition of absolutely every inhabitant and from the very beginning. These two conditions were mentioned in every onsite interview with pioneers and consultants (see also Beisel 2005). When the project is just a vague idea from some people and without any firm materiality, then everything is still open. There are no definite winners or losers; there are just many possible alliances that could make the project happen or not (see also Coustouzis and Latour 1986).

Thus, the very first step when two or three inhabitants decide to initiate a citizen wind park is to invite the whole village or polder to discuss the project and to participate. Everyone is welcome, and everyone can argue, ask questions, or decide to invest or to oppose the project. Several meetings will take place afterward, in the end leaving only those who are ready to engage. First, they all engage with the same amount of money to go through the authorization process and pay the basic studies required for permitting (e.g., wind speed, species protection, etc.). Several rounds follow during which agreement is reached on the amount of investment. It is usually done in successive lots – one per round – so that no one can seize a majority of shares. The amount of shares is agreed upon in advance by taking into account the investment needed and the number of people willing to participate. If there are 50 people, and the amount of one share is 1,000 euros, each round totals 50,000 euros. At least 20 rounds will take place until the necessary capital is reached. The right to vote later depends on the personal amount invested. This might be perceived as unequal but can also be considered a fair process. One can have only five shares (5,000 euros) and the other one 20 (20,000 euros), but no one can have three-quarters of the shares (750,000 euros). This is what Gross (2007, 27–30) and Skitka, Winquist, and Hutchinson (2003) call “the

fair process effect": If the decision-making process is perceived as fair, unequal situations (differences in outcomes and "negative outcomes") can become acceptable.

Indeed, our interviewees refer to a "win-win situation"[10] to describe the compromise they can achieve in their assembly. For them, it means that even an unequal situation can be fair because the public debates they have in the assemblies allow them to recognize the differences between them, accept disparities, and better distribute the risks and the benefits among them. Contrary to cooperatives, the functioning of citizen wind parks in limited liability companies (specifically, GmbH & Co. KG) allows people who invest more money to have more power in decision making, which can seem unfair at first. Our interviewees believe it is fairer to recognize the difference:

"Everyone has one vote in cooperatives. No matter how much you contribute. Of course, you can go there, you'd say that they have that good because it is fair, but, well, you can also say that the one who brings a lot of money and takes a lot of risk and could completely lose this money should also have something to say" [Interview Rendsburg, 12 May 2014]

Once the rounds have ended, the negotiations with the banks and with the windmill producers start, as well as the authorization processes. This mandatory steps can be laborious and usually take several years. Over this time period, and later when the windmills are built, the assembly of citizen shareholders gathers steadily to discuss regular (financing, technical) or special (repowering) issues, exposed and justified by

[10] "So this is a win-win situation for the farmers, for the citizens and for the community" [Interview, Husum, 26 March 2014]

the secretaries, who tend to be the initiators of the project. The latter are accountable for the assembly of partners. Afterward, this responsibility is financially taken into account by the other partners: The secretaries earn a bit more money than the others, but their motivation relies on collective values.

"I was just as much a farmer as the others in our society. […] but we took that responsibility. But it was, as I said, actually more a kind of volunteering. Because we didn't know whether it would eventually become something. And we couldn't afford to lose a lot of money. But it was a community idea [ein Gemeinschaftsgedanke]" [Interview FWLübke-Koog 12 August 2015].

This shows again a certain construction of fairness and trust among the wind energy actors in Northern Friesland within their practices. The size of the assembly, its judicial form, the frequency of its gathering, and the things that are discussed can vary, but every partner can fairly ask questions and vote.

There can also be a moment when the shares are reopened (for repowering) to other inhabitants who did not engage in the project earlier because they were not living in the area or because they were not willing to engage at the time. To stay fair to those who were the first to take on all the investment risks, the newcomers are usually not offered exactly the same opportunities. There are also areas where the citizen shareholders have simply refused to welcome new participants into their community, like on the island of Pelworm. Last but not least, there are villages like FWLK where several parks have decided to pool their production. No matter where the windmill is located or when it was built, it contributes to the common pool. The money earned from the feed-in tariffs is then redistributed to everyone according to their due shares.

These three cases show that reopening the assemblage is taken as an occasion to redefine fairness. The first assembly considering repowering will inform the citizens,

debate, and vote about the possibilities to include (or not) newcomers, and if yes, decide how and under which conditions to do so. These conditions are offered to newcomers, who can also accept, refuse, or negotiate them. The new assemblage will include the new fairness, the previous assemblage, and the new windmills.

Given the rise in the number of citizen wind parks and of windmills on the Frisian landscape, more infrastructure was needed in the 2000s – a necessity that triggered new forms of organization between the parks. We will now consider how assemblage and fairness co-evolved in this scaling up.

Networking, lobbying, and embedding fairness

At the beginning of the 2000s, numerous citizen wind parks were already in place, but they had not been organized or structured as a network. With the entry into force of the Renewable Energy Sources Act (EEG) in Germany, it became hard for the citizen wind parks to imagine facing bigger companies in future negotiations, especially the ones coming over the grid extension from northern to southern Germany. Thus, the citizen park managers, the wind millers, started a working group in which they gathered and exchanged about topics concerning the functioning of their parks from near and far: grids, technical issues, environmental issues, business models, etc. In 2009, after several years of informal discussions, they decided to set up a new firm, also based on the limited liability company model, in which the various citizen parks were the shareholders. They named it ARGE NETZ (working group network) and set up its office in Breklum, Northern Friesland. At present, ARGE NETZ links representatives of wind farms from all over Schleswig-Holstein and northern Germany, that is, about 220 windfarms and 9,000 partners.

ARGE NETZ created a financial pool with contributions from the wind parks to mutualize investments in the electrical grid and the transformer stations – two sensitive

issues to achieve a large-scale wind power development. It also set up a firm, the *Breitbandnetzgesellschaft*, to equip Northern Friesland with fiber-optic cables to support the remote management of the wind farms and optimize the production of electricity. These initiatives demonstrate that a new socio-technical assemblage was emerging on a new scale. By producing facilities (access to the internet) that also benefited villages without wind turbines, it further embedded fairness and illustrates how the collective dimension of wind energy was constantly being pushed forward in order to allow for regional development beyond wind energy. In 2010, the Land of Schleswig-Holstein and the Northern Friesland district created a cluster called Windcomm that is aimed at developing networking and communication in the field of wind energy. That same year, with the help of ARGE NETZ, they produced a guidebook about the "*Bürgerwindpark* as added value for the region".

ARGE NETZ is also active as a lobby, mainly focused on the role of citizen projects to be recognized as part of the *Energiewende* on the regional (Schleswig-Holstein) and the federal level. Since the Fukushima nuclear disaster in 2011, the State has pushed ahead with Germany's energy transition in order to accelerate the closing of nuclear power plants. This political movement tends to favor big energy projects supported by large energy industries. Thanks to the way in which it is structured, ARGE NETZ is now able to give a voice to the citizens and demonstrate how active citizen participation contributes to the energy transition. In 2014, ARGE NETZ opened an office in Berlin. Moreover, the traditional wind power branch association and lobby (*BündnisWindEnergie*) has opened a *Bürgerwindbeirat*: a chair for the citizen wind parks. This was also pushed by local debates in Northern Friesland and is now represented by one wind miller from Northern Friesland. This person has a mandate to promote the functioning of citizen projects throughout Germany and elsewhere.

These elements concerning some 30 years of citizen engagement in the successful development of wind energy in the district of Northern Friesland give an idea about the concrete modalities, role of citizen participation, and pecuniary and material benefits redistribution that underpin the construction of fairness in this wind power assemblage. The average rate of renewable energy acceptance in Northern Friesland is often said to be around 90%, while it is much less in the rest of the region,[11] a point that Gross (2007) confirms in her analysis of the relations between the perception of fairness and the acceptance of wind power projects.

Together with the favorable evolution of federal wind power policy, such success has sustained the progressive scaling up of wind power development, leading to a circulation of this citizen model at the political level in the administration and land planning of Northern Friesland and in the Schleswig-Holstein government. We will now explore this circulation and institutionalization of the citizen model.

2.2 Institutionalizing participation: the limits of a fair process

As wind energy was scaling up, the administration started attempts to regulate wind power development through land planning. Although the administration tried to make the process fair by guaranteeing participation in decision-making processes, it faced difficulties in maintaining fairness. In this part, we follow the process by which claims for unfairness emerged during the process as the wind power assemblage scaled up.

[11] This is a figure circulating in interviews and also corresponds to a tendency of high acceptance level in regions where citizens are actors in wind energy projects. See https://www.wind-energie.de/themen/onshore (15 November 2016).

As wind energy scaled up, the administration started to map wind zones

The Northern Friesland and Schleswig-Holstein administrations were also pioneers in regulating wind power through land planning. Throughout the 1980s and 1990s, no other Land studied as many windmill construction permit applications. As of 1992, it was no longer possible to answer them on a case-by-case basis. A new land planning regulation was needed that would include new, energy-specific (physical and technical) criteria on top of the existing ones that related to nature protection, cultural heritage, military zones, etc. In 1994, the Northern Friesland district started to map the existing windmills and superimpose the existing criteria onto them. It designed the first wind zones with this overlay. These first wind power maps were discussed with different parties, including municipalities, nature protection and citizen associations, and the existing citizen parks. In this way, the wind power plan was informed by wind practices and integrated into a collective vision that can be characterized as a fair process. Indeed, the negotiation of fairness took place in all those different groups, and the administration tried to take all points of view into account.[12]

In 1998, the government of Schleswig-Holstein decided to make the planning of wind power zones mandatory and started to establish legal criteria at the Land level. It was the first Land in Germany to do so, even though a federal law (BGB reform) had already made wind energy a priority in land planning two years earlier, in 1996. The Land's government was willing to develop the production of electricity from renewables and ensure that the whole of Schleswig-Holstein could make the most of it. The government asked all the administrative districts (*Kreise*, Land subdivisions) to

[12] As reported in the district archives: ANKANF B4 -4386 Windkraft Allgemein und Anhörung enthält u.a.: Auswertung der Stellungnahmen zur Flächenfindungskarte 1993 1994.

offer areas for the development of wind energy. This offer was pushed forward by the federal government of Germany and its 2000 renewables law (EEG). Following this planning, the wind power surface covers 13,669 ha. In 2006, new land planning was carried out by Schleswig-Holstein in an effort to boost energy production while limiting it to specific areas. All 14 districts in the Land entered a period of negotiation between those for and those against more windmills. Each municipality was asked to offer land for the exploitation of wind, and they had to enter into discussions with landowners and inhabitants. The Schleswig-Holstein government had hoped for about 1,000 ha in each district, but the district of Northern Friesland alone, which covers 133 municipalities, offered 12,000 ha. The trend of offering more than expected was also noticeable in other districts (see Figure 1). After another round of negotiations and the nuclear accident of Fukushima, which made Germany definitively decide to abandon nuclear energy by 2022, the Northern Friesland district was given 3,500 ha of new wind power zones. In total, Northern Friesland currently has 7,477 ha, or 3.6% of its total land area, dedicated to wind power. The neighboring district of Schleswig-Flensburg has 3,250 ha, which amounts to 1.6% of its land (see Figure 1). Altogether, the Land of Schleswig-Holstein doubled its wind power surface between 1998 and 2012, to covers 1.7% of the Land area (Figure 1 map of the surfaces per districts), while Bayern, for example, has only 0.1% (Zaspel-Heisters 2015).

The experience and income gained by the Frisians since 1980 convinced most of its municipalities to have new zones, which was not necessarily the case in other districts.[13] Either people did not know they could benefit from the wind economy, or

[13] Nordfriesische Nachrichten, Windkraftanlagen werden zum Renner /Fünf Windparks geplant .Zahlreiche Anträge auf einzelne Rotoren, 5 April 1989; Husumer Nachrichten, Run auf Windkraft an der Westküste/mehr als 80 Anlagen geplant/ Schiffswert will Europas

they knew it but considered it too great a risk. Or they simply did not want to see windmills on their landscapes. In any case, the new Land planning was drawn up in 2012 and based on the voluntary participation of communities. There was definitely a political will to make every district contribute to the energy transition through a fair process of collective decision making. Citizen participation was always perceived as positive in the administration in the sense that it would ensure political acceptance and revenues for the communities through business taxes. This process lasted four years and still sidelined some people's appeals. Several pleas were made to the Regional Higher Administrative Court against this land planning.

Claim of unfair distribution in a fair procedure

The wind power planning devised in 2012 by the Land of Schleswig-Holstein, in cooperation with its districts and communities, ended up being struck down by the Regional Higher Administrative Court in January 2015. Contrary to the position adopted by the local representatives of their community, inhabitants from planning area I (Schleswig-Holstein Süd)[14] claimed their right to benefit from the development of wind power. The court accepted the argument that a community's will to have or not to have wind turbines was not a legal criterion for land planning. New wind park authorizations have been blocked since this court decision because there is no longer any valid legal document upon which to base new authorizations. Thus, there was a moratorium in place until a new wind power plan was established in 2017. Discussions

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zweitgrößten Park bauen, 5 April 1989; Husumer Nachrichten, Windanlagen schießen wie Pilze aus dem Boden/ In NF läuft Raumordnung aus dem Ruder, 23 January 1991; Husumer Nachrichten, Windspargel wachsen in dem Himmel, 31 August 1991.

14 Northern Friesland is in planning area V (Schleswig-Holstein Nord).

between the administration and wind park actors (citizen parks and other firms) were carried out in Northern Friesland in order to come up with a new mapping and a common wind power vision. In the meantime, however, the federal government has adopted amendments to the EEG law that are not favorable to small private investments (i.e., citizen projects). Thus, the situation has become very uncertain for wind investors.

3/ Assembling fairness: how far can it go?

Our contribution to energy justice issues relates to the construction of fairness in energy assemblages in articulation with the three dimensions of justice and participation processes. Fairness, considered as a value embedded within collective practices, brings a new perspective to the energy justice triangle. The case of Northern Friesland and its citizen wind parks helps us understand the socio-material process along which fairness was tried, debated, established, and transformed. It is still and will always be under construction because the size and the form of the assemblage are perpetually evolving. As Hall, Hards and Bulkeley (2013, 413) point out in their research agenda, energy justice is "just one of many ways in which power relations, fairness and disadvantages are created and expressed within energy systems." The debate over power relations in energy systems is revisited with the development of renewable energies that are embedded in very local assemblages. To find a balance or a fair process between national policies and local situations is a new challenge for which energy policy- and lawmakers, as well as inhabitants, are not necessarily prepared. Gailing and Röhring (2015, 37) even suggest that a new scale of energy governance be created. In this part, the construction of fairness is considered in its relation to participation policies and recognition justice.

3.1 Fairness and the tensions between the three dimensions of energy justice

We have shown in this paper that fairness is relational. Fairness is a dimension of the wind power assemblage that is part of people's experience and the legitimacy of the assemblage. When the assemblage is displaced or scaled up, fairness is modified, and the assemblage is challenged. We have emphasized that the three dimensions of energy justice are somewhat interdependent and in tension with each other: Changing the balance regarding one of them inevitably raises issues for another. Hence, fairness can only be jointly constructed with distribution, procedure, and recognition at the same time and at the same level. In our case study, fairness is constructed through participation and evolves along all three dimensions of energy justice, namely distribution, procedure, and recognition. When the assemblage scales up, the energy justice triangle is no longer equilateral: Although fair distribution and procedure were guaranteed, recognition of differences between municipalities was not sufficiently taken into account, and fairness could not be stabilized.

3.2 Fairness and participation

While it seems legitimate for policymakers to get inspiration from an experience that has worked well, as they did in our case study, passing through participation to regulate wind power on a regional scale raises issues. First of all, the success or stability of fairness greatly depends on the details of the processes through which agreeing, debating, and "bonding" are constructed (Chezel and Labussière 2017, 4), all of which are difficult to manage from a distance. Introducing participation into planning is a big challenge because distant management is at the core of planning. Second, as participation takes time to be carefully constructed, it can hardly match mass production objectives, which often call for acceleration in processes.

3.2.1 The space(s) of participation

From a political point of view, the government's attempt to ensure democratic participation and base land planning on local participation is commendable. This might even have worked if the organization of collective decision making was customary, if everyone had a true right to make his/her voice heard or his/her position taken into account before reaching a collective position in every single village. However, it is risky for the state from a legal point of view and with regard to equality rights (German Grundgesetz, Art. 3) when participation is not the same in all the villages.

Participation is hard, if not impossible, to monitor for an entire region, as we have shown in the first part. Participation has worked in Northern Friesland, but the decision making and discussions there lasted 20 years before wind power came to be regulated through land planning. It is not clear how the municipalities made their choices in other places, how inhabitants were informed, and how or whether they engaged in discussions. In any case, it is not because a decision is made locally that it can ensure fairness (see Purcell and Brown 2005).

The Land of Schleswig-Holstein gave the districts and municipalities an opportunity to organize public participation. The land planning was also directly accessible for inhabitants to consult it. But the Land was not able to organize and monitor participation on its own. While equality of rights was legally defined, fairness was not and remained uncertain while the assemblage was being constructed. As the assemblage scaled up, it was displaced: Participation lost its first purpose and substance without the Land government being able to account for these changes. As Aitken (2010) shows, the form and the substance of participation should not be confused, and many factors have to be taken into consideration to balance the different forms of power exercised in participation. Like Gross (2007), we should question each community and

participant in order to understand whether they were really entitled and had the ability to participate. Likewise, cases of villages that do not have enough wind or that were excluded from the process because of heritage or natural protection could be imagined. In these places, the inhabitants did not have the chance to invest in the windmill projects. This has also become an issue in Northern Friesland, as the wind energy villages have, over the years, become much wealthier than the villages that have an old church or a bird reserve to preserve. The construction of *fairness* requires that such differences be recognized and acknowledged – a point that planning, because of its connection with *equality*, has trouble taking onboard.

3.2.2 The temporality/-ies of participation

Constructing genuine participation is like structuring capabilities: It needs time and hardly supports forced acceleration. When agreeing on the first material issues, some decisive steps of "attunement" (Chezel and Labussière 2017, 4) are unavoidable in developing a common landscape vision: evaluate possibilities, technologies, and people's competencies. In turn, it is tricky to bet on gaining acceptance with participation processes for a mass energy production agenda.

The departure point is also decisive. Assemblage analysis has shown that technologies incorporate political choices as they emerge (Barthe 2011; Butler and Simmons 2013). There is not one generic wind power technology but various ones that depend on their conditions of development and deployment (Nadaï and Labussière 2010). Our study suggests that it is not the same thing to first construct fairness around small turbines in an uncertain policy environment before agreeing on bigger turbines – as the pioneer wind millers did in Northern Friesland – or to start by dealing with MW quantities and an administrative plan asking how many you want to develop, as was the case in the district where people claimed unfairness. Not only do the technologies

matter but also the way in which access to them (their financing, their mechanical functioning) is constructed. The type of participation and fairness that emerged in Northern Friesland cannot be replicated elsewhere because both the technologies and people's relationship to it have evolved since the 1980s: "Energy justice is shown to be not an abstract notion or avowedly political project, but as something that is constituted through the everyday and the practical; it is embodied, emotional and experiential" (Hall, Hards, and Bulkeley 2013, 416). The step-by-step experience of wind energy in Northern Friesland is indeed constitutive of the stability of its energy assemblage. The situation in other districts in the 2010s is completely different.

The political mistake is caused by what is a priority: Schleswig-Holstein first thought in terms of quantities (MW and surface to be achieved) instead of social processes of debating, agreeing, and making decisions. These priorities would have required recognizing differences between territories: differences in technologies, learning, rhythm, and relational heritage. In other words, "difference should 'displace' distribution as the analytic focus of justice" (Stanley 2009, 1000) and allow for the third tenet of energy justice, namely recognition, to find its place.

3.3 Fairness and the recognition of differences

As discussed in the first part, "recognition justice" was put forward quite recently in the context of climate change in order to account for differences in vulnerability to the impact of the changing climate (Bulkeyley and Fuller, 2012; Hall, Hards, and Bulkeley 2013) and then extended to recognizing expertise as locally created: "an approach to energy and justice which recognizes the contexts and relationships in which people live and use energy" (Catney et al. 2013, abstract). Consequently, if the energy produced from renewables is significantly related to the local environment and everyday life, energy justice should also take into account the fair distribution of powers to learn, use

previous knowledge, become experts, and be recognized as such. Recognition justice should be extended beyond the field of energy poverty and not be reduced to a subcategory of distribution and procedural justice (Bulkeley and Fuller 2012). It should be used as an entire dimension of the energy justice triangle to ensure the construction of fairness. Indeed, if we look back at our case study, it is actually the construction of local knowledge and expertise achieved through various technical experimentations in the 1980s that made the construction of fairness possible and sustainable. The proximity of the North Frisian citizen parks to the political level of the Land of Schleswig-Holstein shows that this expertise has been recognized and valorized, namely in mapping wind zones. It offers a chance to learn and to build capabilities – one that was given to those places where wind energy was first tested in the 1980s.

Implementing the notion of positive recognition justice is delicate because it might point to processes with long temporalities and because recognizing that a territory or person is better equipped to produce energy might go counter to equality issues. However, the unequal distribution of wind and sun and the very real differences between places cannot remain hidden behind a homogenous procedure. We have seen that overlooking heterogeneities can lead to distortions in distributive and procedural justice. In other words, recognition justice is essential to the other dimensions of energy justice because it conditions their effectiveness.

Conclusion

We have shown in this article that fairness is constructed through relations operating inside and outside an assemblage of wind power practices, characterized by careful attention to differences and the ways in which they can be expressed so as to be accounted for. In order to exist, fairness has to be ceaselessly constructed and

reconstructed. As wind power scaled up and entered spatial planning, it became the role of the administration to ensure citizens have the opportunity to construct and reconstruct fairness at any time and in every place. It is first the possibility for them to enter the "space of negotiation and design" that characterizes the new energy governance scale, between localities and administrations (*Gestaltungsräumen; Handlungsräumen*, Gailing and Röhring 2015, 37). To do so, the administration needs to recognize differences among localities because fairness can only exist if the energy justice triangle is adjusted: in other words, when the tension between distribution, procedure, and recognition is fairly balanced. When this balance is reached, the assemblage is stable for a while. Displaced by its own dynamic, the assemblage will challenge the balance of the justice triangle, and fairness will be questioned again.

Fairness, unlike justice, is deeply empirical. This also means that one energy public policy should pay attention to differences among its citizens to offer equal opportunities for communities to engage in energy experiences. Our article confirms Park's point that fairness combines "practical capacities" with "distribution of opportunities" (2012). Every policymaker has to find a balance between pushing forward already functioning communities (based on their practices) and enlarging the number of contributors (which requires the distribution of opportunities).

Fairness is also useful to question how effective democratic principles are. Thus, fairness issues are not only instrumental in increasing social acceptance, as Gross puts it (2007), but also a way to question concrete opportunities offered in a democratic way of life, for everyone to participate in – i.e., "take part in, contribute to and benefit from" – political life (Zask 2011). Fairness is a way to build effective access to freedom (Sen 1999) and just sustainability (Agyeman 2007). For energy issues, what is important is not only fair participation but also the fair recognition of different local situations. As

the use of renewable energies is closer to people's everyday life than conventional energies, then the construction of fairness, especially the recognition of differences between territories, might be as important as granting equality rights.

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Figure 1. Wind Energy Areas in Schleswig-Holstein in 2012, Public Documentation from the Land administration.