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Edith Chezel, Olivier Labussiere

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Edith Chezel – corresponding author

*Laboratory PACTE*

*14 bis avenue Marie Reynoard*

*Grenoble (France)*

edith.chezel@umrpacte.fr

Olivier Labussière

*Laboratory PACTE*

*14 bis avenue Marie Reynoard*

*Grenoble (France)*

olivier.labussiere@umrpacte.fr

# **Energy landscape as a polity. Wind power practices in Northern Friesland (Germany)**

## **Abstract**

The success of wind power development in Northern Friesland (Germany) is mainly due to its ‘citizen wind parks’. However, their historical emergence, as well as their astonishing scale-up from small to large wind farms, is little understood from the inside. Following the critical approach of assemblage thinking, this paper’s proposal is to revise the notion of ‘assembly’ to investigate collective processes of ‘attunement’. The paper stresses the practical work of valuating ‘things’ and making them commensurable in the light of the relations (inherited practices, place attachments, project perspectives) grounded in a place. This approach makes it possible to identify the ways in which assemblies from Northern Friesland have negotiated and transformed an inherited landscape into a shared wind power landscape. We call this activity in which local assemblies engage ‘a polity’. Finally, we illustrate the term’s conceptual potential by discussing its scope and links to techniques of power that follow from environmental ‘governmentality’.

## **Key words:**

Energy landscape, wind power, Northern Friesland, Germany, assemblage, assembly, polity, governmentality

Number of words: 7395.

## **Introduction**

New renewable energy landscapes have emerged in Europe thanks to pioneering projects since the end of the 1970s. Their construction and evolution, from experimentation to regulation, requires a long view that takes into account the entanglements between people, places, resources and technologies. One of these places is Northern Friesland (Germany), a region on the North Sea that comprises 163 polders and 850 km of dikes (Kunz & Panten, 1997). Northern Friesland currently has about 800 wind turbines, mainly developed as part of a ‘citizen wind park’.

Wind power development in Germany is world-renowned for its successful development, as well as for the innovative use of tax regulation to support it (Bruns, Köppel, Ohlhorst, & Schön, 2008). The early role that cooperatives played in its rapid growth has been pointed out (Toke, 2005; Bolinger, 2005; Breukers & Wolsink, 2007), often to describe a collective wind power pattern that could be exported. To this end, many papers have focused on specific aspects of their deployment, such as ‘business models’ (Enzensberger, Fichtner, & Rentz, 2003; Yildiz, 2014), ‘community involvement and motivations’ (Toke, 2005; Wen, Birmele, Schaich, & Konold, 2013) and ‘institutions and planning’ (Agterbosch & Breukers, 2008). To some degree, this German grassroots history still remains little understood from the inside. Our goal is to review emerging networks and landscape issues step by step.

Landscape studies usually draw a distinction between approaches to the landscape as a distant picture at which we are looking and those that consider it a dwelling place in which we are living (Wylie, 2007). The distant picture might be either aesthetic or national, as defined and protected by law to promote a national value, or power coherence (Walter, 2004; Olwig, 2007), while the dwelling place may be vernacular, made up of individual practices and experimentation (Ingold, 1993; Brinckerhoff-Jackson, 2003). As they develop new political capacities around material resources that matter, renewable energy landscapes created by collective initiatives compel us to reconsider this tension.

Our proposal is to use the *assemblage* approach (Deleuze and Guatarri, 1980; Delanda, 2006) while strengthening the notion of *assembly* based on the ancient ‘ting’ (Latour, 2005; Krauss, 2010; Olwig, 2013). Through this approach, we hope to identify the wind power landscapes in Northern Friesland in relation to the contemporary political processes at work in its (re)shaping by building on the early literature on emerging energy landscapes (Nadaï & Van Der Horst, 2010). Assemblage theory has gained ground in geography and in thinking relationally about energy systems (Day & Walker, 2013; Haarstad & Wanvik, 2016) because it allows a better understanding of the material world and how it moves, displaces and transforms people. Thus, considering the landscape through the assemblage lens enables us to consider the changes brought about by rapid growth in renewable energies, as well as the work of local communities assemblies in renegotiating issues of collective importance and establishing a political framework.

## **1. Energy landscapes, a task for assemblies**

After briefly considering the concept of *assemblage*, this paper considers the term’s use in landscape studies. In particular, it explores the potential use of the notion of ‘assembly’ to discuss contemporary landscape changes, especially nonlinear evolutions driven by innovative grassroots initiatives.

### ***Assemblage thinking: reconsidering the notion of ‘assembly’***

The notion of ‘assemblage’ was introduced in Deleuze and Guattari in 1980 (Deleuze & Guattari, 1980). The original French word, ‘agencement’, has been translated as ‘assemblage’ in English, which resulted in a slight change of meaning (Philips, 2006). Deleuze and Guattari have used it to explore a range of topics in two stages. First, it seeks to criticise the predominance of the structuralist approach to reality as split up into ‘subject’, ‘object’, ‘body’ and ‘language’ – all words that have been over-codified by normative expectations of production. Second, following this fundamental critique, it proposes an alternative relationship approach that draws together heterogeneous elements in symbiosis (or a co-functioning).

Different authors have revised the scope and meaning of the idea of ‘assemblage’. DeLanda (2006) considers it a multiscale entity that spans the micro- and macro-levels of social organisations. He adds that “‘micro’ and ‘macro’ should not be associated with two fixed levels of scale but used to denote the concrete parts and the resulting emergent whole at any given spatial scale” (DeLanda, 2006, p. 32). He also insists on two structuring dimensions: materiality and expressivity. The materiality of the assemblage influences the making of its own expressivity. An assemblage is constantly changing and evolving in non-linear processes, which are often described by processes of territorialisation (reinforcing a synthesis) or deterritorialisation (destabilising it).

The notion of assemblage is also widely used in science and technology studies. Latour has insisted on the importance of looking at ‘things’ as assemblages and not as ‘objects’ that are normatively bounded and categorised (Latour, 2005). When stabilised, ‘things’ may contribute to framing and providing agency to an assemblage; as part of larger networks, however, they may also disrupt it. The attention paid to things is related to political inquiry (Latour, 2006): How many of us are there? Under which conditions can we live together? Rediscovering the social life of things is an alternative political way to build contemporary matters of concern and bring to light the ‘public’, which is defined by its attachment to these matters. These contemporary assemblages are often entangled in a globalised world, and this is one of the reasons why Latour, who considers the ‘assembly’ a remarkable legacy of the first Nordic parliaments (Latour, 2005), disregards this notion. He eventually considers it too specific to a place and a community to offer a clear understanding of the current techno-scientific challenges. While the notion of ‘assembly’ is of secondary importance to Latour in his writings, we assume that it still has the potential to follow emerging energy landscapes. We assume the ‘assembly’ perspective will help understand processes of adjusting the relations between humans and non-humans in a place.

### ***Landscape of practices: through assemblies shall land be negotiated***

As Haarstad & Wanvik (2016) and others have underlined, the notion of assemblage on its own does not provide a clear understanding of long-term dynamics, nor of the interlinkage of temporal and spatial scales. We take this opportunity to discuss assemblage in relation to landscape to introduce the contribution of ‘assembly’.

While describing the temporality of the landscape, Tim Ingold (1993) points to the opportunities contained in the concept of landscape to describe a situation evolving in time and space. He draws our attention to the process rather than the form and focuses on the activities people *engage* in. He goes on a detour through the concept of ‘taskscape’ to make us understand, beyond what we see, how we dwell in and with a landscape. In his whole demonstration, we will focus on the *image of the orchestra*. This image describes not only the *vision* of an assembly but also the performance of an assembly, which is made up of movements and sounds. “For the orchestral musician, playing an instrument, watching the conductor and listening to one’s fellow players are all inseparable aspects of the same process of action: for this reason, the gestures of the performers may be said to *resonate with each other*. In orchestral music, the achievement of resonance is an absolute precondition for successful performance” (Ingold, 1993, p. 160); furthermore, “the forms of the taskscape, like those of music, come into being through movement. Music exists only when it is being performed.” (Ingold, 1993, p161) Ingold continues the analogy to explain how the landscape, far from being a picture, could also be considered as music played to tell or to make a story.

Ingold’s focus on the engagement of people in the process of social life and the construction of the landscape is useful to complete the assemblage approach to energy landscapes and make it possible to consider the organisation of, involvement in and forms of *resonance* underpinning energy projects. As proposed by Krauss (2010), the ‘civic *windscape*’ of Northern Friesland came into being thanks to the “collective effort of the assemblies of people and things” (Krauss, 2010, p. 196). He follows Ingold and Olwig’s conception of landscape as an inhabited place and Latour’s idea of “Dingpolitik” (2005) to explain how the coastal landscape comprises assemblies of people and how “wind turbines are things that bring forth new assemblies and change power relations” (Krauss, 2010, p. 208). Nevertheless, Krauss does not describe the

ways imagined by the assemblies to resonate with emerging landscapes and to reach shared collective agreements.

Taking our cue from Olwig's work on previous meanings of landscape and its reification today with the European Landscape Convention (Olwig, 2002, 2013; Olwig & Mitchell, 2007; Olwig & Jones, 2008), we consider the notion of 'assembly' to be central. Olwig takes us back to the Middle Ages, when the Danish Kingdom comprised two types of areas: 'districts' under the kingdom's sovereignty and '*landskabs*' benefitting from a relative autonomy. In these 'landskabs', also described as "little farming republics" in Dithmarschen (Olwig, 2002, p. 9), farmers had greater rights to self-determination regarding their internal development and their relations with the surrounding districts. The creation of a 'landskab' gave rise to a particular political body, an *assembly* named the 'ting'. The 'ting' was composed of local representatives and responsible for preserving customs and land rights. Through the activity of the ting, like practices of dike construction or discussions in assemblies, a land was being shaped. The land was shaped along a materiality dimension and an expressivity dimension. The activity of the ting, a *de facto* cooperation, could end in a *de jure* cooperation to administer the polder in a 'landskab'. As Olwig (2013, p. 255) explains it, these three meanings of landscape are to be found in the definition of *landskap* in Old Norse.

Separate from the historical approach, the process of considering a landscape as a 'polity' – i.e. the process that turns a land into a political entity – is a way to make power relations palpable (Olwig & Mitchell, 2007): "the *thing* meeting where people meet to discuss things in common is by no means dead, nor are commons. Our world is full of assemblies where people meet to discuss the things they know and things are shaped" (Olwig, 2013, p. 270). We hypothesise that if we can describe the energy landscape as a 'polity', with a focus on the assemblies at work in the assemblages, then we will be able to gain a better understanding of the governance of this landscape and the power relations and decision-making processes in a land. A geo-historical approach proved to be helpful to understand the contemporary wind assemblies and landscapes as an engaged assembly of people taking action, decisions and engagement for an uncertain energy transition. To understand these emerging assemblies from the inside and identify the ways in which they adjust inherited socio-spatial configurations and new technologies, as well as people's relationship to landscape and reconfiguring places, this paper will emphasise the concept of 'attunement'.

### ***Assembly as an attunement: relations at work in collective agreements***

The paper's proposal is to revise the idea of 'assembly' in order to follow processes of producing collective positions on emerging landscape issues. In particular, we approach an 'assembly' as a practical process of 'bonding', in which the challenge is both to revise the status of and commonise material entities, and gradually to agree on shared perspectives.

Assemblage thinking usually refers to the idea of 'attachment' in relationships that enable an entity. To be 'attached' is to benefit from past (individual and collective) experiences that provide skills or sensitivity to a situation (Gomard & Hennion, 1999). As Hennion (2010) notes, the notion primarily refers to the relationship between a mother and her infant. Works from psychology have elaborated on the notion of 'bonding' (Stern, 1985). In this field, 'bonding' and 'affective attunement' indicate the ways caregivers and infants mutually create the chains and sequences of reciprocal behaviours to share affect states and express "to join in" and "to be with". Furthermore, 'bonding' is not 'imitating' but performing a new degree of relationship

by picking up thin elements of interactions and progressively turning them into a common ‘expressivity’.

While it is not possible to observe such a degree of intersubjective relationships in this field, we use the notion to focus on a broad set of relations that may have a spatial dimension and play a role in making a collective agreement. The value of the notion lies in (a) emphasising the material situations that matter and generate an assembly, (b) questioning the conditions under which the parts of an assembly can be adjusted to each other and be made equivalent and (c) identifying the emergence of a shared concern about what a wind power farm should be (rhythm, scale, risk, etc.). For instance, inherited practices, place attachments and wind power project perspectives constitute key relational resources to deal with when approaching the wind as a ‘thing’ that would progressively reach its collective dimensions. To think of the assembly as an attunement is to emphasise the practical work of valuating ‘things’ and making them measurable in light of the relations that are grounded in a particular place.

Different works have underscored the idea of resonance to explain the way an assemblage gradually acquires consistency, for instance, the notion of ‘ritournelle’ (Deleuze and Guattari, 1980) or of the ‘rhythmic harmonization of mutual attention’ (Ingold, 1993). ‘Bonding’ provides the idea of ‘assembly’ with a new potential for describing thin empirical processes and non-linear landscape evolutions. We will return to the potential of this concept in the discussion.

Our empirical description is based on 23 interviews with actors from the wind assemblies, carried out as either collective open discussions or semi-structured interviews during five field sessions between 2014 and 2016 as part of ongoing doctoral research. In-depth research was also carried out in (local and regional) administration archives and at the local newspaper during a three-month stay at the Nordfriisk Instituut in 2015.

## **2. Assembling wind power landscapes in Northern Friesland**

Northern Friesland is currently an administrative district (or “Kreis”) in Germany and is located on the border with Denmark, on the shores of the Wadden Sea. Its landscape consists of islands, outlands, wetlands and polders. In 2016, it had 162,000 inhabitants and more than 800 wind turbines<sup>1</sup> (with a total capacity of about 1,800 MW) installed on 90 wind farms, 77% of which belong to ‘citizen wind park’ inhabitants<sup>2</sup>. Prior to wind power, agriculture had been the dominant economic activity, including mainly sheep breeding and cow and wheat farming, and despite some tourist attractions, the population was declining.

This paper focuses on the changing framework of German wind power policy between 1976 and 2014, as well as the successive technological generations of wind turbines. These have significantly changed the spatial diffusion of wind power, their related issues and the practices required to make these emerging landscapes negotiable.

The analysis describes how the wind power landscape has gradually been turned into a specific ‘polity’ through the works of the assemblies. Here, the notion of ‘assembly’ refers to the process of producing a collective statement on emerging landscape issues. This statement proceeds from ‘attuning’ inherited practices, place attachments and wind power project perspectives, which are considered key resources to provide a wind power project with collectively shared

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<sup>1</sup> 739 are in operation, and 92 have been constructed and are ready to start, according to the administration of Schleswig-Holstein, May 2016.

<sup>2</sup> This figure comes from the Landwirtschaftskammer Schleswig-Holstein (2014).

dimensions. The spatiality of these relations (practices, attachments and project perspectives) allows us to follow the progressive scaling up of community-based wind power experiments and the resulting changing landscape.

### ***1976-1986: Wind power prehistory – about the difficulty of assembling a wind turbine***

Northern Friesland had been connected to the national electricity grid since the Second World War. In the 1970s, energy was not an issue. However, the population was becoming aware of initiatives taking place in Denmark's Jutland, namely the experiences of the Tvindkraft in Ulfborg and Vestas in Lem, located about 200 km from the border, as well as new programmes and authorisations of pilot projects from the German Ministry for Research and Technology<sup>3</sup>.

In 1980, the GROWIAN pilot project was implemented in the neighbouring district of Dithmarschen<sup>4</sup>, also in Schleswig-Holstein. The Federal Research Ministry handed it over to the Jülich Institute for Nuclear Research. A 3 MW turbine with a hub height of about 100 m had been designed, and the project was intended to test the feasibility of a large-scale wind turbine that would provide Germany with the technical foundation to develop an ambitious wind power policy. This oversized device with a rotor that was too heavy never reached its full run. Because it had a purely technical focus, this wind power project failed to result in an 'assembly' in charge of discussing both the political visions of the wind power development and its technical feasibility. This pioneering megaproject is one of the most famous in the history of wind power development. At the time, it did not succeed in providing Germany with a large-scale alternative to nuclear power, but the whole region benefitted from this initial technical experiment.

Reducing wind power development to small-scale projects could be interpreted as a political way of putting wind energy to one side, but this interpretation would fail to consider the "Danish way". Indeed, the spatial diffusion around the border has certainly played a role in the advent of small wind turbines in Northern Friesland where Danish wind history was considered to have had a successful evolution. The story of one North Frisian family illustrates the process of 'attuning' heterogeneous relations to forge a wind power project. This one started with money inherited from a Swiss grandmother who wanted it used for renewable energies. In 1982, Karl-Heinz Hansen and his Swiss wife, Cornelia, went to Denmark to buy a small Vestas wind turbine (V15, 55 kW) (Oelker et al., 2005). Vestas was a farmer family company created in 1945 around steel and agriculture equipment. In the 1970s, Vestas started to test wind energy technologies in secret, as many others did during this period of anti-nuclear movements in Denmark. They produced their first windmill in 1979. Their attachment to robust material for farming in a windy climate was very soon recognised by Americans and farmers in the region<sup>5</sup>. The proximity to the Danish border, the existence of easily manageable generators and free lands on their farm in the Cecilia polder made all of this feasible. Their project gradually established internal coherence by bonding a broad range of external relations (spatial, technical, professional, property, heritage). 'Their' wind turbine still runs today. These pioneers were soon

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<sup>3</sup> These projects were often reported on in local newspapers (Husumer Nachrichten, Nordfriesische Tageblatt...): Two national pilot projects were authorised in 1980 – 10 wind turbines on the island of Pellworm (GKKS project) and one in the city of Niebüll (Jülich project).

<sup>4</sup> In 1979, a meeting of Schleswig (Schleswig-Holstein regional energy provider) took place in Husum, the capital of Northern Friesland, to agree on the launch of the GROÙe WInd Anlage – the big wind turbine – in Dithmarschen.

<sup>5</sup> 20.12.1983 NF Tageblatt, 'Im Cecilienkoog wurde gestern eine Windkraftanlage in Betrieb genommen'; 06.10.1985, Husumer Nachrichten 'Dänen bringen frischen Wind über die Grenze/ Bürokratie als Hemmschuh für Produktion in NF'; Vestas website: <https://www.vestas.com/en/about/profile>



followed by a dozen other Frisians who wanted to create energy from wind on their own lands and sell the electricity on the grid.

### ***1987-1991: Inspired wind power and homemade assemblies***

The “Danish way” inspired not only individuals but private firms, too. A well-known company from Schleswig-Holstein, the Husum shipyard (HSW), whose nautical activity was in decline, moved towards the construction of wind turbines in 1987. It first began producing a prototype, the HSW-200 (200 kW), by using its traditional know-how in the shipyard, the same employees and with financial support from the district and the state of Schleswig-Holstein. The turbine had been tested on-site, just behind the company’s workshop. As in the previous case, this is a sort of ‘homemade assembly’ that benefitted from inherited professional practices, privately owned land and a few public subsidies.

Promising results led HSW to envision the production of a range of bigger (HSW-250, 750) and smaller turbines (HSW 30), the latter to be exported to isolated regions or developing countries. This immediately called for a broader mixture of places to test them. The deeply rooted firm gained local support from various Frisian towns offering test fields (Bredstedt, Husum, Niebüll, Westerhever, etc.). The town of Bredstedt bought the first three HSW-250 in 1988. In 1989, HSW decided to build the biggest park in Europe with a capacity of 13 MW. As the scaling up of the generators called for more land, it also required more funds. This led to unusual financial support from the community, the district, the state of Schleswig-Holstein and investors from Munich (Firm BVT). An advertisement was placed in the local newspaper to invite everyone to invest, with a fixed share of 30,000 DM (about 15,000 euros today). The high amount of investment required actually excluded individuals from the project. As such, this innovative public–private partnership targeting the lands in the polder of Friedrich-Wilhelm-Lübke-Koog (FWLK) failed to produce a wind power perspective that mattered for the locals. It was more a showcase for the first 18 HSW-750 that the firm was developing. The lack of internal skills led the company to revise the project and to settle for smaller turbines (50 HSW-250), primarily to ensure its own economic activity. In the end, HSW did not manage to build the whole park it had planned, but the first line of wind turbines was already inspiring for the polder’s farmers.

Day by day, especially over the weekends when the construction site was empty, farmers observed the settlement of the turbines in the fields. The HSW-250 were looked at from another perspective. The turbine was not considered for its technical and market potentials but viewed as a peculiarity. The characteristic of an ‘assembly’ is to gather things *that matter* and to explore relations and things *as matter*. Looking at the foundations, the rise of the turbines, the material and its management, some of them realised *in situ* that wind energy could be produced on their lands with local wind and local technologies. The farmers of FWLK were even inspired by the business organisation relying upon shareholders. All this laid the groundwork for collective discussions about future energy landscapes: the premises of wind landscape assemblies. As new forms of assembly were emerging, things started to become more organised with the help of the first law promoting and financing the selling of electricity produced from wind energy in 1991.

### ***1991-1995: Advent of first wind citizen parks and their rapid diffusion***

In Northern Friesland, people usually say you can know who is visiting you two days in advance because you see them arriving. As a matter of ‘concern’ – i.e. a matter that affects the inhabitants – the construction of wind turbines on the flat landscape of the polders was discussed in various emerging assemblies of inhabitants, farmers and environmental organisations.

Having carefully observed the construction of the first line of wind turbines in the FWLK polder, three different farmers asked the mayor of FWLK whether they could build a wind turbine on their dike land. He asked them to come up with a common wind farm in order to avoid a dispersion of wind turbines in the polder. More than a piece of land free from any infrastructure, the polder has strong collective history and land management – dewatering, dike construction and conservation – anchored in inherited practices of ‘assembly’. As such, it offered a collective ground on which a wind power perspective, still unshaped, could relationally be envisioned and discussed.

*‘We considered where the best place was. We had the others [HSW wind turbines] on the first line of the dike, and we thought that one could build something here, on the second line of the dike. And that offered such great potential for space that all the players sitting there at the table said, “Yes, do you have enough money for us to build something like this?”’<sup>6</sup>*

Obviously, the polder offered a spatial pattern that could match a collective wind power perspective and optimise the occupation of the land when siting the turbines along the dike. Echoing a Danish practice, this “long line of wind turbines” gradually gave shape to the collective and the landscape dimension of this emerging wind power perspective. The three farmers decided to invite people from the whole polder to join the project.

*‘We have an idea. We don’t know whether this is going to happen, but we would first like to present it to you, should you be willing to work on it with us.’*

In 1991, they organised a meeting every week of the year. In the end, 44 inhabitants (one-third of the polder) participated in the project and following a request from the bank also engaged their land to hedge against the risk of a project failure. It has to be stressed how important relations (inherited practices, place attachment, shared perspective) are in providing material resources and grounds to keep things negotiable. These relations, considered resources to explore and to formulate the ‘right’ shares, better define what the ‘assembly’ is than any formal delineation. As such, the other 100 inhabitants, perhaps less audacious, were also part of the ‘assembly’ as they tackled the meaning of wind energy in the polder and land shaping in the future. In 1992, they received authorisation to build 22 wind turbines (Enercon 33, 300 kW) along the dike ([figures 1 and 2](#)) with a total capacity of 6.6 MW. They built the first half in 1993 and then waited several years until they had enough money to build the rest.

A similar story happened in the collective municipality of Bredstedt-Land, where three HSW-250 had previously been installed. This project was an inspiration for 16 proposals for intended wind power development projects. In this polder, the mayor also asked the 16 for a joint initiative and defined an area dedicated to wind power along the dike. As this zoning put aside the lands of certain initiators, they had to associate in a collaborative project. They even decided to publish a call for participation in the local newspaper to make the population aware of the

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<sup>6</sup> Translation by the author. Interview was conducted in German, 12.08.2015

project (Figure 3). The ‘assembly’ of Bredstedt had also been constituted thanks to several meetings. In 1991, only 28 people participated in the project, but they started to organise ‘things’. 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). Similar wind power ‘assemblies’ – steered by a group of inhabitants – also started in other places like Bohmstedt in 1993, with 40 inhabitants building nine windmills with a total capacity of 5.4 MW.

Because of these emerging wind farms and their assemblies, material and political changes were already intertwined in new landscapes. The assemblies did not govern the land through a predefined landscape policy framework. They drew on relations grounded in the land to find ways of making ‘things’ commensurable (e.g. sharing the risk by sharing the land) and ‘agreeing’ to collective management. Through these relations, wind power and the landscape resonated with each other. This allowed what we have called a process of ‘bonding’, i.e. a collective process of attunement. The assemblies engaged in these processes gradually turned the landscape into a collectively steerable polity. From this point of view, and beyond the economic innovation of the limited liability company with a partnership, the rapid diffusion of citizen wind parks relied on broader processes of commonisation: sharing the land, the landscape, the risk and the will to make a collective project.

### ***1995-2000: Landscape ‘polities’ and their existence in Land planning***

Following the examples of FWLK, Bredstedt-Land and Bohmstedt, many other citizen wind parks were constructed. There is no legally binding definition for a citizen wind park; the size of the ‘assembly’, its judicial form, the frequency of its gathering and the ‘things’ that are discussed fluctuate. However, they function with almost the same scheme. Step by step, the ‘assemblies’ acquired expertise and developed such a network that they gained a *de facto* authority in Northern Friesland. A large firm alone would no longer be able to develop a wind park on this land.

At the end of the 1990s, wind power development became contested at the national level, especially due to landscape changes perceived as the result of uncontrolled growth. Owing to its early wind power history, Northern Friesland was a crucial district to devise and test innovative planning solutions. In 1993, its administration started to standardise the approval of the new wind power projects constantly increasing. It produced the first maps of the wind power development and compared it with nature and landscape protection maps. In order to establish new wind power development zones, the administration combined physical criteria (wind atlas), technical criteria (distance to houses), land planning (constructible areas) and landscapes to be protected (as commonly defined by the district administration) with the existing wind turbines. To devise a wind power potential, including environmental requirements, the administration worked closely with municipalities, associations and citizen wind parks. Therefore, this emerging landscape policy was informed by the ‘assemblies’ and their political experience of sharing the land. In 1998, this wind power planning was made obligatory by the state of Schleswig-Holstein. It was pioneering work at the national level and would serve as a point of reference for other states (or “Länder”).

### ***2000-2009: Upscaling wind power through new ‘landscape laws’***

The first wind power plan in Schleswig-Holstein entered into force in 2002. The EEG had been put into effect in 2000, and after 10 years of experience with wind projects in Northern Friesland, increasing numbers of inhabitants wanted to invest in wind energy.

This plan could not be reduced to an administrative process simply informed by the local ‘assemblies’. It gave rise to ‘landscape laws’, which are the institutionalisation of collective land-shaping processes. First, it made the wind power development compatible with the bright open landscape characterising Northern Friesland by concentrating the wind energy production around the existing infrastructures. Second, another ‘landscape law’ negotiated between the administration and the local representatives would use the processes of repowering to rearrange the settlement of the wind farms. Indeed, if the owner wants to replace his wind turbine with a modern one, it may be done only in one of the new wind power development zones (Figure 4). Thus, the wind power plan realised a political compromise by creating wind power basins with high densities of wind turbines and breathing spaces where the Frisian landscape could be preserved. Last but not least, it also aggregated future intentions of projects and allowed a comprehensive vision of wind power development in Northern Friesland for the very first time.

Through this first plan, onshore saturation was made obvious. This led a few wind farmers already managing wind citizen parks onshore to aim for new developments offshore. Starting in 2000, they devised an international citizen wind project in the North Sea, the Butendiek (‘beyond the dike’) project. Eighty Siemens wind turbines of 3.3 MW each were planned, with a total capacity of 264 MW. The project lasted 10 years, bringing together 8,000 people in Northern Friesland, Great Britain, Denmark and the Netherlands. Despite a large ‘assembly’ of shareholders, the banks were not ready to deal with citizens in as big a project as this one with such high investment risks. Nevertheless, the Butendiek project contributed to fostering the emergence of a large-scale vision of wind energy in the region and paved the way for an emerging ‘assembly of the assemblies’.

### ***2009-2014: Upscaling wind power by interweaving an ‘assembly of assemblies’***

The development of citizen wind farms quickly became dependent on expanding the grid. This is ordinarily not manageable at the scale of a single wind farm. At the end of the 2000s, wind farmers decided to network and make an ‘assembly of the assemblies’. Created in 2009 and based in Breklum (Northern Friesland), ARGE NETZ links representatives from wind farms across Schleswig-Holstein (i.e. 220 windfarms and 9,000 partners) around emerging concerns at the regional level.

ARGE NETZ created a financial pool with contributions from the wind parks to mutualise investments in the electrical grid and for current transformer stations – two sensitive issues to achieve large-scale wind power development. It also created a firm, *die Breitbandnetzgesellschaft*, whose goal is to turn Northern Friesland into a ‘broadband country’, i.e. a land equipped with fibre-optic cables to support the remote management of wind farms and optimise the production of electricity. This development has created facilities that also benefit villages without wind turbines. It became obvious that the ways the landscape was turned into a political and negotiable entity through wind power development could in turn offer possibilities of regional development to everyone in the region. Third parties, especially the regional administration, gradually recognised this landscape polity and developed capacities to influence emerging policy frameworks. For example, in 2010, the administration created a

cluster called Windcomm that published a brochure entitled ‘Citizen Wind Park as added value for the region’.

ARGE NETZ is eyeing political lobbying mainly focused on the role of citizen projects in the ‘Energiewende’ (German energy transition policy). Since the Fukushima nuclear accident in 2011, the federal government has pushed ahead with Germany’s energy transition to accelerate the closing of nuclear power plants. This political movement tends to favour big energy projects supported by large energy industries. Thanks to its structure as an ‘assembly of assemblies’, ARGE NETZ is now able to give a voice to citizens and demonstrate the role of active citizen participation in the energy transition. ARGE NETZ also opened an office in Berlin in 2014, at the same time as the federal association of citizen energy projects ‘Bürgerbündnisenergie’, which includes all types of renewable energies and cooperatives. Furthermore, the traditional wind branch association and lobby (“BündnisWindEnergie”) opened a ‘Bürgerwindbeirat’: a chair for the citizen wind parks. The latter was also pushed by local debates in Northern Friesland and aims at promoting the functioning of citizen projects in Germany and elsewhere. Currently, this chair is occupied by a Frisian wind miller.

### **3. Energy landscape as a polity and governmentality**

While assemblage thinking usefully introduces a network analysis, it does not provide a clear understanding of the life of things in relation to and within a place. This paper assumes that the landscape is made up of a broad range of relations that can be ‘attuned’ in various ways. As already mentioned, many works have introduced the idea of ‘ritournelle’ or ‘rhythmic harmonization’ to suggest that a heterogeneous assemblage progressively acquires a consistency and an agency. This paper has proposed reconsidering the notion of ‘assembly’ as a process of ‘attunement’ in order to better describe contemporary processes of assembling energy landscape.

The notion of ‘attunement’ usefully connects two issues: bonding together through mutual adjustment and agreeing upon a collective matter of concern. These issues are not disconnected, as our case study has shown, for instance when the polder’s inhabitants gather to discuss the extent to which wind should be part of the landscape. Both issues involve listening to ‘things’, discovering the relations they comprise and calibrating the assembly to provide them with the appropriate resonance chamber. It allows for a way to think differently than the usual institutional and structural ways. With this lens, the assembly can be seen in its dynamic ways of functioning and agreeing. It does not have a predefined function; it may disappear or be recomposed at any time. The assembly tries to find itself by testing different forms of sharing (equivalent and grounded valuation), according to everyone’s contributions: on finance, land and know-how. As such, the assembly makes it possible to go beyond the duality of problem-framing/problem-solving thinking. Compared with the notion of ‘alignment’, which describes the advent of a shared political agenda (e.g. see Murray Li, 2007), ‘attunement’ more broadly questions the relations through which a project acquires shared dimensions in relation to a place (scale, intensity, risk...). The focus on the relations inside the assemblies and an understanding of how they hold together is a way to understand what comes out of the assembly. This is to understand how the assembly holds on but also how it finds resources to keep the landscape negotiable.

There is a very interesting paradox in the assembly: While the collective bonding is firmly grounded, it remains dynamic. This is a particular resonance of the assembly that allows the simultaneous anchoring and evolution of the landscape. While the agreement is indefinitely revisable and negotiable, as we have seen for repowering issues, for example, its core can serve for other deployments, future projects and assemblies. It might go through a process of ‘amplification’ (Simondon, 1989), as we have seen with the citizen offshore project (Butendiek). Understanding ‘attunement’ allows for another way of comprehending scale-up issues and wind development policy. It is based on the construction of capacities for an assembly to be reopened, redefined and retuned around a new wind power and to redeploy it in space. Furthermore, these polity capacities are negotiated inside the governmentality networks.

Critical perspectives on emerging environmental policies are regularly provided by the notion of ‘governmentality’ (Rutherford, 2007). As used by Foucault, the notion refers to the techniques used to govern populations, times and spaces. Different dimensions characterize these techniques (Dean, 1999): a stabilisation of the ways of seeing and making things visible, the production of a regime of truth, the ways in which expertise is produced and deployed, and lastly, the formation of particular kind of bodies and subjects. This paper has dealt differently with issues of governance while elaborating on the notion of ‘polity’. The latter stresses that the landscape may be turned into a resource to make ‘things’ negotiable and to reach collective agreement. Thus, to consider landscape as a ‘polity’ is to consider it as not only a political entity but also a political activity. Contrary to the notion of governmentality, which is often associated with predominant forms of power, ‘polity’ strives to follow an insider perspective. The relational way of agreeing on indeterminate issues may be seen as an infra-level with respect to governmentality, but this is not the case. The case study shows us that ‘polity’ and ‘governmentality’ may have different degrees of articulation. The efforts produced by the citizen wind parks to inform the emerging wind power plan at the district level is an example of porosity and co-construction between ‘polity’ and ‘governmentality’. The ‘assembly of assemblies’ proved to be able to organise itself to influence energy policy debates at the national level. This shows the capacity of a ‘polity’ to adopt, when needed, more formal rules, and thus its capacity to play a role in environmental ‘governmentality’.

## **Conclusion**

Landscape issues reduced to visual and patrimonial preoccupations used to be belittled as matters of ‘environmental impacts’ and ‘social acceptability’, while the rise of renewable policies in Europe was analysed mainly through the choice of the ‘right’ economic instrument. As if the growth of power capacities was essentially driven by economic factors, these approaches obscured the entangled processes through which a power policy is developed and gives rise (or not) to specific ‘energy landscapes’.

Northern Friesland’s story is unique and has allowed us to observe the gradual landscape changes and related political activity over 30 years. This political dimension does not result only from a bottom-up or a top-down approach but is much more complex and calls for a relational appraisal of the resources and the group dynamics at work in the long term. The notion of ‘polity’ is an attempt to capture this within ‘assemblies’ in the making of a new energy landscape. It helps us to go beyond the opposition between small-scale initiatives and large-scale policies and to report the steps that emerge when bonding/agreeing on things that matter. This is a good reason to give landscapes a political role in the energy transition.

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## Figures

Figure 1. Windmills along the dike in the Friedrich-Wilhelm-Lübke-Koog polder, Cadaster in Archives, Authorisation file for the Citizen Wind Park G42/1991, Landesamt für Landwirtschaft, Umwelt, und ländliche Räume, photo by Edith Chezel, 08.2015.

Figure 2. Windmills along the dike in the Friedrich-Wilhelm-Lübke-Koog polder, photo by Edith Chezel, 03.2014.

Figure 3. Windfarm partnership offered in the newspaper, Husumer Nachrichten, 02.08.1991.

Figure 4. Regional plan for wind use in Northern Friesland. Source: Land Schleswig-Holstein, Arbeitskarten, Planungsraum V, 2012.