

# **A Wind of Change in Germany**

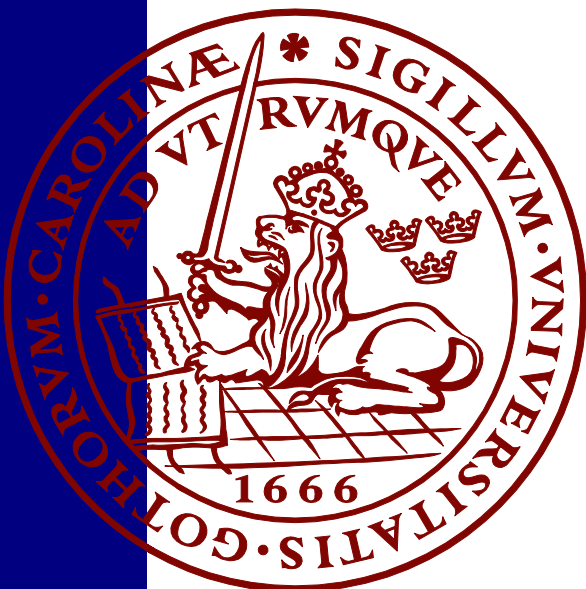
From Local Opposition against Wind Energy towards the  
National Social Movement Vernunftkraft

*David Fritsch*

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## **LUCSUS**

Lund University Centre for  
Sustainability Studies



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## **A Wind of Change in Germany:**

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Movement Vernunftkraft

David Valentin Fritsch

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## **Abstract**

This thesis highlights the divergent and complex character of the social movement ‘Vernunftkraft’ and its stand against wind energy and Energiewende to advocate for a nuanced and scale-sensitive justice approach as part of sustainability transitions.

To reach the targets of the Paris Agreement and reduce its CO2 emissions, the expansion of wind energy on land as part of the so-called ‘Energiewende’ (energy transition) is of major significance for Germany. Yet, these sustainability endeavors are under serious attack due to a multitude of protesters that oppose wind energy efforts and unite under the label ‘Vernunftkraft’ to resist the energy transition.

Poking on the need to address the normative load of sustainability transitions to improve contemporary and future sustainability efforts, I approach this social movement Vernunftkraft in a scale-sensitive manner. Thereby, I form a socio-political lens that draws on Tilly’s synthesis of social movement theory and Gramsci to make sense of the underlying grievances and counter-hegemonic ideology of this conservative social agent. In this regard, I deduct the necessary data through a critical discourse analysis of Vernunftkraft’s texts and the websites of local initiatives in a mixed-method approach and complements those findings with additional literature reviews.

The findings show that multi-faceted grievances related to all three pillars of energy justice (redistribution, representation and recognition) and different attributes towards climate change, Energiewende and the locations of wind farms matter on the local level. Combined with a political opening through an elitist ally and societal cleavages, those grievances give rise to the development of Vernunftkraft with all its resources and multi-level organization who’s national framing problematizes state interventions and renewable energy altogether. Accordingly, albeit having a neoliberal counter-hegemonic ideology on the national level, this thesis reveals that the wind energy opposition movement is heterogeneous and subsumes divergent grievances and beliefs across scales.

Those multi-dimensional grievances are neglected by the contemporary design of the Energiewende and its emphasis on distributional justice. Hence, to reduce additional backlashes against transition efforts, the fields of transition studies and sustainability studies need to be more attentive to inherent, multi-dimensional injustices of transitions. A promising approach is thereby eyeing the grievances and ideologies that social movements display to balance social and environmental sustainability efforts.

**Keywords:** Energiewende, Energy Transition, Social Movement Theory, Justice, Ideology, Grievances

**Word count (thesis):** 11,972

## **Abbreviation**

AfD: Alternative for Germany (political party in Germany)

CDA: Critical Discourse Analysis

CDU: Christian Democratic Union (political party in Germany)

EEG: Renewable Energy Sources Act

EIKE: European Institute for Climate and Energy (a climate denialist think tank in Germany)

EPAW: European Platform Against Windfarms

EW: Energiewende (energy transition in Germany)

FDP: Free Democratic Party (political party in Germany)

IPCC: Intergovernmental Panel on Climate Change

LUCSUS: Lund University Centre for Sustainability Studies

NABU: Nature and Biodiversity Conservation Union

NIMBY: Not-in-my-backyard syndrome

SPD: Social Democratic Party of Germany (political party in Germany)

STRN: Sustainability Transition Research Network

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## 1 Introduction: The German Wind Energy Policy and its Opposition

To achieve a climate-friendly future, it is vital to systematically change our lifestyles and infrastructures – with particular attention given to energy systems due to their contemporary fossil fuel dependence. The German energy transition, or so-called ‘Energiewende’, is such an enormous national undertaking towards a decarbonized future. Understood as a large-scale transition that steers the phasing-out of nuclear and coal energy to replace those with renewable energy sources, it is the most important action of the German government to reach the self-imposed 2050 targets of net-zero carbon emission (Federal Ministry for Economic Affairs and Energy, 2019b). Indeed, with around 311 GtCO<sub>2</sub>eq in 2018, the energy sector is considered the largest emitting cause of greenhouse gas emissions in Germany and thus incremental for a sustainable turn in line with the Paris Agreement (Ministry for the Environment, Nature Conservation and Nuclear Safety, 2019). Whilst the Energiewende entails changes in the heating and transportation sectors, a particularly important transition thereby is the one of electricity production as it emits 38% of the energy sector’s carbon dioxide (Kühne & Weber, 2018). To achieve this change, the incremental expansion of alternative energy sources like solar, water, but especially wind energy is pursued with on- and offshore accounting for around 50% of renewable energy in 2019 (German Environment Agency, 2020).

Yet, whilst polls show that support on the national level is high with acceptance rates of 89% in favor of the Energiewende in 2019, resistance against the energy transition emerges when implemented at the local level (Agentur für Erneuerbare Energien, 2019). Indeed, especially in the case of wind energy, local opposition gained power and partly hindered the implementation of wind farms. Thus, whilst there were 1792 wind turbines built in 2017, this number decreased to 743 in 2018 despite plans to accelerate its expansion (Granitza, 2019). This is due to several hundred citizen initiatives that protest, sue and block the development of wind energy based on species conservation, aesthetics, and health reasons amongst others (Weber et al., 2017). United under the national umbrella organization Vernunftkraft<sup>1</sup> they represent an important but in research neglected stakeholder for the sustainable transformation of the energy sector. As Vernunftkraft further consolidates its position in the Energiewende discourse through the uprising of multiple regional civil society organizations like Vernunftkraft Lower Saxony [translated] and claims that Energiewende neglects the “well-being of humans, nature, and economy [translated]” (Vernunftkraft, 2017, p. 38), there is a need to approach those resistance dynamics.

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<sup>1</sup> In order to understand Vernunftkraft’s ideology and particular position within the Energiewende, it is relevant to translate the name ‘Vernunftkraft’. ‘Vernunft’ means common sense or prudence. ‘Kraft’ on the hand means power. Vernunftkraft thus calls itself ‘power of common sense’.

## 1.1 Aim, Research Question, and Structure

In response to a lack of research approaching the resistance against sustainability transitions, I would like to shed light onto the underlying reasons of wind energy adversaries to contribute to academic debates about social acceptability of sustainability transitions. Sensitive to the influential role of social movements in enforcing or hindering sustainability endeavors, I intend to convey the importance of social movement studies in revealing those causes. Therefore, I analyze how local opposition against wind energy forms the national social movement Vernunftkraft to identify the deeper grievances and counter-hegemonic ideology that this social agent displays across levels. In line with the broader notions of power and scales of sustainability science and by drawing on the interdisciplinary character of the Sustainability Transition Research Network (STRN), I aim to deepen this understanding of the political and normative load of Energiewende to advance its design and that of future sustainability transitions.

In doing so, I use social movement theory to make sense of the diffuse character of protesters against wind energy. The label 'social movement' is thereby meant as a technical term to analyze the social agent Vernunftkraft. Hence, its purpose is to systematically reveal the unique characteristics and different claims of the movement. Ultimately, I can judge Vernunftkraft's sustainability efforts, i.e. how Vernunftkraft attacks the Energiewende and whether it is a pro- or anti-environmentalist movement. Further, by looking at the deeper reasons of protesters, I reject simplifications like the not-in-my-backyard (*NIMBY*) phenomena to explain opponents of the Energiewende. Rather, through a critical discourse analysis, I sequester the divergent grievances and framings of the Vernunftkraft movement and use Gramsci's conceptualization of ideological struggle to explain these.

Next to this theme of multi-dimensional grievances, the notion of scale is important to examine how the movement moves from local opposition against wind farms towards critiquing the Energiewende on a national level. Questions like *how does Vernunftkraft manage to translate regional arguments on a national level?* and *what is their articulated stand on climate change in general?* accordingly matter to analyze the multi-scalar characteristics of this resistance actor.

Notwithstanding that the focus of this research is on the opponents of the Energiewende, the thesis should not mistakenly be perceived as a defense of Energiewende's current sustainability practices. As others of LUCSUS like Buschmann (2013) and Ziehm (2017) have highlighted, there are substantial reasons to criticize it. On this ground, the narrow socio-political lens on the resistance movement is meant to enhance the design of future sustainability transitions and to isolate contemporary shortcomings of the Energiewende. In other words, I seek to analyze how Vernunftkraft opposes the

(wind) energy transition, gains strengths, and influences local and national transition efforts to highlight injustices and clashing ideologies associated with sustainability transitions. Posed as a research question that anchors the given context and issue, the guiding question of this research is: *By taking into account the German context with the opposition against the expansion of wind energy, to what extent do grievances and ideologies of social movements account for forming resistance against sustainability transitions?*

To answer this question, the study focuses on the following research questions as a guidance throughout this process:

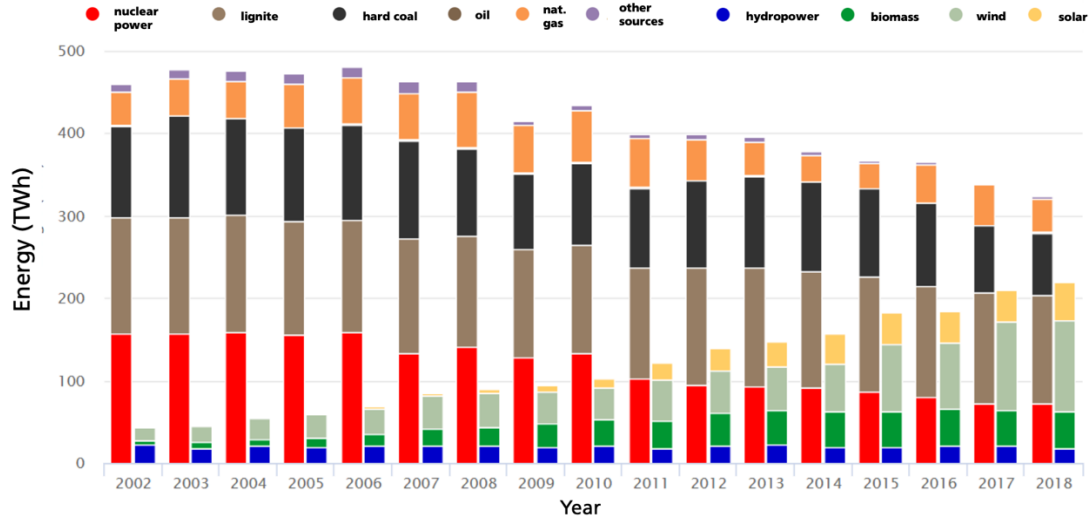
- 1 What are the grievances against wind energy on the local level in Germany?
- 2 How does the national movement Vernunftkraft manage to mobilize local grievances against wind energy?
- 3 How can Vernunftkraft's conservative ideology be challenged and successfully defeated from a sustainability perspective?
- 4 How could a better understanding of opposition movement against energy transitions contribute to conceptually and practically improve future transition processes?

## **2 Setting the Scene: Deconstructing Local Opposition to Energiewende**

To familiarize the reader with the context around Vernunftkraft and the German wind energy transition, it is best to echo the dominant discourse that established since the launch of the contemporary Energiewende. This dates back to 2011, the year of the nuclear catastrophe of Fukushima. Back then, in response to the backlash against nuclear energy sources, the Federal German Government of CDU and FDP decided to steadily increase the proportion of renewable energy sources in Germany (Kühne & Weber, 2018) and phase out nuclear energy by 2022. Fossil fuel energy sources like coal on the other hand should serve as interim solutions during the period of renewable energy expansion (Weber et al., 2017). This top-down decision against nuclear and pro-renewable energy sources has ever since been supported by all political parties and governments except the AfD (Kühne & Weber, 2018; Leipprand & Flachsland, 2018).

### **2.1 From Strategy to Action: The Renewable Energy Sources Act (EEG)**

Most notable to translate this national priority into actions across scales has been the adoption of the Renewable Energy Sources Act (EEG). It serves as the guiding principle through which the national energy strategy has been executed on the regional and local levels. Based on the economic premise of supply and demand in terms of feed-in tariffs and renewables loan programs, it seeks to push renewable energy sources into the market by making them attractive for investors (Pegels & Lütkenhorst, 2014). Whilst criticized for the threat of creating lock-ins and new path dependencies, two other relevant downsides of EEG are its burden on the consumer (the feed-in tariffs are funded through higher energy costs for them) and the “lowered energy costs for energy-intensive industries through feed-in-tariff exemptions” (Nordensvärd & Urban, 2015, p.163). Narrated as a large-scale transition that tackles environmental problems whilst paving the way to job creation and technological growth (Leipprand & Flachsland, 2018; Pegels & Lütkenhorst, 2014), it contributed to increasing the share of renewable energy in electricity consumption from around 3% in 1990 to 37.8% in 2018 (Leipprand & Flachsland, 2018; German Federal Government, 2020). This is in particular due to the expansion of wind energy on land, the by far largest renewable energy source in Germany (Figure 1).



**Figure 1.** Net electricity generation from conventional and renewable sources in Germany between 2002 and 2018 (Fraunhofer Institute for Solar Energy Systems ISE, 2019).

In this regard, the latest stagnation of wind energy production threatens to slow-down the renewable energy expansion and as such the objective to have renewably sourced electricity of 40-45% in 2025 and 55-60% in 2035 (Federal Office of Justice, 2017).

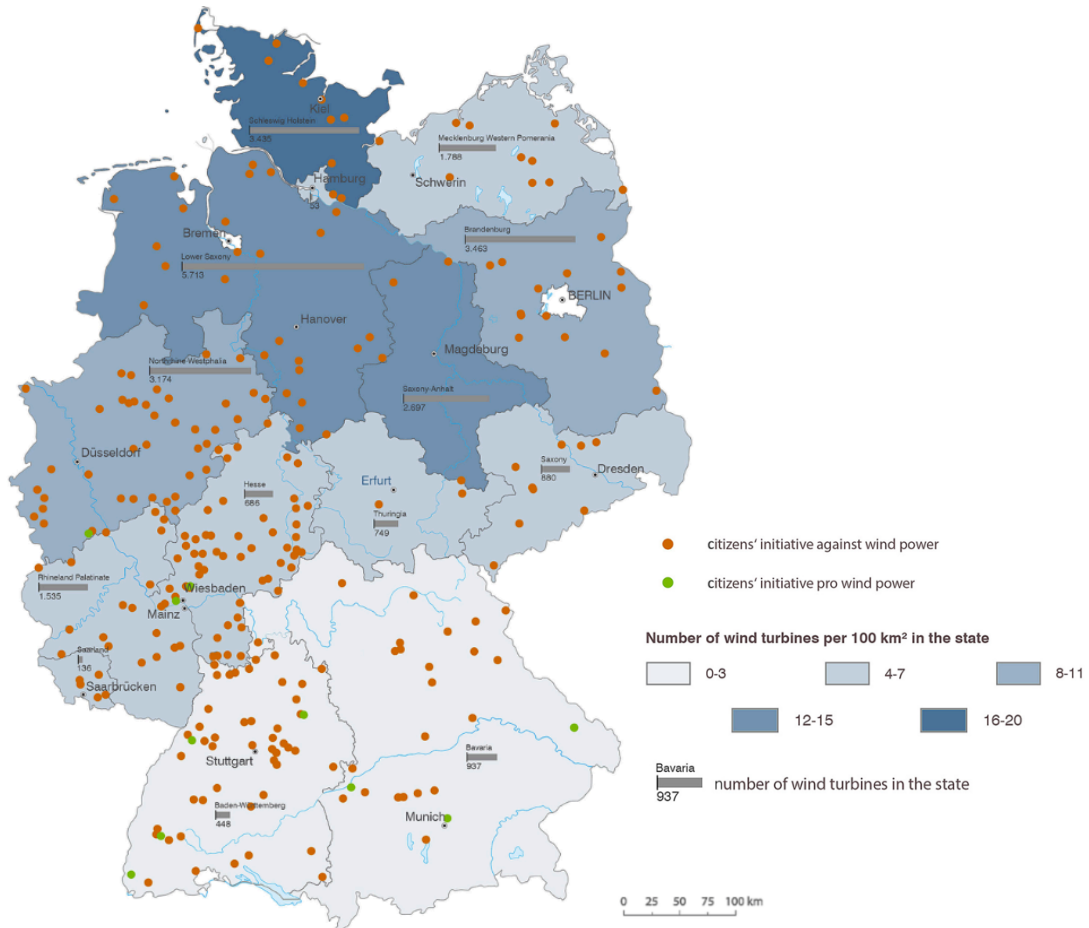
## 2.2 The Slow-down of Wind Energy Expansion

According to several scholars and industry experts, the recent and unplanned slowdown in wind farms' expansion on land is due to a combination of two reasons; delayed and lacking permissions for wind projects and decreased acceptance due to local opposition (Fachagentur Windenergie an Land 2019b).

Beginning with the first problemata, more than 11,000 megawatts of wind power plants do not get any permission or are caught in lawsuits that last on average for more than two years (Bundesverband WindEnergie, 2019a, 2019b, 2019c; Fachagentur Windenergie an Land, 2019a, 2019a). This number roughly represents 6,000 wind power plants and according to Greenpeace Energy (2019) contributes to an extra 10 million tons of CO<sub>2</sub> emission per year. The reasons for these lawsuits are divergent and involve multiple stakeholders (Windenergie, 2019b): The most common lawsuits (approximately 25%) are based on species conservation and include claims to protect certain bird or batman species like red kites or black stork (Dorda, 2018). Two other significant reasons are the intrusion with aeronautical navigation systems and military restricted airspace.

A second and interrelated point is the lacking acceptance of wind power plants in local communities that led to most of the lawsuits related to species conservation (Fachagentur Windenergie an Land 2019b). Indeed, more than 270 citizen initiatives have formed since 2015 to protest against local wind farm projects as seen in Figure 2 (Weber et al., 2017). This opposition is also reflected in national

numbers as roughly 45% of Germans reject wind farms in their direct neighborhood in 2019 (Bundesverband WindEnergie, 2019d). Altogether, these factors led to the lowest expansion rate of wind power plants on German land in more than 20 years, as only 243 wind power plants have been built in 2019 (Deutsche Windguard, 2019).



**Figure 2.** National distribution of citizen initiatives against and for wind energy in relation to the number of wind farms per 100 km<sup>2</sup> in 2015 (Weber et al., 2017).

### 2.3 Grievances of Local Protesters affiliated with Vernunftkraft

Answering the first research question, *what are the grievances against wind energy on the local level in Germany?* to set the scene for the national analysis on Vernunftkraft, the following section reviews existing academic literature that covers the underlying reasons of local wind energy oppositions. It visits the deeper drivers for the discontent that local protesters against wind energy withhold. Whereas reasons for opposition have been prematurely ascribed as the NIMBY syndrome, I accordingly follow the steps of Devine-Wright (2005) and Reusswig et al. (2016) who have shown that this reasoning for local opposition against wind farms is insufficient as it does not offer clear *explanations of why* someone is resisting rather than *describing that* they resist once affected. Before going into

detail regarding the diverse grievances of local protesters, it is important to differentiate among different protest groups and (wind) energy oppositions on a macro level.

### 2.3.1 General Attitudes of Wind Energy Opponents

In this regard, the work by Brunnengraber (2018) is an important starting point. He among others like Moss and colleagues (2015) or Reusswig et al. (2016) emphasize the need of looking into the general attitudes towards climate change, politics, and sustainability for understanding protesters. Having this helicopter view accordingly serves the purpose to cluster protest groups and shows whether they reject climate change, climate politics, or the Energiewende beyond specific wind energy projects (Table 1). As the original classification of Brunnengraber (2018) is designed to highlight differences between climate skeptics and climate deniers, it does not include all the positions of local wind energy oppositionists. In particular, it neglects those that are against specific wind energy projects but agree with the overall Energiewende. Hence, based on Musall & Kuik (2011, p. 3252) who state that “the ‘NIMBY’ concept is intended to illustrate the assumed tension between general public support for renewable energy sources and local resistance towards the construction of specific sites due to selfish reasons”, I added a fourth category, namely the ‘opposition of a specific energy project’ to the table. This category entails the most common arguments of local oppositionist and their objectives, based on the literature review of the following subsection. Being sensitive to the fact that different groups and organizations may not fit into one category, these categories should not be perceived as rigid labels. Rather, they indicate *to what extent* one or some of those general attitudes are internalized and how certain citizen initiatives and Vernunftkraft differ from one to another due to their different general beliefs.

**Table 1.** Climate change deniers, climate-politic skeptics, opponents of Energiewende, and opponents of particular (wind) energy transition projects. Based on Brunnengraber (2018) [translated and modified].

	Climate change deniers	Climate-politic skeptics	Opponents of Energiewende	Opponents of local wind energy projects
Arguments	<ul style="list-style-type: none"> <li>scientific results are wrong/false</li> <li>pol. Decisions are based on wrong scientific results</li> <li>human activities will be limited</li> <li>climate change is based on financial interests</li> </ul>	<ul style="list-style-type: none"> <li>economic instruments are wrong</li> <li>climate politics do not tackle the origin of the problem</li> <li>quick action is needed</li> </ul>	<ul style="list-style-type: none"> <li>industry of Germany is threatened</li> <li>Western way of life is not negotiable</li> <li>climate protection is expensive</li> <li>protect jobs</li> <li>adoption is cheaper</li> </ul>	<ul style="list-style-type: none"> <li>intrusion of space &amp; native land</li> <li>human and animal health</li> <li>profit-orientation of wind energy investors</li> <li>economic burden for the locals</li> <li>lacking decision-making power</li> </ul>
Objectives	<ul style="list-style-type: none"> <li>resist climate change measures</li> <li>maintain individual freedom</li> </ul>	<ul style="list-style-type: none"> <li>regulatory measures are needed</li> <li>expansion of renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>use fossil-fuel energy</li> <li>expand nuclear energy</li> <li>no funding for e-mobility</li> </ul>	<ul style="list-style-type: none"> <li>stop local wind energy project</li> <li>maintain the local way of life</li> </ul>

### 2.3.2 Local Arguments against Wind Energy Projects

Moving to the deeper grievances beyond NIMBY, Devine-Wright (2005) and others have formed categories around articulated arguments of protesters against local wind energy projects. These are related to physical, contextual, political, economic, social, symbolic/ideological, and local/personal factors. That means, questions about the common good, local beauty, identity, or economic feasibility amongst others matter to understand the deeper reasons to resist the implementation of local wind energy projects. To illustrate this point, Figure 3 and Figure 4 show members of local citizen initiatives and their different claims.



**Figure 3.** Local wind opposition in Schwerin with signs stating “too high, too close, too loud” (front) and “respect the common will” (back) (Büttnerbild, 2019).



**Figure 4.** Local opposition in Tützplatz with signs stating “tourism in Mecklenburgische lake district”, “protect human and animals from wind mania”, “bike lanes instead of windmills” (from left to right) (Wüstneck, 2016).

Related to these different positions, I produced Table 2. It provides an overview of the most common arguments that local wind oppositionists mention in Germany as the literature review of academic articles reveals (see the literature review in Section 4.1 for further clarifications). Also, for a comprehensive, all-embracing analysis of the grievances, the concept of energy justice is incorporated into the table. It is pivotable to conceptualize the grievances and their mechanisms, and cluster the different arguments into the broader justice concepts of recognition, redistribution, and representation as discussed in Appendix 1. Whilst this review does not claim to be exhaustive, it offers a thorough oversight over the most frequent claims within the wind energy discourse, examples of those claims, and relevant authors that highlight this specific aspect in the German context. It shows clearly that the grievances of local groups relate to all three justice aspects and include social, economic, environmental, and political concerns. Therefore, I conclude that those grievances are highly diverse and multi-faceted, indicating the complexity in approaching resistance against sustainability transitions.



**Table 2.** Most articulated reasons against wind energy by local oppositions found in academic literature.

Justice Approach	Reasons	Examples	Academic references
Recognitive Justice	Intrusion of space & landscape change	“Pristine rural landscapes of great recuperative and recreational value for the urban population will be turned into energy-producing industrial adjuncts of the cities” (Weber et al., 2017, p. 124)	Weber et al. (2017); Reusswig et al. (2016), Boß (2019); Roßmeier et al. (2018); Weber (2018)
	Identity clash and loss of homeland	“It is like a breach of peace, loss of homeland and displacement. Since there is hardly any escape and you cannot run away, they are like concentration camps, in which people are literally tortured and pained by the massive monster machines made of reinforced concrete” [translated] (Popp, 2020)	Reusswig et al. (2016); Roßmeier et al. (2018)
	Nature & species conservation	“At a Windpark at Dabergotz, a raptor bird has been hit again by a rotor blade. Every year several hundred animals are found next to such wind installations” [translated] (Vernunftkraft Landesverband e.V., 2020)  “No wind industry at the UNESCO natural preserve Odenwald” [translated] (Rettet den Odenwald, 2020).	Weber et al. (2017); Moning (2018); Dorda (2018); Roßmeier et al. (2018)
Distributional Justice	Human health threats	“Wind turbines damage health through noise, shadows and infrasound” [translated] (Bürgerinitiative Windkraft mit Anstand, 2012).	Weber (2018); Eichenauer et al. (2018), Roßmeier et al. (2018)
	Economic costs for local	“The [...] economic wellbeing (from tourism) of the people who live here are jeopardised; and property values (leaving aside actual wind turbine sites) are down by more than 30%” (Weber et al., 2017, p. 124)	Weber et al. (2017); Reusswig et al. (2016); Lienhoop (2018); Mundaca et al. (2018); Moss et al. (2015)
	Profit-orientation vs. feasibility	“Exclusive benefits for greedy windmill companies at the expense of the community” [translated] (fact, 2017).	Weber et al. (2017); Reusswig et al. (2016); Lienhoop (2018); Mundaca et al. (2018); Moss et al. (2015)
Participatory Justice	Lacking participation during the process	“As mature citizens, we would like to actively participate in decision-making processes and exert influence on our community representatives and the administrative community of Wolfach-Oberwolfach.” [translated] (Windvernunft Wolf Kinzig, n.d.)	Sonnberger & Ruddat (2017); Lienhoop (2018); Mundaca et al. (2018); Langer et al. (2017); Fraune & Knodt (2017)

Overall, the un-wrapping of the local opposition against Energiewende is indispensable for analyzing Vernunftkraft as a country-wide social movement. As Vernunftkraft connects these local grievances to the national level, it has an important task in translating those multi-layered concerns, or, put differently, in merging various local protesters into a particular movement that opposes the dominant Energiewende narrative. Whether and how Vernunftkraft does so will be explored further by forming a particular theoretical lens for this issue.

### **3 Theoretical Model: A Lens sensitive to Politics**

Moving from the context of *Energiewende* and its opposition towards the academic realm of energy transitions and resistance against those, the following chapter covers the contemporary understanding of social movement theory and briefly introduces sustainable transitions. It seeks to establish a specific socio-political conceptual model for the case of *Vernunftkraft* that can approach the movement and its ideology related to the posed research questions.

#### **3.1 Explanations for Resistance against Transitions**

To understand how a study on *Vernunftkraft* could improve sustainability transitions, it is useful to first reflect on the current state-of-the-art of existing knowledge about transitions and related resistance. Hence, turning to transition theories allows me to synchronize academic understandings on (the lack of) acceptability of energy transitions. In doing so, I explicitly review the research agenda of the STRN community and other sustainability transition researchers as specified in more detail in Section 4.1.

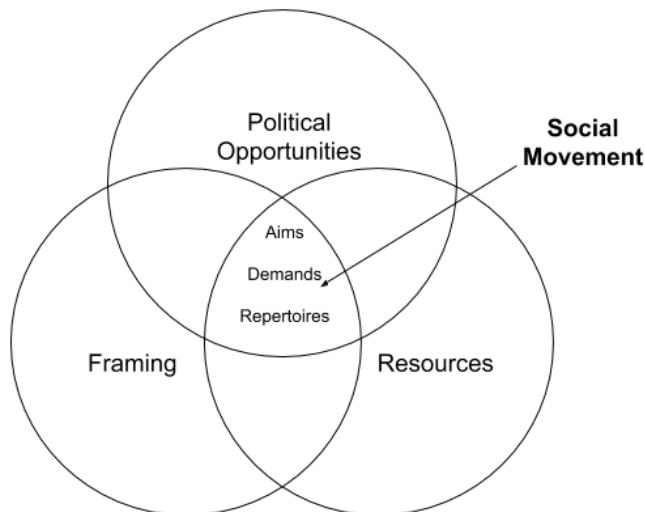
Upfront, based on Loorbach and colleagues (2017), transitions in this research are broadly understood as shifts from one state to another. Sustainability transitions in this regard relate to large systematic shifts that seek to address fundamental environmental issues or, as they call it, “grand societal challenges” (Köhler et al., 2019; Loorbach et al., 2017). Digging deeper into the specialties of transitions, the STRN community characterizes sustainability transitions around topics like multi-dimensionality, multi-actor processes, normative directionality, and contestation amongst others, indicating the complexity and multitude of those phenomena (Köhler et al., 2019).

Following this line of thought, energy transitions are understood as deeply interlinked with politics, power, and normativity. Having said that, in response to several criticisms, different research strings emerged to integrate those power and political dimensions to socio-technical transition theories (Meadowcroft 2009). Those differences are due to the varying epistemological and ontological roots of different researchers (Köhler et al., 2019). Whilst some of them address power and politics to focus on the struggle of niche innovation actors against existing industries (i.e. Geels, 2014), others broaden that view and bring in social movements theories to understand bottom-up pressures of particular civil society actors (i.e. Törnberg, 2018). This second focus on power thus allows us to trace broader, incumbent dimensions of transitions, namely the existence of dominant beliefs or discourses (Köhler et al., 2019). Second, it sheds light on the interactions between different stakeholders within transitions, emphasizing the need for just and fair transition designs (Sovacool & Dworkin, 2015). Last, it opens the door to different concepts of power and consequently more epistemological and methodological freedom within transition studies.

### 3.2 Towards a Political Perspective on Transitions via Social Movement Theory

Following this broader conceptualization of power and politics to make sense of the social acceptability of transitions, I withdraw from the dominant socio-technical realm of transitions studies and focus on the socio-political characteristics of transformations as others like Martin (2019) have done. Referring to the interdisciplinary character of the STRN community, I use social movement theory to crystalize the nuanced differences of transition adversaries in terms of their beliefs and grievances across scales. Hence, this thesis should be perceived as a contribution to cement social movement theory into the broader concepts of sustainability transitions as it shows promising pathways to reveal some of the injustices that sustainability transitions bring about.

First and foremost, to make sense of social movements, I follow the provisional definition by Tarrow (2011, p. 9) who describes them as consisting of “collective challenges, based on common purposes and social solidarities, in sustained interaction with elites, opponents, and authorities”. Therefore, I draw on characteristics like its organized collective action around grievances to push for or resist social transformations (Tilly & Wood, 2015). Yet, with roots in *Resource Mobilization Theory*, cultural theories, and *Political Process Theory*, divergent analytical approaches have established to adequately conceptualize social movements and their dynamics. These differences are based on various understandings of those phenomena and the evolvement of new types of movements over time (Horn, 2013). As a consequence, there is a range of concepts in social movement theories one has to assess. The pathway that I engage with this is the synthesis of the three theoretical perspectives as initially proposed by Tilly (McAdam et al., 1996; Tilly & Wood, 2015). I, therefore, attempt to analyze the interaction between social movement’s organizational strength (*resources mobilization structure*), framing (*culture*), and outer political opportunities and threats (*political processes*) as shown in Figure 5.



**Figure 5.** The Intersecting Elements of Social Movements (Tarrow, 2011). Social movements in contentious politics consist out of three components, namely resources, political opportunities and framing. Together they form a particular movement that is distinguishable due to its specific aims, demands and repertoires.

### **3.2.1 Resources in Social Movement Theory**

Starting with the strain of *Resources Mobilization Theory*, movements are approached by assessing their abilities to have strong leadership and mobilizing sufficient resources (Tarrow, 2011). Thus, this branch of theories, which originated in the 1960s, eyes movements' repertoires of action and organizational structures to make sense of those civil society actors. With regards to the former, repertoires of action or collective actions can range from protests to petition and are the tools at the disposal for a social movement. In other words, movements choose from a spectrum of political actions or activities that include tangible and intangible assets (Tarrow, 2011; Tilly & Wood, 2015). Formal or informal organizations and networks on the other hand are relevant to point out the connective ties between different individuals and collective groups (Tarrow, 2011; Della Porta & Diani, 2006). Here, in particular, formal organizations are relevant for the success of a movement as they allow a movement to sustain collective action and maintain a certain organization structure (McAdam et al., 1996). The executive board of Vernunftkraft that is responsible for its national framing can be considered a formal social movement organization that steers the broader wind opposition movement.

### **3.2.2 Political Context in Social Movement Theory**

*Political Process Theory* points towards the contentious political arena in which social movements move, interact, and clash based on different interests and values. Having emerged initially as a critique of resource mobilization theories, it emphasizes the political, exogenous context in which movements are located (Tarrow, 2011). Hence, it assumes that social movements are part of the larger political regime and dynamically interact with those political conditions (McAdam et al., 1996). Perceived

political opportunities or threats respectively assist the emergence and development of social movements (Tarrow, 2011). Tracing those political windows entails the task of locating external dynamics that enable the formation of social movements. Specifically, Tilly's model comprises those political opportunities as elitist conflicts within the ruling regime, perceived crisis, changing political alignments, the availability of influential allies, and increased public accessibility amongst others (Kolb, 2007; Tarrow, 2011). Whilst other conceptualizations of political openings exist like for instance Della Porta's (2013) emphasis on structural components like institutional composition, I explicitly follow the pathway provided by Tilly. Therefore, I aim at tracing the *dynamic changes* in the political arena (McAdam et al., 1996). Outgoing from the concept of political openings as "consistent - but not necessarily formal, permanent, or national - signals to social or political actors which either encourage or discourage them to use their internal resources to form social movements" (Tarrow, 1996, p. 54), I, therefore, scan for and reveal those perceived clues.

### **3.2.3 Framing Approaches in Social Movement Theory**

In the 1970s and 1980s, as a third branch of social movement studies, framing theorists focused on the utilization of certain frames and identities by social movement to highlight social injustices (Benford & Snow, 2000). They add an affective and cognitive dimension to the social movement discipline by exploring how movements form coalitions around interests, values, and common histories. (McAdam, 2017; Della Porta & Diani, 2006). Framings are accordingly perceived as movements' attempts to socially construct certain realities, certain grievances (McAdam et al., 1996; Tarrow, 2011; Snow et al., 2018). These serve the purpose to mobilize individuals around perceived injustices and thus create and define collective identities and emotions to align individual and collective interests under a 'common cause' (Tarrow, 2011; Benford & Snow, 2000) Respectively, it includes a contentious form of negotiating the shared meaning. It draws on the influential role of organizations in shaping the problem (*diagnostic*), solution (*prognostic*) and action (*motivation*) framing of movements (Benford & Snow, 2000). However, framings are neither done exclusively by social movements nor solely consciously, i.e. through the production of certain cultural symbols (Della Porta & Diani, 2006). Also, the state and media (re)produce certain values and thus shape particular frames and discourses (Tarrow, 2011). Respectively, the interpretation of frames is based on a larger context and a hegemonic struggle as described below.

Outgoing from this overview over the three dominant research strains of social movement theorists, McAdam, Tarrow, and Tilly (2004, p. 305) highlight the benefits of combining all three research paths due to the "uselessness of choosing among culturalist, rationalist, and structuralist approaches to contentious politics". Whilst respecting the critique against their synthesis, namely that this approach

seems selective and broad (Opp, 2009), I carefully use their framework as it offers an important strength for the case of Vernunftkraft: It yields holistic macro information which a single concept of social movement studies could not display (Tilly & Wood, 2015; McAdam & Tarrow, 2010; Opp, 2009).

### **3.3 A Gramscian Perspective on Ideology and Hegemony**

In addition to social movement theory, a Gramscian perspective is incorporated into my model to focus on the social movement's counter-hegemonic stand. This is in response to the ideological struggle of sustainable transitions and compatible with the larger political and power dimension of transition studies as Geels (2014) has shown.

Thereby, a Gramscian perspective on ideology serves the purpose to critically reflect on the rational core that the movement aims at enforcing and is tied to the framing approach of culturalist theorists in social movement studies (Tarrow, 2011). Clarifying the difference between framing and ideology, ideology is the "cultural resource for framing activity" (Benford & Snow, 2000, p. 9). In other words, the underlying values and beliefs that compose certain ideologies result in the articulation of certain framings. Therefore, one can trace from the "more readily empirically observable activity" of framings (Benford & Snow, 2000, p. 11) the deeper ideological stands of a movement. Accordingly, such an approach of revealing the underlying ideology follows the line of thought of the movement and highlights the reality that it reflects beyond a movement's framing. It allows to filter how the perception of local wind energy opponents blends with the counter-hegemonic position of Vernunftkraft to reveal the degree of differences between the objective change that local people face and the one that is ideologically represented by Vernunftkraft. Second, a Gramscian approach on ideology highlights the flaws of the Energiewende that are absorbed due to its hegemonic position but disclosed through the counter-hegemonic discourse.

Hegemony in this context refers to how a dominant class exercises a role of leadership through cementing a common worldview (Berberoglu, 2017), ideological struggle "is characterized by the fight to diffuse one's own worldview" (Jaques et al., 2019, p.3). Respectively, Gramsci developed a concept of power that is exercised beyond Marx's thoughts (Levy & Egan, 2003) by extending the understanding of ideology to the realms of politics, economics, and culture. To that effect, ideology is enforced through coercion and consent of materiality and discourse. Institutions like schools and families but also value-shaping societal members like doctors help to maintain and legitimize specific social structures that are meant to benefit the elite (Callinicos, 1999; Berberoglu, 2017).

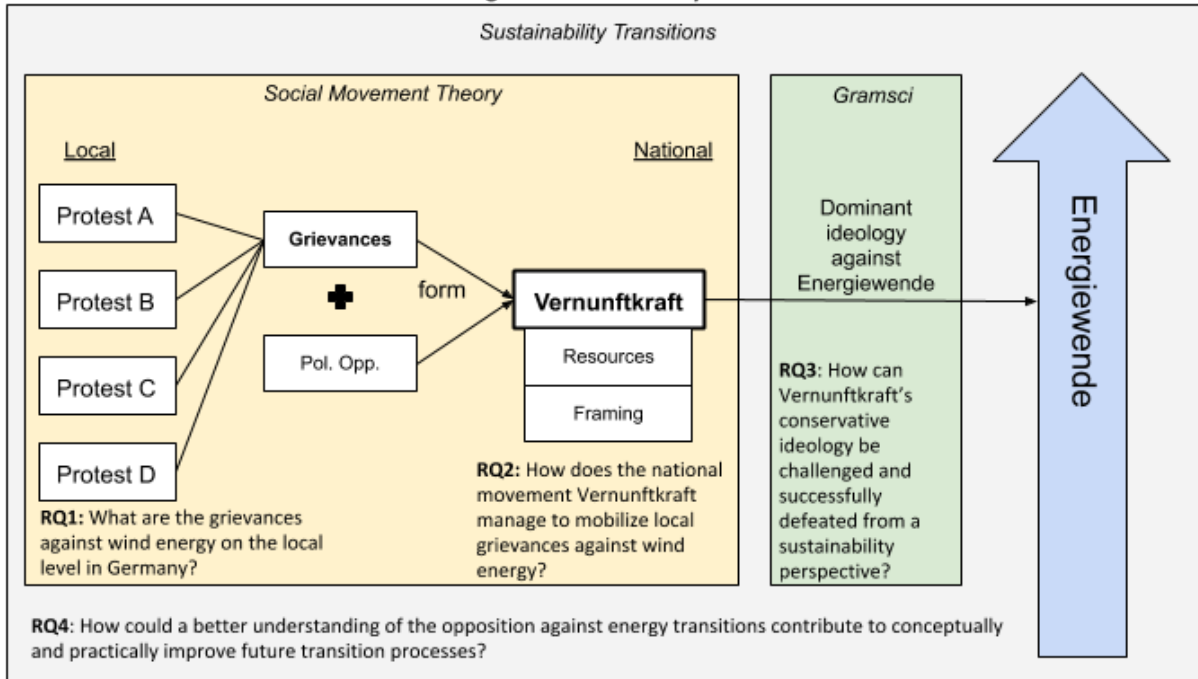
However, this hegemonic order of subscribing to societal norms and values is far from static. On the contrary, the struggle or 'war of positions' is another characteristic of Gramsci's concept (Butko, 2006). This dynamic view on the cultural sphere means that the dominant ideology is volatile and re-negotiated between the state and civil society (Jaques et al., 2019). This is due to various counter-hegemonic ideologies that attempt to become dominant through collective sense-making. In other words, as alternatives try to form a new 'common-sense', those ideologies try to win over the societal majority, resulting in a constant tension between them and the hegemonic ideology (Jaques et al., 2019).

Whilst the dominant hegemonic framing has been addressed in the previous background section, the main objective of utilizing Gramsci's thoughts is to highlight the sense-making of the wind opposition movement. Gramsci's concept allows me to trace how a new ideology is being created through Vernunftkraft. The counter-hegemonic ideology of Vernunftkraft is assumed to have the following characteristics (Berberoglu, 2017; Jaques et al., 2019): It seeks to challenge the status quo and existing power relations, it creates a new worldview that better reflects the interests of civil society actors, and it appeals to 'common-sense' reasoning and rhetoric.

### **3.4 The Model**

In summary, the following analysis seeks to understand resistance against Energiewende in a power-sensitive manner as seen in Figure 6. In this regard, it employs social movement concepts to grasp Vernunftkraft's development and its interaction with local opposition initiatives based on shared grievances. Furthermore, by drawing on Gramsci's concept of ideology, it seeks to reveal the nuanced differences between local citizen initiatives and Vernunftkraft by illuminating the movement's rational core and environmental ideology. Ultimately, this allows me to reflect critically on this counter-hegemonic ideology of Vernunftkraft and point towards inherent shortcomings of Energiewende.

**Main-RQ:** By taking into account the German context with the opposition against the expansion of wind energy, to what extent do grievances and ideologies of social movements account for forming resistance against sustainability transitions?



**Figure 6.** Theoretical Model. Local protesters share certain grievances which together with the political opportunities 'form' the social movement Vernunftkraft on the national level. Vernunftkraft has particular resources and framings that correspond to these outer political opportunities and grievances. All-together, those four factors constitute the social movement with its underlying counter-hegemonic ideology on which behalf it attacks the current Energiewende practices. By analyzing these four themes, I assume that they provide answers to how resistance against sustainability transitions develops in order to include those insights in future transition designs.



## **4 Methodology: From Theory to Application**

The following section covers the methodological approach that I use to answer the posed research questions. It is divided into two parts: the first one, literature review, entails the process that led to the formulation of the theoretical model and local grievances of the *Energiewende*. The second part introduces Fairclough's *Critical Discourse Analysis* (CDA) and aligns it to social movement theory to reveal *Vernunftkraft*'s discourse across scales and how it engages in the political sphere of sustainability transition.

### **4.1 Literature Review**

To set the scene for this case, a robust understanding of *Energiewende* and its opposition is required a priori. Thus, a first step in acquiring these insights is ensured through two extensive literature reviews. Whilst the subject of the former is *Energiewende* with its major milestones, political framework, and wind energy-specific resistors, the second systematic literature review targets current knowledge about sustainability transitions and concepts of power and politics related to social movement theory and Gramsci.

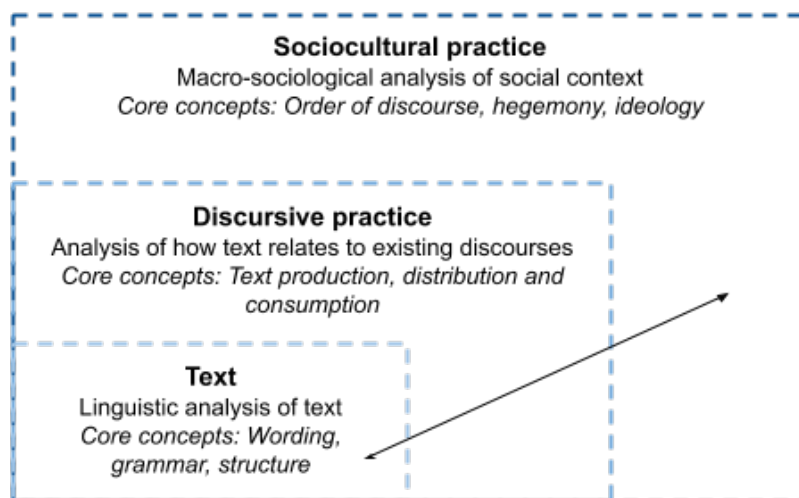
The first literature review incorporates texts from academic journals and industry experts (i.e. FA Wind) to adequately paint the picture of the circumstances around the German *Energiewende*, draw some preliminary conclusions from it, and cluster the arguments against wind energy. The search string for electronic searching, commanded in Scopus on February 11th, 2020 was "( TITLE-ABS-KEY ( energy AND transition ) OR TITLE-ABS-KEY ( energiewende ) AND TITLE-ABS-KEY ( germany ) OR TITLE-ABS-KEY ( deutschland ) AND TITLE-ABS-KEY ( wind ) AND TITLE-ABS-KEY ( opposition ) OR TITLE-ABS-KEY ( resistance ) OR TITLE-ABS-KEY ( acceptance ) )". As many academic publications date only a few months back, direct contact with some of the leading authors of this topic has been established. Their input is utilized to complement other sources and receive valuable research directions.

The second literature review exclusively focuses on academic publications and in particular those by members of the STRN community. Via a snowballing-technique that originated from STRN's updated research agenda (i.e. Köhler et al., 2019), the correlations to Gramsci's concepts and social movement theory are established. Then these concepts are been examined in-depth to form a case-specific theoretical lens on *Vernunftkraft* and local oppositions against wind energy.

### **4.2 Faircloughian Critical Discourse Analysis**

To analyze *Vernunftkraft* and the movement's ideological stand, a CDA is conducted. Its purpose is to understand the social movement's framing, resources, and perceived political opportunities in a larger context. As such, the methodological approach moves from the focus of framings on identity,

injustices, and agency as advocated for by social movement theorists towards the structural order of the discourse (Sandberg, 2006). This allows me to trace the “cognitive cues, stories and representations, reveal which mobilizing functions they have, and also which discourses they are embedded in” (Sandberg, 2006, p.222). Whilst the affinity to social movement theories remains due to the shared ontological and epistemological assumptions (cf. Snow & Brenford, 1988; Lindekilde, 2014), the analytical scope is widened and therefore traces how the social reality is constituted by Vernunftkraft as it challenges the dominant ideology of Energiewende (Lindekilde, 2014). This approach is based on Johnston and his contributions to the cultural and ideational processes of social movements, i.e. that a “microanalysis of member speech is an important test for several macroscopic perspectives on social and political movements” (Johnston, 1995, p. 244) as well as Gramsci’s concept of ideological struggle. In this regard, I follow a descriptive, interpretative and explanatory pathway to determine how Vernunftkraft shapes the larger discourse, and ultimately interacts with social structures (Fairclough, 1995). Hence, an analysis is pursued that is sensitive to power relations, hegemony, and the overall political realm of transitions (Fairclough, 2012) as it embeds written and spoken text into wider discursive and sociocultural practices as seen in Figure 7 (Fairclough, 1995).



**Figure 7.** Fairclough's three-dimensional approach of CDA. Dotted lines indicated the openness of the system and the dialectical relatedness of these spheres (Fairclough, 1995; Lindekilde, 2014).

#### 4.2.1 Text Analysis

The linguistic aspect of CDA covers the descriptive analysis of texts composed by Vernunftkraft across scales. To ensure a systematic analysis of the text, besides *Excel* as a clustering tool, the software *NVivo* has been applied. There, Vernunftkraft’s texts are coded to grasp the dominant framings and underlying ideology of the social movement. Hence, a mixed-method analysis of the linguistics of Vernunftkraft is pursued, referring to the interdisciplinarity of CDA following qualitative and quantitative methods (Dieronitou, 2014). It focuses on the movement’s framings with attention to

Vernunftkraft’s problem understanding, offered solution and stand on climate change. In this regard, the framing approach as seen in Chapter 1.3.5 is integrated. Simultaneously, the method filters the texts to highlight the movement’s resources and networks and its perceived window of opportunity related to the other two social movement concepts.

Ensuring a robust collection of the essential data, diverse data sets in line with data triangulation have been chosen, including texts meant for different audiences. In line with this, the texts of Vernunftkraft originate from the website of Vernunftkraft and in particular those articles that Rainer Ebeling, executive director of Vernunftkraft, referred to when he declined an interview (1), an analysis of their latest compendium (2), a press release called “Roadmap for more acceptance for energy policy” (3), and a transcribed YouTube interview that represents spontaneous reactions of Vernunftkraft’s chairman Dr. Ziegler (4) as summarized in Table 3. Examined with regards to the drafted frames, organizational strength, and political context, I use these to explain the social issues that Vernunftkraft articulates, why it does so, and how. Bearing in mind the limitations to this approach, I intended to organize semi-structured interviews with members of Vernunftkraft. Unfortunately, this request has been rejected.

**Table 3.** Datasets of Vernunftkraft on the national level.

Abbreviation	Explanation / long name	Medium	Date Published	Audience
YouTube Interview	Interview between Dr. Ziegler (Vernunftkraft) and Mr. Seydler on YouTube	YouTube	10 <sup>th</sup> June 2017	Small, private (follow-up after a Vernunftkraft event with Dr. Ziegler as a speaker in Trendelburg)
Compendium	Compendium for a sensible energy policy	Report (pdf)	November 2017	Broad, less public (manifesto of Vernunftkraft)
Roadmap	Roadmap for more acceptance for energy policy	Press release (pdf)	September 2019	Broad, public (prepared for a roundtable at the Federal Ministry for Economic Affairs and Energy)
Vernunftkraft	Website of Vernunftkraft	Website	N/A	Broad, public

#### **4.2.2 Discursive Practices**

In a second step, the production and consumption or framing amplification of Vernunftkrafts’ texts in the all-embracing Energiewende discourse is examined (Benford & Snow, 2000). Respectively, an analysis of different scales is applied. First, I research the positions of the ruling political parties within the Germany energy policies (national level). Second, the extent of accordance and (re-)production amongst those frames on the local and regional levels is measured. In this regard, the citizen initiatives

that are mentioned on the official website of Vernunftkraft are analyzed to evaluate the degree of unity of this social movement. In detail, this means that I scan the texts of these initiatives and attribute them to different problems and solution understandings. Accordingly, I highlight, whether they display social, economic, environmental or political concerns and categorize them to the labels of climate change deniers, climate politics skeptics, Energiewende opponents or wind energy project opponents of Section 2.2 in a quantitative way. Table 4 offers an overview of the initiatives that have been approached (for the full list, see Appendix 5).

**Table 4.** Dataset of the local and regional levels of wind energy opponents related to Vernunftkraft.

Name	Scale	Medium	Number of groups
Regional organizations of Vernunftkraft	State-level	Website texts	12 organizations
Local citizen initiatives related to Vernunftkraft	Local and regional level	Website texts	130 accessible ones from 181 identifiable citizen initiatives

#### **4.2.3 Sociocultural Practices**

Last, the third layer of CDA (Figure 6), the socio-cultural practices, are discussed. This means, that the impact of Vernunftkraft’s text on the social life is interpreted. In this regard, I draw on the concept of hegemonic struggle as introduced by Gramsci. Respectively, I evaluate the normative stand of Vernunftkraft and its implications on the elements of power and structures. Guiding questions are thus what role does ideology play in the overall energy transition in Germany and how is the topic wind energy politized and constructed by Vernunftkraft? Bringing in the concepts of hegemony, the order of discourse, and ideology are thus important to evaluate the movement’s stand towards sustainability and to what extent it affects “wider social and cultural developments” (Lindeskilde, 2014, p.11).

## **5 Findings: How Vernunftkraft succeeds as a National Social Movement**

In line with the previous chapters, the following analysis depicts Vernunftkraft with Tilly's social movement synthesis by deducting meaning from statements of Vernunftkraft through a Faircloughian discourse analysis. By moving from the outer towards the inner, I start by describing the political opportunities and threats for Vernunftkraft, before moving towards its resources and networks and ending up with the particular framing to answer research question 2, *how does the national movement Vernunftkraft manage to mobilize local grievances against wind energy?*

### **5.1 The Political Window for the Social Movement**

Starting with the exogenous factors that gave birth and rise to the national social movement Vernunftkraft in addition to the local grievances shown in section 2.3.2, the following reviews political openings and threats based on the collected data from Vernunftkraft. Gaps are complemented with existing literature on the political situation in Germany. I conclude that overall, the alliance amongst all established political parties and the exacerbated sense of crisis with the subsequent strengthening of the far-right are the main factors that assisted the initial start of Vernunftkraft on 22.06.2013 (Vernunftkraft, 2014).

As stated earlier, the German energy transition has been designed and supported by all established German parties, ranging from FDP to the Green Party. This is due to its long-term implementation during several legislative periods with different coalitions and the broad public support as the nuclear catastrophe in Japan sparked memories of the Chernobyl disaster (Goehmann, 2016). This elitist alliance of agreeing on the need of Energiewende nationally opened up a political space for alternative views on sustainability transitions. In other words, due to an increased ideological convergence on the Energiewende by political parties, the coverage of the entire electoral terrain decreased. It offered opportunities for others like AfD or Vernunftkraft to mobilize around those that 'lose' from the Energiewende (Muis & Immerzeel, 2017; Brunnengräber, 2018; Eichenauer et al., 2018). Here, it is in particular worth mentioning the perceived shift of CDU under chancellor Merkel towards a more social democratic and less neoliberal, conservative political agenda (Decker, 2016) that allowed oppositional movements with a predominantly conservative attitude to fill in this space.

Second, with the financial crisis of 2008, Greece's sovereign debt crisis, and the refugee crisis of 2015, increased skepticism with regards to German and European politics emerged. Dominating the public agenda, those themes led to an increased sense of political instability in the broader public (Berning, 2017). In particular, AfD which like Vernunftkraft emerged in 2013 was able to mobilize around these

precarious circumstances that pressured the contemporary political, economic, and social spheres. This increased sense of contention amongst the political realm led to an increased societal polarization with those mainstream actors that support globalization and its ‘winners’ on one side and alternative movements in favor of those left behind and a protectionist approach on the other side of a spectrum (Muis & Immerzeel, 2017).

To conclude and relate to the theoretical model, societal cleavages paired with an elitist ally form the dynamic political openings that resulted in the emergence and successful establishment of Vernunftkraft.

## **5.2 Resources and Network of Vernunftkraft**

Having established the window of opportunity, the analysis can take a step towards the movement’s assets. Accordingly, the repertoire of action, use of symbols, and the wind opposition movement’s organizational structure are subject to the following section. It describes the movement’s ‘hardware’ to allow for a better understanding of the phenomena Vernunftkraft and how it displays the previously identified grievances in relation to contentious politics in Germany.

### **5.2.1 Resources and Use of Symbols**

The repertoires of actions that are most commonly found within the Vernunftkraft movement are petitions and letters to politicians or ministries (e.g. Vernunftkraft, 2020f), demonstrations or protests (e.g. Vernunftkraft, 2019a) and contributions to local information events with Dr. Ahlborg and Dr. Ziegler being the most reoccurring representative speakers of Vernunftkraft (e.g. HNA, 2017). Serving the purpose to “maintain solidarity, attract new supporters, and keep opponents off balance” (Tarrow, 2011, p. 102), these actions correspond to non-violent tools, most contemporary social movements in Western democracies use. Additionally, the website of Vernunftkraft provides a spectrum of free resources, ranging from flyers, postcards, banner, sticker, t-shirts, buttons, and information material to pre-written letters for local, regional and state authorities (Vernunftkraft, 2020b; Vernunftkraft, 2020e). Finally, a first-aid contact to launch a local initiative is offered (Vernunftkraft, 2020d). All those resources serve the purpose to unite the movement and gain popularity. Figure 8, which I compiled, exemplifies some of these resources.



**Figure 8.** Excerpt of resources available at Vernunftkraft’s official website: A sticker and t-shirts (Vernunftkraft, 2020h).

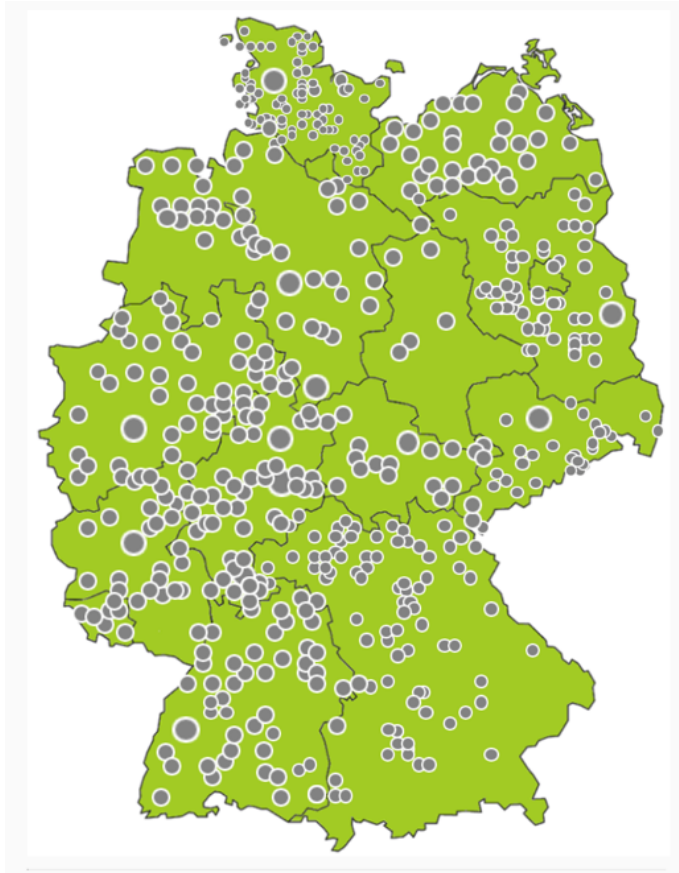
Interpreting these resources from a symbolic point of view, Vernunftkraft and many local initiatives make use of the illustration of pristine rural landscapes that are interrupted or destroyed by wind farms. Examples of those images include the current view onto the forest from one’s home and how it would be obstructed through photoshopped windfarms (e.g. Schwarzwald Vernunftkraft, n.d.). Other dominant images are those of certain bird species or maps that highlight the extent of wind farms in Germany (e.g. Rettet Brandenburg Die Volksinitiative, n.d.). Last, as Figure 8 (on the left) shows, the movement makes use of the slogan of the anti-nuclear movement back in the 1970s and replaces their icons with wind farms (e.g. Ausgestrahlt, n.d.). Those symbols, therefore, serve the overall intention to highlight the movement’s environmental objectives as it visualizes grievances of land intrusion and nature/species conservation threats.

### 5.2.2 Network of Vernunftkraft

On its latest document, the roadmap, Vernunftkraft claims to represent “more than 1000 citizen initiatives” (Roadmap, 2019, p.3) and illustrates this network as an interactive map on its website map (Figure 9). Yet, an analysis of the links of the map reveals that most of these placed links either refer to Vernunftkraft’s website or regional branches of Vernunftkraft. In fact, through website-scanning of each link, only 130 initiatives<sup>2</sup> could be visited. Overall, it can be assumed that the number of 1,000 local initiatives is exaggerated. Nevertheless, it highlights an important characteristic of Vernunftkraft,

<sup>2</sup> In total, the interactive map of Vernunftkraft entails 535 links to local or regional initiatives. Yet, the analysis of this map shows in total 181 existing local and regional ones. From these, 51 initiatives have websites that either do not exist anymore, are currently under maintenance or offline. Whilst it has to be assumed that a certain amount of local initiatives may not have their own website or merged with others on the regional level, it is likely that other initiatives have disappeared after specific local achievements or do not exist.

namely its organization across scales. From local to regional and state-led organizations, Vernunftkraft establishes important stakeholders at the political decision-making processes of different reach. Underlying this point, Vernunftkraft is also part of the European Platform Against Windfarm (EPAW) which extends its influence on the European level.



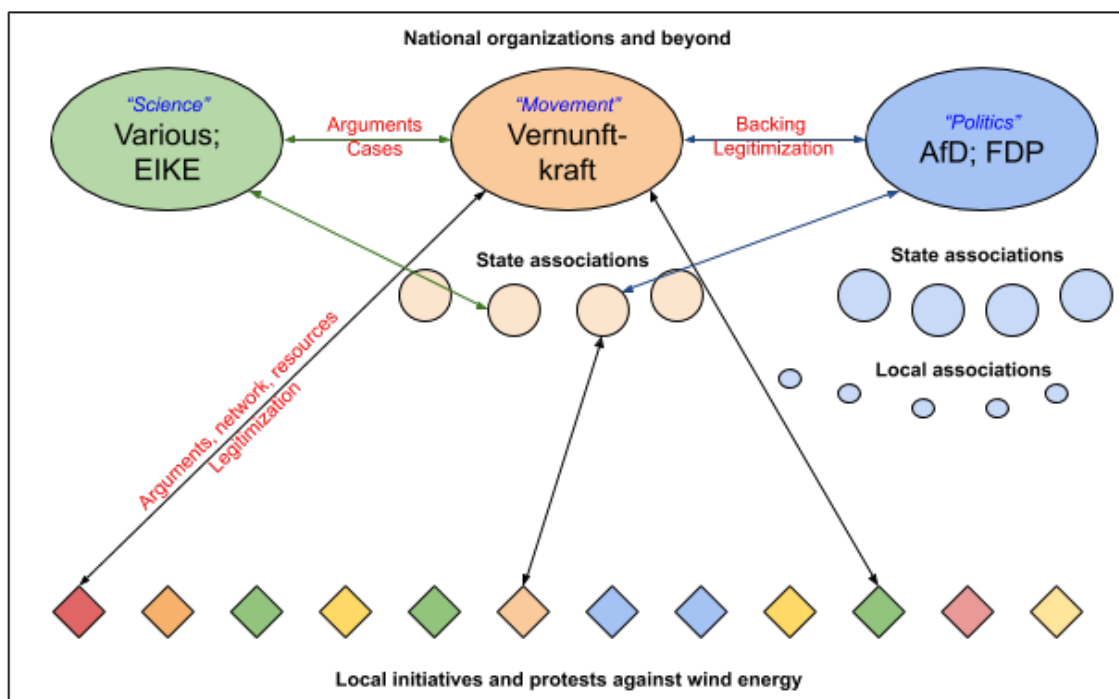
**Figure 9.** The interactive map of Vernunftkraft's initiatives (Vernunftkraft, 2020c).

Beyond Vernunftkraft's network with various local and regional protest initiatives, contact to political parties exist. This connection is especially strong with the neoliberal party FDP and the far-right party AfD. The FDP is for instance represented through Dr. Detlef Ahlborg, vice-chair of Vernunftkraft (Vernunftkraft, 2020i). The climate-science opposing party AfD (Fraune & Knodt, 2018) is not formerly represented amongst the board of Vernunftkraft. Nevertheless, connections exist due to AfD's diachronic precedence in propagating against the German energy transition (AfD Kompakt, 2018). Since AfD has a similar position, it also invited speakers of Vernunftkraft in the German Bundestag (AfD, 2019). These political ties serve the purpose to increase the outreach of Vernunftkraft. Offering the movement additional resources accordingly strengthens Vernunftkraft and the political parties' with their conservative position against the German Energiewende.



Third, Vernunftkraft bases its viewpoints on scientific claims and thus refers to various scientist institutions. In particular, it quotes different authors and experts that highlight certain negative impacts of the German energy transition or disprove the stands of wind energy proponents. It accordingly receives its arguments and cases from them. Yet, besides relations to e.g. NABU (Nature and Biodiversity Conservation Union), these ‘scientific’ organizations also include EIKE, a climate-denialist think tank that misleadingly is not an institution, but a club founded in Jena, Germany that is considered to spread fake news (Brunnengräber, 2018).

To summarize the resources and network theme of my model, I conclude that the network of Vernunftkraft is multi-leveled and highly organized, opting for the fast development of the movement across scales. It contains conservative political and scientific groups, in particular neoliberal and climate-skeptical parties but also the institution EIKE (Figure 10). The resources that Vernunftkraft thereby applies intend to strengthen its multi-level presence and influence. They contain a broad repertoire of non-violent tools and symbols that display the degrading character of wind energy related to some of the local grievances.



**Figure 10.** The network of Vernunftkraft (inspired by Reusswig et al., 2020). Vernunftkraft is structured in different state associations. It interacts with local initiatives and protesters by providing arguments, networks, and resources (e.g. speakers). Moreover, Vernunftkraft is linked to different scientists but also the climate-denialist thinktank EIKE and the parties AfD and FDP.

### 5.3 The National Framings of Vernunftkraft

Moving to the third and final social movement concept of my model as explained in Chapter 3.2.3, I show that, on the national level, the movement Vernunftkraft centers its framing around the statement that a successful energy transition has to be accompanied by three main characteristics, namely “affordability, security of supply and environmental compatibility” (Compendium, 2017, p. 37). From this standpoint, Vernunftkraft problematizes the current approach of the German government and proposes an alternative pathway that it legitimatizes through the backings of the numerous protest initiatives it claims to represent as the following quote highlights: “We differ in nuances in our focus. Together, we oppose the destruction of nature in the name of a supposedly ecological conversion of the energy supply. Because the current energy policy is neither ecological nor without any alternative [translated].” (Vernunftkraft, 2020c).

By clustering the framings of Vernunftkraft around its position towards climate change, problem understanding of the current energy transition, and an alternative solution, the following accordingly depicts the movements’ claims and their reproductive practices according to the first and second layer of CDA.

#### 5.3.1 *Position Towards Climate Change, Energiewende and Alternative Pathways*

Vernunftkraft does not mention its position towards climate change explicitly in its formal documents. Though, in the YouTube interview and a Monitor Documentary, Dr. Ziegler reveals that in his personal opinion, the scientific consent around this topic could be questioned: “The 97 percent quoted there [consent on climate change], I don't think so” (Taßler et al., 2019). Whilst representing Vernunftkraft, one can deduce from the text that he adopts a critical perspective on the matter of global warming. However, as Vernunftkraft’s position implicitly targets a CO<sub>2</sub>-reduction, the movement acknowledges *a form* of climate change. In particular, whilst it accepts the existence of climate change, its *specific* position towards this wicked problem remains open. Statements about Vernunftkraft’s perception in matters of urgency and severity of climate change do not exist. In line with this, neither the IPCC nor other well-established climate research institutions have been quoted in Vernunftkraft’s texts.

Moving towards the diagnosis framing of Vernunftkraft, this topic involves by-far most of Vernunftkraft’s text capacities in the analyzed data sets. For instance, from a quantitative perspective, 34 pages of the compendium are devoted to the overall problem description whereas 2 pages summarize the articulated alternative Vernunftkraft stands for (Compendium, 2017). The most frequent grievances it articulates include technological and technical skepticism, ecological degradation, unjust economic distribution of winners (i.e. investors) and losers (i.e. rural affected

communities), and social and health risks (Appendix 2 - Appendix 4)<sup>3</sup>. Importantly, these perceived injustices match the three pillars of energy justice (Appendix 1). Yet, they extend their critical stand against wind energy to other renewable energy sources, explicitly solar energy (i.e. “a moratorium [on the promotion of renewable energies] is imperative”; Compendium, 2017, p. 38). Furthermore, in the YouTube interview and the roadmap, the theme of propaganda is addressed. Referring to the lobbying and promotion for wind energy either by the German government or the wind energy industry, concerns like “faked participation [translated]” and “fake news [translated]” are raised (Roadmap, 2019 p.10; p.4).

Accordingly, grievances serve the purpose to argue for a neoliberal position in Vernunftkrafts’ prognostic sections as the compendium and YouTube interview reveal in the following table (Table 5). In those texts, nationally, Vernunftkraft demands the stop of renewable energy subsidies and instead opts for a free-market approach. They claim that the best solution in regard to social, economic, and ecological energy sources will evolve through market forces (Compendium 2017; Interview, 2017). Accordingly, its framing contains claims for fundamental change in the national political direction beyond wind energy as its statement that the EGG,” should not be reformed, but abolished and not replaced” shows. However, incoherencies in this viewpoint exist. Unlike the other two data sets, the roadmap does not critique renewable energy sources entirely but focuses on wind energy. Partially, it even promotes solar energy despite technical problems similar to those of wind energy (i.e. energy storage and weather dependency). Whether these discontinuities in its framing derive from a time-bound development of Vernunftkrafts’ claims, the different audiences these texts address, or is due to the diverging author’s ideologies remains unclear.

Besides these positions, the movement demands high investments in research and development (R&D) in a technology-neutral manner. They take a position in favor of government spending for better technology to achieve a sustainable energy transition. Furthermore, Vernunftkraft emphasizes the need to approach the other two pillars of the Energiewende, namely the traffic and heating sector due to its high potential and high acceptance rates.

My conclusion is that the national framing of Vernunftkraft focuses its critique on the Energiewende and not climate change, or specific choices about locations of wind farms (cf. Table 1). The framing thereby entails a technology-optimistic core, however questions specific renewable energy

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<sup>3</sup> Confirming this point, in the data sets, the most frequent descriptive, problematizing word stems in the statements and interview are: Infrasound (43 times), EGG (27), business (26), forest (25), acceptance (22), nature/ species conservation (19), health (17)

technologies based on their feasibility and burdens on energy producer and consumer amongst others. However, deviations from this dominant framing and its scope exist. In particular, whether the problem includes solar and other renewable energy, is incoherent, as Table 5 summarizes.

**Table 5.** Position of Vernunftkraft towards climate change, Energiewende and solutions in the data sets.

Theme	Claim(s)	Reasoning	Authors/Sources
Climate change	Critical about CC	"... [about climate change]. There are other voices that should also be taken seriously, but I don't want to question this tendency now."	YouTube Interview
		"However, if climate change increases in intensity and the goal of saving CO2 is taken seriously, this has a clear implication for the future energy and electricity mix"	Roadmap
Adjusting Energiewende	Location selection	"People need more distance! - The forest must be taboo!"	Roadmap
	Increase safety tests	"Regular WKA TÜV tests appropriate to the potential hazard must be made compulsory"; "Dismantling plan"; "critical infrasound standard"	Roadmap
	Reduce economic privileges	"As an immediate measure, the remuneration for non-produced electricity is to be deleted completely"	Roadmap
Alternative solutions	Invest in Research and development	"What we therefore need is a large-scale and generous energy research programme that covers all aspects of energy efficiency, storage, transport and generation in a technology-neutral manner."  "... hope that clever entrepreneurs and scientists come with new technologies";  "[Vernunftkraft wants] market competition in connection with - technology-neutral expansion of energy research - stringent protection of people and nature."	Compendium  YouTube Interview  Roadmap
	Stop wind/ solar/ renewable energy promotion; Invest in solar energy	"... moratorium on the promotion of renewable energies"  "The wind power and solar systems cannot do that (for reasons that are sufficiently explained in Trendelburg ..."  "... parallel to the de-privileging of wind power under building law, to privilege solar energy (electrical and especially thermal) in terms of building law or urban planning."	Compendium  Youtube Interview  Roadmap
	Stop governmental interventions in the market	"The EEG should not be reformed but abolished and not replaced."  "... the environmental problem that humanity worried back then was solved through technology, without governmental influence. And like this, I think, it will happen with the current problem."  "Only technology-open competition can secure long-term prosperity, quality of life and the environment."	Compendium  YouTube Interview  Roadmap
	Continue the fossil-fuel based energy production	"The Energiewende has caused visible damage in the energy sector: around € 100 billion of capital was destroyed at EON and RWE alone."  "And B, you do the same without wind energy. You continue receiving energy from commercial sources like coal and/or gas and foreign countries. [...] We [Vernunftkraft] pledge for B. Unfortunately these are the two only alternatives we have in the short-term."  „In competition, the better displaces the good. At the moment, the much worse is replacing the acceptable."	Compendium  YouTube Interview  Roadmap
	Focus on traffic and heating energy; efficient energy consumption	"There were hardly any successes in the heating/cooling and transport sectors."  "There is only one kind of 'eco-power', namely the power that has not been produced in the first place."	Compendium  YouTube Interview
	CO2 tax, ETTs	"Through emissions trading, a (global) tax and open-technology research funding, the target of CO2 reduction could be achieved much more cost-effectively."	Compendium

### **5.3.2 Discursive Practices of Vernunftkraft across Scales**

Moving to the discursive practice of the framing of Vernunftkraft across scales, one can distinguish between two distinct levels of discourses in which this dominant framing of Vernunftkraft is present. One is the discourse of local oppositions. The other is the realm of nationwide politics and how Vernunftkraft's position interacts with the hegemonic narrative of the Energiewende explained in Chapter 2.

Beginning with Vernunftkraft and its influence on the local discourse, one can conclude that Vernunftkraft represents the grievances of local initiatives and respectively covers all three pillars of energy justice. Specifically, 87.5% of the 110 local initiatives with clear positions on their website mention intrusion of space and landscape change<sup>4</sup>, followed by 83% who have nature and species conservation concerns on their agenda and 72.3% that refer to health concerns (see Appendix 5). Accordingly, the local problem understandings correspond to the national and broad problem diagnosis of Vernunftkraft. The national framing is therefore distributed and consumed at the local discourse. Underlying this finding, many local initiatives explicitly refer to Vernunftkraft's website for their problem description, additional information or evidence: "Our aim now is rather to show that current politics and the Renewable Energy Sources Act do not contribute to reducing CO2 emissions [...] as is easy to understand for everyone at [www.vernunftkraft.de](http://www.vernunftkraft.de)!" (Keine Windkraft in Ebersburg Eichenzell, 2020).

Despite this common diagnostic framing, highly divergent understandings with regards to prognostic framings exist in the local context (see Appendix 5 for details). In particular, 58 of the 130 analyzed initiatives position themselves as renewable energy supporters and are in favor of wind energy but have concerns about the specific wind energy locations. Arguing for a uniform distance to residencies (more than half) and/or no wind farms in forest and nature parks (a third) amongst others, they can be considered as reformists who seek to improve the design of the German Energy Transition. Next, there is a major group of initiatives (24.6%), to whom the problem of wind energy extends to national scope and that tackles the design of the energy policy. The majority of them (53.1%) reject the EEG law and demand competition around energy sources, whereas 21.9% seek to reform the EEG to reduce the expansion of wind energy to unfavorable places. A third group (6.9%) rejects different renewable energy sources altogether and favors central gas power plants instead. Putting these numbers in perspective, one can identify a disjointedness amongst the prognostic framing of wind energy

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<sup>4</sup> Frequent words were here "native land", "liveability" or "man-made countryside" [all translated].

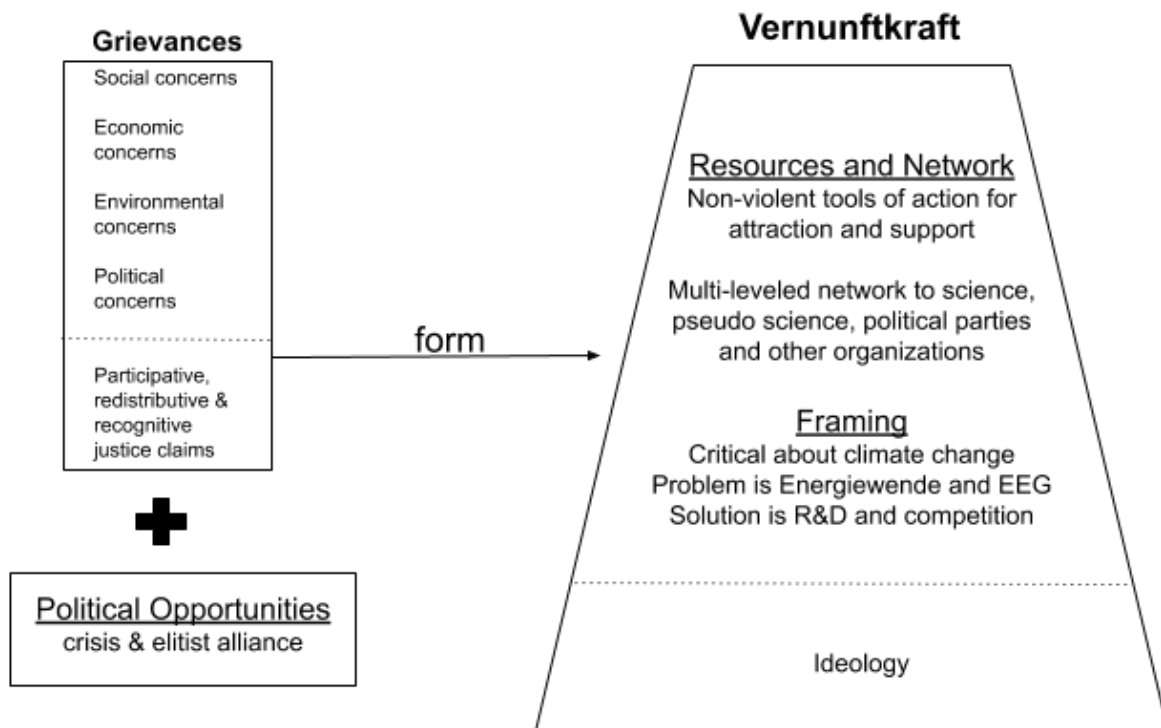
opponents. Whilst the perspective articulated on the national level centers around the critique against renewable energy, at the local level, a range of conflicting solutions for the energy transition exists with a big group specifically supporting renewable energy sources like wind energy. Those differences in local framings thereby incorporate all of the four categories, climate change deniers, climate-politic skeptics, opponents of Energiewende, and opponents of specific wind energy projects as introduced previously in Table 1.

Moving to the political debate about the German Energy Transition on the national level, it becomes clear that Vernunftkraft influences and engages in this discourse. The movement has been invited to the wind energy summit of the Federal Ministry for Economic Affairs and Energy in September 2019 (2019a) on which behalf it published one of the three texts that have been analyzed, the roadmap. Hence, Vernunftkraft manages to establish itself as an important, disapprobative stakeholder on the current transformation of the German energy system. This access is also displayed through its relations to FDP and AfD and the flare of local conflicts that led to the decrease in wind energy expansion. As a consequence, the ruling political parties, CDU and SPD, have reacted to the increased opposition with various reformist proposals for an improved, “socially acceptable” wind energy expansion (Altmaier, Interview Deutschlandfunk, 19.11.2019). In detail, those propositions entail a compensation plan for individuals close to windfarms and a mandatory distance of 1000m between wind turbines and houses (Krämer, 2019; N.A., 2020). Thus, those proposals do not tackle the fundamental logic of transitioning to wind energy as the framing of Vernunftkraft does. Rather, the proposals are responses to the issues of space intrusion and economic loss and seek to increase the acceptance rate at the local level via distributive justice approaches. One can therefore conclude that Vernunftkraft’s renunciation of wind energy is not part of the dominant discourse, it remains a counter-hegemonic one.

#### **5.4 Synthesizing Vernunftkraft as a Social Movement**

To sum this chapter up, I call Vernunftkraft a social movement as it allows me to analyze its particular characteristics with the use of social movement theory. I thereby deduce that diverse social, economic, environmental, and political grievances of local wind energy opponents that have been explained in more detail in the background section (for details, see Chapter 2) and a specific political window (Section 5.1) form the national social movement Vernunftkraft. Together, those two factors constitute Vernunftkraft, a social movement that is characterizable due to its multi-layered network. It has various non-violent resources at its disposal (Section 5.2) and a national framing that centers around the interventionist behavior by the government and the negative consequences for the affected rural

communities and landscapes (5.3). Figure 11 displays Vernunftkraft as a social movement in more detail, paving the way for its underlying counter-hegemonic ideology.



**Figure 11.** Excerpt of the theoretical model with a narrow focus on Vernunftkraft’s success in mobilizing local grievances.

## 5.5 From National Framing to the Ideology of Vernunftkraft

Having explained the development of the social movement Vernunftkraft, its characteristics within the Energiewende context, and dominant framing, I move forward to interpret the underlying counter-hegemonic ideology of Vernunftkraft in line with the third layer of CDA.

### 5.5.1 Vernunftkraft’s environmental Ideology

The higher-level ideology of Vernunftkraft can be pinned onto the statement that “only technology-open competition can secure long-term prosperity, quality of life and the environment” (Roadmap, 2019, p. 15). Articulated in its national framing, Vernunftkraft favors a technological fix for the energy transition and the broader climate change challenge based on a working, libertarian market. Accordingly, functioning market structures that enable competition are the central premises that create technologies needed for accomplishing future well-being (cf. Smith, 1776). In a market “without governmental influence” (Vernunftkraft de, 2017), competition delivers the best output for businesses and society. Following this *homo economicus* line of thought, the role of the state is reduced to a laissez-faire night watch, meaning that besides incentivizing research and development, its main task is to create a level playing field for businesses (cf. Hayek, 1944). Accordingly, Vernunftkraft can be

ascribed to an unproblematic view on modernity. Advocating for a neoliberal solution, Vernunftkraft represents the idea that economic growth, profit, and sustainability go hand in hand. At the same time, this technocratic and Hayekian understanding of solving the energy crisis represents some of the core pillars of neoliberalism, namely individualization, privatization, and instrumental rationalism (Dryzek, 2013; Peet et al., 2011).

Yet, this dominant ideology of Vernunftkraft competes with other ideologies of the movement. Indeed, as the positions differ substantially on the local level, intramovement contests (Zald, 1996) exist about the dominant frame and ideology, i.e. some advocate for protecting forests from wind energy farms whilst others are fundamental climate change deniers (Appendix 5). Though, whilst the neoliberal ideology of Vernunftkraft is the reoccurring one on the national level and therefore obtains a hegemonic position within the movement, it overshadows an internal war of position. Reworded, its higher-level ideology subsumes an ideological struggle on the local level. Gramsci refers to this inter-discursive character of Vernunftkraft that absorbs lower level ideologies with the term 'homogenous bloc' (Anderson, 1976). In that way, higher-level ideologies can cover lower-level tensions due to its common-sense making (Anderson, 1976) and unite to form a counter-hegemonic ideology against the current Energiewende.

Recalling the findings of my analysis, the reasons for the counter-hegemonic and conservative ideology of Vernunftkraft on the national level are the political openings for conservative oppositions due to the course of events from 2008 onwards. Those shape Vernunftkraft's specific resources and a framing that subsumes grievances with diverse justifications into a unified national movement. Together, those components explain, how Vernunftkraft succeeded to be a movement in opposition to Energiewende.



## 6 Discussion & Conclusion: How Vernunftkraft shapes the Energiewende

Based on these findings, I move on by concluding that Vernunftkraft is a broad social movement that nationally seeks to hinder the current implementation of the energy transition. By poking on maintaining a neoliberal status quo, it enforces existing structures of hierarchy and exclusion (Carroll & Hackett, 2006). Hence, it should be seen as a conservative movement that counters contemporary transition efforts by the German government and the more progressive claims of other social movements like Fridays for Future. The results of this case confirm that to some degree grievances and ideologies constitute national social movements that endanger sustainability shifts in line with the main research question, *to what extent can grievances and ideologies of social movements account for forming resistance against sustainability transitions?*

However, despite its neoliberal core, there are divergent grievances across scales within the Vernunftkraft movement that are not represented by this higher-level ideology. Vernunftkraft attempts to unite different opposition groups and their specific recognition, redistribution and participation justice claims. Vernunftkraft simplifies its relationship with people against local wind energy projects, Energiewende, or climate skeptics, accordingly. In fact, by offering arguments, speakers, banners, and other resources to them, it seems to align the wind farm adversaries behind Vernunftkraft's own mechanistic, free-market position, ignoring the context-specific heterogeneity that is an integral part of this group of people. This diffusion and ongoing reengineering of the wind opposition movements results in a low degree of legitimacy for Vernunftkraft. It is even further reduced due to its connections to post-truth think tanks like EIKE.

Therefore, one has to register that whereas Vernunftkraft obtains an important position in the Energiewende discourse, it weakens its position by obscuring the presence of the main group of protesters, namely those that are against specific wind energy locations but not the wind transition per se. As it does so, I move on by reflecting on the implications for sustainability based on Vernunftkraft's counter-hegemonic ideology. I attempt to reveal some inherent tensions within its logic<sup>5</sup> in line with the third research question, *how can Vernunftkraft's conservative ideology be challenged and successfully defeated from a sustainability perspective?* before ending this thesis with contextualizing my results.

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<sup>5</sup> In integrating this evaluation of the normative stand of Vernunftkraft, I draw on Hegel's immanent critique as a paradigm for sustainability science. It assists in "showing the limitation of a system of thought based on its own internal assumptions." (Boda & Faran, 2018, p. 9)

## 6.1 Critiquing Vernunftkraft's Ideology from a Sustainability Perspective

In following Vernunftkraft's dominant ideology to its natural ends, the subsequent discussion reveals an inherent tension between its neoliberal ideology and environmentalist ambition. This tension thereby relates to the old but crucial debate about liberty versus equality as inspired by Alexis De Tocqueville (2002).

In arguing for a free-market approach, Vernunftkraft defends the liberty of following one's interest. Individual liberty in this regard dominates the sense of equality that for instance universalist sustainability scientists demand (Miller, 2013). Arguing against governmental interventions and the expansion of wind energy based on personal, negative freedom<sup>6</sup> disregards the trade-offs that are part of this premise (Tulloch & Neilson, 2014; Israel, 1997). In particular, the social dimension beyond the instrumental logic of the market is neglected: Due to the global magnitude of climate change and universal needs for energy, knowledge-transfers and trickle-down effects are required to ensure human well-being. These universalist ethics yet stand in strong contrast to the individualistic, short term logic of the market that leads to the creation of winners and losers (Peet et al., 2011).

In arguing so, this tension exposes the problem of aligning sustainability with economic development under the logic of ecological modernization. Pursuing this idea of a win-win situation ignores the premise of growth and profit orientation, which leads to monopolies and power imbalances (Newell & Phillips, 2016). In fact, due to constant tension between public and private interest, there is no guarantee that highly up-scalable energy solutions emerge. Vernunftkraft ignores the time restrictions that are limited due to global warming. Those provide unfavourable conditions for feasible solutions for energy producers and consumers. How to deal with these omnipresent trade-offs between economic profits, social equity, and environmental protection of an energy transition under time pressure remains unanswerable.

If allowing free markets, one, in fact, has to expect that big energy providers with lots of capital can maintain and expand their existing position as they follow the maxim of accumulation and self-interests. Systematic changes in the energy system are consequently denied due to the temptation of taking shortcuts (Tulloch & Neilson, 2014). Also, radical, decentralized energy solutions would be unable to enter the market, despite possibly better technologies as existing power relations prevail (Tulloch & Neilson, 2014). This all leads to the question that ever since the Brundtland report shapes

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<sup>6</sup> Negative freedom means how individual liberty is a form of *freedom from* outer constraints. Accordingly, freedom is negatively understood as it is limited by outside authorities and their actions (Israel, 1997).

the sustainability discourse: *What should be sustained and for whom* (Boda & Faran, 2018; Faran 2010)? The eco-modernization view of Vernunftkraft partly answers this in a techno-optimistic and neoliberal way. Yet, its understanding of sustainability is vague and full of gaps in terms of equity, leaving out the normative balances between international, intersectional, and intergenerational justice that are strongly tied to sustainability transitions (Jerneck et al., 2011).

## **6.2 Vernunftkraft and the Energiewende**

In this regard, I end with a reflection on the final research question, *how could a better understanding of opposition movement against energy transitions contribute to conceptually and practically improve future transition processes?* by contextualizing my results. I have shown that broad and multi-faceted grievances related to the three energy justice concepts and a certain political context can stimulate the emergence of social movements against energy transitions. In the case of Vernunftkraft, these factors led to the development of a conservative movement with specific resources and a framing that represents a neoliberal higher-level ideology. This ideology is incompatible with current sustainability efforts and justice principles of sustainability – albeit some of the local concerns not necessarily oppose sustainability and are in fact compatible with other, progressive ideologies. Thus, cross-scale grievances and ideologies are highly relevant to make sense of the complexity of sustainability transition opponents.

Outgoing from that, one of the practical deliverables of the thesis is that the current Energiewende design fails to account for divergent local grievances and values. There is a lack of attentiveness given to local conflicts and the kinds of complex injustices that Energiewende display. Whilst conceptually supporting Energiewende, I argue for the need of responding to those local concerns and integrate them in its design. If this is not implemented appropriately, it is expected that the current level of approval rates for sustainable transitions drop and ambitions to step up the game against climate change fail. As local protesters nourish the rise of eminent civil society actors like Vernunftkraft that fundamentally oppose energy transitions, it is thereby of primary importance to ensure this inclusivity and representation right from the start of a sustainability transition. Prematurely ascribing those oppositionists to labels like NIMBY is highly problematic and ignores the complexity involved with resistance against sustainability transition in terms of diverse grievances. In this regard, those simplifications may accelerate the development of anti-environmentalist counter-hegemonic blocs like Vernunftkraft.

As the current Energiewende creates particular, multi-dimensional grievances, there is a need to address the creation of winners and losers that this transformation entails with a particular eye on the

affected rural populations and their legitimate concerns. I encourage to scrutinize Energiewende's distributive justice orientation with efforts like compensation plans or the EEG. This approach ignores the divergence of justice concerns that are relevant to the affected locals. Indeed, the case of Vernunftkraft has shown that also recognition and participation justice concerns matter yet are neglected by the dominant Energiewende narrative (Eichenauer, 2018). Sensitive to the local concerns, I argue for the need of incorporating justice aspects beyond distribution in Energiewende's design as clashing yet legitimate positions about the location, usefulness, and design of wind parks exist (Fraser, 2000; 2017). As the Energiewende addresses wicked problems, it has to incorporate multiple justice perspectives into a holistic design that is sensitive to the scope and complexity of an energy transition.

Ultimately, Energiewende requires a highly scale-sensitive design beyond the instrumental mechanisms of an EEG that can address the diverse social grievances of the wind opposition. Hence, it has to approach the underlying trade-offs between environmental, economic, and social interests on various levels. In that sense, it is misleading to refer to *a* transition as the nuanced picture reveals several multi-dimensional transitions on different scales with diverse aspects of (in)justices tied to it.

### **6.3 Contribution to Sustainability Science and Transition Studies**

Conceptually, I attempted to recognize the normative character and need for systematic changes as articulated in sustainability science (Jerneck et al., 2011; Spangenberg, 2011). On this note, I aimed to contribute to sustainability science by underlining the importance of social movements in revealing deeper social grievances and injustices within sustainability transitions. Hoping that these insights extend the understanding of social movements beyond Vernunftkraft, I stress the neglect of such important social agents in times of time-bound transformations. As social movements have transformative potential, sustainability science accordingly has a responsibility in addressing, challenging, or equipping relevant social movements (Isgren et al., 2019). Even if this means disclosing social movements inherent contradictions and reactionary position, *overall*, a better know-how of different antagonists in transitions assists in revealing the tensions associated with changes – with particular attention to the range of grievances and ideologies at play at various scales. Dismantling those is thereby fundamental to balance environmental and social sustainability. Further, it assists in overcoming barriers against transitions whereas ignorance of the grievances ultimately leads to intensified backlashes against sustainability advocates.

Related to the argument made above, I stress the ideological aspects of transition studies and its scope beyond the socio-technical realm. In response to the highlighted shortcoming that “an important but understudied area is how CSOs and social movements influence [...] sustainability policy development

(Turnheim & Geels 2012; Kuokkanen et al., 2018)”, this thesis should be seen a modest contribution of establishing social movement theory in transition studies. Sustainability transitions *are* subscribed to underlying grievances and injustices, consequently there is a need to deconstruct those as they can spark larger social movements with anti-environmentalist agendas. Attempting to strengthen the socio-political character of transitions, I align my core findings to Sovacool’s and Brown’s (2015) position, namely that energy conflicts are interwoven with clashing beliefs, values, and experiences. In approaching those subjective truths, I consequently argue to follow their approach of deciphering “the deeper, underlying assumptions and values; ask what is at stake and who these benefit [serve]; and search for a common ground” (Sovacool & Brown, 2015, p.41) through an integrated justice framework within the sustainability transition discipline.

#### **6.4 Limitations and Future Research**

By connecting the dots from local to national opposition, from diverse grievances to a counter-hegemonic neoliberal ideology, I hope to have achieved my initial objective of explaining resistance against sustainability transitions with the help of social movement studies. Yet, despite the importance of these novel results, we still need future research to make definite claims. As my analysis only accounts for a specific actor that is directly related to the process of Energiewende and the wind energy sector, we need to be careful with its generalization to other transitions. Put differently, replications across contexts should further verify my conceptualization.

Another methodological challenge is the quality of the data set that is restricted due to the low degree of cooperation with Vernunftkraft and time reasons. The outcomes of this thesis highly depended on a data set that is mostly based on written, official statements on the national level but could be improved with additional interviews with the movement.

On top of that, since I have shown that a more in-depth understanding of the specific localities of wind oppositionists matter, a follow-up research should approach wind opposition on the local level to examine the nuanced differences in terms of context-specific injustices. The concept of energy justice has proven to be fruitful in this regard. Via conducting interviews and reaching out to local initiatives in forms of surveys, these insights could be tremendously improved by focusing for instance on the conflict dynamics and how demands change over time across scales.

Defining the degree of post-truth and populism in Vernunftkraft’s claims is also beyond the scope of this thesis. Highlighting claims based on objective truth and revealing whether the statements and grievances against wind energy and the Energiewende are legitimate or not is a good starting point and in line with the attempts of scholars like Moning (2019). They have begun by comparing the deaths of certain bird populations as caused by wind farms with other factors like lifestyles or buildings. This

is urgently needed, as both, the far-right party AfD and the climate-change denialist think tank EIKE have been linked to the Vernunftkraft. The former, AfD, thereby articulates intentions to heavily mobilize against Energiewende at next year's national election and thus endangers existing sustainability efforts in Germany (Radtke et al., 2019; Selk et al., 2019).

Last, a limitation of this thesis is in equipping a social agent with arguments for a more inclusive Energiewende due to time and scope restrictions. Hence, future research is left with the task to offer an alternative, progressive ideology that can represent the local grievances whilst being more sustainable than Vernunftkraft's current high-level ideology.

## **6.5 Concluding Words**

The socio-political approach of my work begun with the objective to highlight the contentious character of Energiewende to practically and conceptually improve future sustainability transitions. Accordingly, I devoted my scope and efforts to the case of Vernunftkraft to dismantle some of the underlying grievances and ideologies that opponents against wind energy withhold in the German context. I showed that grievances are locally highly divergent and complex and can lead to higher-level ideologies that are incompatible with contemporary and even more with highly drastic sustainability interventions. To improve future sustainability transitions designs and avoid additional backlashes by conservative movements in the contemporary era of disruption, it is of undeniable importance to reflect on the inherent shortcomings of sustainability transition and deconstruct (local) critics and alternative input in balancing environmental, economic and social trade-offs. A promising and novel approach to do so are social movement studies as those can reveal perceived injustices and counter-hegemonic ideologies of civil society actors across scales.

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### Appendix 1: The Three Pillars of Energy Justice

Since social movements center their claims around injustices, the following section outlines the concept of energy justice as employed in the background section to make sense of the divergent local grievances. Energy justice in this regard differentiates between participatory, redistributive and recognitive dimensions of justice. It is accordingly understood as an analytical tool to identify “how we make [the Energiewende] transition, and more specifically who gets to make it, and who has to pay for it” (Sovacool & Dworkin, 2015, p. 437). Hence, it highlights how different protesters conceptualize energy justice, what they value, which grievances they withhold, and how they problematize the Energiewende (Sovacool & Brown, 2015; Fuller & McCauley, 2016).

Beginning with the former, participatory justice covers the procedural aspect of energy transitions. It is concerned with the involvement and representation of different stakeholders in the decision-making process of transitions and beyond (Fuller & McCauley, 2016). In this regard, it is the transparent and inclusive procedure that aims to include all stakeholders that matter (Mundaca et al., 2018). Redistributive justice on the other hand tackles the division of costs and benefits amongst affected groups. Incorporating both, the material, economic aspect of justice and the allocation of responsibilities (Jenkins et al., 2016), it advocates for an even distribution of the good and bad across scales in terms of energy production and consumption. Last, recognition as a justice principle serves to fairly represent every stakeholder with equal political rights (Jenkins et al., 2016). Accordingly, it embraces the notion to include the political and cultural marginalized and vulnerable (Fuller & McCauley, 2016) and is inspired by Nancy Fraser (1999, 2014). It seeks to highlight processes of “disrespect, stigmatization and othering” (Jenkins, Sovacool & McCauley, 2018, p. 68). The NIMBY-syndrome as ascribed to opponents by some falls under such a category (Jenkins et al., 2016; Burningham, Barnett & Walker, 2015).

In a nutshell, the following table by Jenkins et al. (2016) summarizes the three pillars of energy justice and its related questions. It serves as a tool to cluster the arguments made by local citizens initiatives and Vernunftkraft.

**Table 6.** The evaluative and normative contributions of energy justice (Jenkins et al., 2016).

Tenets	Evaluative	Normative
Distributional	Where are the injustices?	How should we solve them?
Recognition	Who is ignored?	How should we recognize?
Procedural	Is there fair process?	Which new processes?

## Appendix 2: Summary of Vernunftkraft’s Position in its Roadmap

**Table 7.** Overview over the problem description of the current German energy transition by Vernunftkraft in their roadmap.

Claim	Reasoning [all translated]
Economic burdens and debts	<p>“the general public pays for “scrap electricity”, which is even gifted still too expensive and therefore has to be disposed of abroad”</p> <p>“... repeated criticism from the Federal Audit Office speaks a devastating verdict on this energy transition, but this is simply ignored by the Federal Government”</p>
Environmental degradation and contribution to climate change	<p>“these plants are meaningless for the promised climate protection”</p> <p>“approx. 1.5 ha of forest are sealed per system (including access roads)”</p> <p>“whole species of birds are threatened with extinction”</p> <p>“ecological consequences are hardly been scientifically tested”</p>
Social and health aspects	<p>“Wind turbines are often far too close to residential buildings and many people already suffer health problems from the existing 30,000 systems”</p>
Technical concerns with regards to feasibility, stability and disposal	<p>“... 30,000 plants that are more crowded than anywhere else in the world, contribute just 2.8 percent to our energy supply”</p> <p>“the wind power is increasingly endangering the stability of the grid and the warnings of the Federal Office for Disaster Protection (blackout) show that it cannot continue like this”</p> <p>“Disposal problems, especially with CFRP, have not been solved, - no TÜV tests take place”</p>
Lobbyism/ propaganda by wind energy industry and politics	<p>“Federal wind energy association may stop spreading false information regarding the dismantling obligations.”</p> <p>“... the citizens experience a false participation as well as fear planning by the municipalities when designating new wind concentration zones”</p> <p>“the citizens are provided with government-subsidized information of dubious quality”</p>

### Appendix 3: Summary of Ziegler’s Position in a YouTube Interview

**Table 8.** Overview over the problem description of the current German energy transition by Dr. Ziegler in an interview on 09.06.2017 in Berlin with Tobias Seydler after an event at ‘Freie Wahlgemeinschaft Trendelburg’.

Theme	Reasoning [all translated]
Economic loss and EEG design	<p>“In this case, the overall economic calculation is negative.”</p> <p>“So actually every or almost every investment is better than the one that is now called EEG, that is clear.”</p>
Assumed environmental contribution	<p>“They have the wrong feeling that they have made a good contribution to the development of the world and that is why [option ]A has a certain charm for many.”</p>
Social concerns	N/A
Technical feasibility	<p>“... [Comparing utopiates of nuclear energy 50 years ago with current wind energy proponents] that their ideas were in accordance with the laws of physics, it wasn't entirely absurd what they were going to do.”</p>
Lobbyism/ propaganda by investors	<p>“... they are on the wrong steamer [German saying] or are making money from this illusion.”</p>

## Appendix 4: Summary of Vernunftkraft’s Position in its Compendium

**Table 9.** Overview over the environmental problem description of the current German energy transition by Vernunftkraft in their compendium.

Claim	Reasoning [all translated]
No progress in CO2 emissions	“And so carbon dioxide emissions in Germany have been rising since 2009, even though well over a hundred billion euros have been spent on the expansion of solar and wind energy over the same period.”
Biodiversity loss and species conservation	“Instead of delivering the promised protection of the climate, current energy policy is causing a biodiversity disaster. The protection of nature and wildlife is suffering, and populations of endangered wild animals have been decimated.”
Negative effects on landscape	“At least one hectare of forest is cleared per wind turbine and is thus permanently destroyed.”  “Their technical over-embossing leads to the loss of natural landscape proportions and of size and width, to horizon “pollution” and deformation of exposed terrain structures.”
Global scale of climate change diminishes national actions	“No matter what policy is pursued in Germany, this share will fall to well below 2% by 2030, because growth in China and India alone will exceed our total CO2 emissions.”

**Table 10.** Overview over the economic problem description of the current German energy transition by Vernunftkraft in their compendium.

Claim	Reasoning [all translated]
Costly transition	“the financial obligations undertaken in the process will continue to burden taxpayers for another two decades and will end up costing German consumers a total sum of around 550 billion euros.”
Economic risks for prosperity and growth due to political interventions in the market	<p>“renewables are being given perverse economic incentives, giving rise to undesirable developments that pose considerable risks to economic growth and prosperity in Germany.”</p> <p>“The Energiewende has caused visible damage in the energy sector: around € 100 billion of capital was destroyed at EON and RWE alone.”</p> <p>“It is not the discovery of the best idea, but the funding decisions, determined by lobbyists and bureaucrats, that determines which technology is used and which (perhaps ingenious) plans remain in the drawer.”</p> <p>“there appear to be economies of scale in power generation, which therefore has an inherent tendency towards a natural monopoly. It is the task of regulators to ensure that producers do not abuse their market power. By trying to impose not only a certain market structure but also certain groups of actors against economic forces, the EEG policy undermines competition.”</p>
Employment is no progress	“Promoting employment figures cannot be a meaningful goal of energy policy. If it is, then power should be generated with rowing machines, treadmills and exercise bikes.”
Advantages for wind energy investors	“Wind turbines are a licence to print money, provided that the EEG remains in force.”
Economic costs for others	“in addition to the loss of quality of life, the devaluation of private homes, which often amounts to an attack on old-age provision, and the undermining of business models based on tourism/landscape enjoyment are worthy of mention.”
Economic inequality	<p>“As a result of the rapid expansion of ‘renewable energies’, electricity prices have risen steadily and further cost increases are inevitable. Germany as a desirable location for business is suffering. The social imbalance is getting worse and worse. There is a locational disadvantage for the manufacturing industry. At the same time, the redistribution from ‘bottom’ to ‘top’ is continuously increasing.”</p> <p>“Consumers pay for the costs of maintaining two parallel generation systems with a sharp increase in the number of emergency interventions via EEG contributions and network charges.”</p>

**Table 11.** Overview over the technical problem description of the current German energy transition by Vernunftkraft in their compendium.

Claim	Reasoning [all translated]
Neglect of other aspects of the energy transitions	“The Energiewende was only driven forward in the electricity sector, which, accounts for only one-fifth of energy consumption. There were hardly any successes in the heating/cooling and transport sectors.”
Energy stability risk	<p>“Despite this enormous effort, security of supply is increasingly under threat.”</p> <p>“If no wind blows, almost all turbines are affected. The same applies to photovoltaics at night or on dark, cloudy winter days.”</p> <p>“Anyone who studies the feed-in characteristics of electricity generation from wind power and PV systems thoroughly must realize that sun and wind usually supply either far too little or far too much - and that one can- not rely on anything but chance.”</p>
Legal violations	“the measures for the energy transition seem to become more and more questionable from a constitutional point of view.”
European dependency	<p>„if too much electricity is produced in Germany, most of our neighbours will be over-producing too.“</p> <p>“In the end, the EU-wide fixed quota of certificates alone determines how much CO2 is emitted in Europe”</p>
Lack of energy storage options	“No, Mrs. Weiss – electricity storage facilities are not in sight or unaffordable.”
Limits to up-scaling / efficiency	The idea of meeting our country's energy needs with wind power and solar energy has proven to be an illusion. At present, around 29,000 wind turbines and 1.6 million photovoltaic systems together account for just 3.1 % of our energy requirements. Although their share of electricity is higher, their direct and systemic costs are gigantic.”
Technical Risks	“The carbon fiber-reinforced plastics (CFRP) used in wind turbine blades carry a potential risk comparable to that of asbestos.”

**Table 12.** Overview over the social and health problem description of the current German energy transition by Vernunftkraft in their compendium.

<b>Claim</b>	<b>Reasoning [all translated]</b>
Urban-rural divide	“Dramas are taking place in the countryside that remain hidden from the Energiewende enthusiasts, most of whom live in the cities.”
Unemployment in other sectors	However, a gross employment effect does not mean that the Energiewende creates jobs overall. Jobs are being lost in the sectors from which purchasing power is removed.”
Acceptance-driven instead of efficiency-driven	“By courting the alleged ‘pioneers of the energy transition’ and forcing wide participation in the energy supply market - i.e. ultimately not leaving production to those who can do it in the cheapest and best way, but to a politically determined collective - politicians hope for ‘acceptance’.”
Tensions in communities	“Social togetherness - meaningful for many and a motive for choosing a place to live - is systematically undermined by the incentive system of the EEG.”
Health risks	“In areas afflicted by wind farms, the nights are disturbed by permanent or temporary flashing lights and moving shadows. And all the time, they have to suffer the impact of noise pollution; not only audible noise, but also in- audible infrasound, which is an important effects of Energiewende, robbing people in the vicinity of their quality of life and potentially causing illness as well.”



## Appendix 5: Vernunftkraft Initiatives on the Local and Regional Level

**Table 13.** Overview over Vernunftkraft-related local and regional initiatives based on the interactive map on Vernunftkraft's website (Vernunftkraft, 2020c).

No.	Name	Scale	State	Central Claim	No.	Name	Scale	State	Central Claim
1	Windkraftgegner Gersbach	Local	Baden-Württemberg	Against wind energy location	92	B.J. Wind-Wahn Villmar/Runke	Local	Hessen	Against wind energy location
2	Verein für Mensch und Natur Ketten	Local	Baden-Württemberg	N.A.	93	Ausblick Elberrod	Local	Hessen	Against wind energy location
3	Verein für Landschaftspflege und Art	Local	Baden-Württemberg	Against renewables	94	Aktion 288	Local	Hessen	Against wind energy location
4	Unser Schaulinsland	Local	Baden-Württemberg	Against wind energy location	95	N.A.	Local	Mecklenburg-Vorpommern	
5	Runder Tisch Windkraft Freilohheim	Local	Baden-Württemberg	Against wind energy location	96	Interessengemeinschaft Gemeinsam	Local	Mecklenburg-Vorpommern	Against wind energy location
6	Pro Natur Raum	Local	Baden-Württemberg	Against wind energy location	97	Gegenwind Behrenhoff	Local	Mecklenburg-Vorpommern	Against wind policy
7	Pro Limpurger Berge	Local	Baden-Württemberg	Against renewables	98	Freier Horizont	Regional	Mecklenburg-Vorpommern	Against wind policy
8	Pro Bergdörfer	Local	Baden-Württemberg	Against wind energy location	99	Freie Friedländer Wiese	Local	Mecklenburg-Vorpommern	Against wind energy location
9	Natürlich für's Allgäu	Local	Baden-Württemberg	Against wind energy location	100	Bobitz an Pegel	Local	Mecklenburg-Vorpommern	Against wind energy location
10	N.A.	Local	Baden-Württemberg		101	Bi Region Sulstorfer	Local	Mecklenburg-Vorpommern	N.A.
11	N.A.	Local	Baden-Württemberg		102	Bi Region Stäbelow e.V.	Local	Mecklenburg-Vorpommern	N.A.
12	N.A.	Local	Baden-Württemberg		103	Windkraftgegner Elm	Local	Niedersachsen	N.A.
13	N.A.	Local	Baden-Württemberg		104	Vernunftkraft Niedersachsen	Regional	Niedersachsen	Against renewables
14	N.A.	Local	Baden-Württemberg		105	Schutzgemeinschaft Harthäuser Wald	Local	Niedersachsen	N.A.
15	N.A.	Local	Baden-Württemberg		106	NAEB	Local	Niedersachsen	Against renewables
16	N.A.	Local	Baden-Württemberg		107	N.A.	Local	Niedersachsen	
17	N.A.	Local	Baden-Württemberg		108	N.A.	Local	Niedersachsen	
18	N.A.	Local	Baden-Württemberg		109	N.A.	Local	Niedersachsen	
19	N.A.	Local	Baden-Württemberg		110	N.A.	Local	Niedersachsen	
20	N.A.	Local	Baden-Württemberg		111	N.A.	Local	Niedersachsen	
21	N.A.	Local	Baden-Württemberg		112	N.A.	Local	Niedersachsen	
22	N.A.	Local	Baden-Württemberg		113	N.A.	Local	Niedersachsen	
23	Mensch Natur Baden-Württemberg	Regional	Baden-Württemberg	Against wind, solar	114	Monstertrassen	Local	Niedersachsen	N.A.
24	Landschaftsschützer Oberschwaben	Local	Baden-Württemberg	Against wind policy	115	Gegenwind Extertal Rinteln	Local	Niedersachsen	N.A.
25	Geisinger Gegenwind	Local	Baden-Württemberg	Against wind policy	116	Gegenwind am Hogenset	Local	Niedersachsen	Against wind policy
26	Gegenwind Waldenburg	Local	Baden-Württemberg	Against wind energy location	117	Bi Windpark Lange Heide	Local	Niedersachsen	Against wind energy location
27	Gegenwind Stuhlingen	Local	Baden-Württemberg	Against wind policy	118	Bi Windanlagen Wochenswerder	Local	Niedersachsen	Against wind energy location
28	Gegenwind Straußenhardt	Local	Baden-Württemberg	Against wind policy	119	Bi Oberweser-Bramwald	Local	Niedersachsen	N.A.
29	Gegenwind Pfrontetten	Local	Baden-Württemberg	Against wind, solar	120	Bi Landschaftsschutz Aller-Oker-Aue	Local	Niedersachsen	Against climate change
30	Gegenwind Kraichgau	Local	Baden-Württemberg	Against wind energy location	121	Bi Keine Windkraft im Emmertal	Local	Niedersachsen	Against wind policy
31	Gegenwind Hohenzollern	Local	Baden-Württemberg	N.A.	122	Bi Gegenwind Elm-Asse	Local	Niedersachsen	N.A.
32	Bürgermeinung Windkraft Aichtette	Local	Baden-Württemberg	Against wind energy location	123	Bi gegen Windparks in Lohorst/Rothe	Local	Niedersachsen	N.A.
33	Blitzer Bi - Windkraft	Local	Baden-Württemberg	Against wind energy location	124	Windkraft Riesenbeck	Local	Nordrhein-Westfalen	Against wind energy location
34	Bi Würzbach	Local	Baden-Württemberg	Against wind policy	125	Windkraft mit Vernunft Greven	Local	Nordrhein-Westfalen	N.A.
35	Bi Windkraft Mittleres Jagsttal	Local	Baden-Württemberg	Against wind energy location	126	Windkraft mit Abstand	Local	Nordrhein-Westfalen	Against wind energy location
36	Bi Staufferland	Local	Baden-Württemberg	Against wind policy	127	Windflut Elpe	Local	Nordrhein-Westfalen	Against renewables
37	Bi Pro Aichwald	Local	Baden-Württemberg	Against wind energy location	128	Vernunftwende	Regional	Nordrhein-Westfalen	Against wind policy
38	Bi Gegenwind indelbachtal	Local	Baden-Württemberg	Against wind energy location	129	Vernunftkraft Vreden	Local	Nordrhein-Westfalen	N.A.
39	Aktion Lebenswertes Esslingen	Local	Baden-Württemberg	Against wind energy location	130	Rettet den Schnee	Local	Nordrhein-Westfalen	N.A.
40	Abstand zur Windkraft Büchenbronn	Local	Baden-Württemberg	Against wind energy location	131	Regional-Bündnis-Windvernunft	Regional	Nordrhein-Westfalen	Against wind policy
41	Vernunftkraft Bayern	Regional	Bayern	N.A.	132	N.A.	Local	Nordrhein-Westfalen	
42	NedMeidaham	Local	Bayern	Against wind energy location	133	N.A.	Local	Nordrhein-Westfalen	
43	VLAB	Regional	Bayern	Against wind policy	134	N.A.	Local	Nordrhein-Westfalen	
44	N.A.	Local	Bayern		135	N.A.	Local	Nordrhein-Westfalen	
45	N.A.	Local	Bayern		136	N.A.	Local	Nordrhein-Westfalen	
46	N.A.	Local	Bayern		137	N.A.	Local	Nordrhein-Westfalen	
47	N.A.	Local	Bayern		138	N.A.	Local	Nordrhein-Westfalen	
48	N.A.	Local	Bayern		139	N.A.	Local	Nordrhein-Westfalen	
49	Gegenwind Gramhof	Local	Bayern	Against wind energy location	140	N.A.	Local	Nordrhein-Westfalen	
50	Bi Windkraftfreie Himat - Hessenreut	Local	Bayern	Against wind policy	141	N.A.	Local	Nordrhein-Westfalen	
51	Bi Vogelherd	Local	Bayern	Against wind energy location	142	Gegenwind Havixbeck & Hohenholte	Local	Nordrhein-Westfalen	Against wind energy location
52	Bi Dettelbach	Local	Bayern	Against wind energy location	143	Gegenwind Hagen	Local	Nordrhein-Westfalen	Against wind energy location
53	Betroffene des Windparks Sonnenfeld	Local	Bayern	N.A.	144	Gegenwind Borchon	Local	Nordrhein-Westfalen	Against wind energy location
54	Waldkiebleblatt - Natürliche Zauche	Local	Brandenburg	Against wind policy	145	Fronhoven	Local	Nordrhein-Westfalen	Against wind energy location
55	Vi Rettet Brandenburg	Regional	Brandenburg	Against wind policy	146	Bi Windvernunft in Bad Wünnenberg	Local	Nordrhein-Westfalen	Against wind energy location
56	N.A.	Local	Brandenburg		147	Bi Saalhauser-Berge	Local	Nordrhein-Westfalen	N.A.
57	N.A.	Local	Brandenburg		148	Bi Rehringhauser Berge	Local	Nordrhein-Westfalen	Against wind policy
58	N.A.	Local	Brandenburg		149	Bi Hoher Berg	Local	Nordrhein-Westfalen	Against wind energy location
59	Gegenwind Prignitz-Ostprignitz	Local	Brandenburg	Against wind policy	150	Bi Gegenwind Pro Mensch und Natur	Local	Nordrhein-Westfalen	N.A.
60	Gegenwind Maniker	Local	Brandenburg	Against wind energy location	151	Bi Besorgte Aistatter	Local	Nordrhein-Westfalen	Against wind energy location
61	Freier Wald	Local	Brandenburg	N.A.	152	Windwahn Bostalsee	Local	Rheinland-Pfalz	N.A.
62	Bi Mixdorf	Local	Brandenburg	Against wind energy location	153	Wandern gegen den Wind	Local	Rheinland-Pfalz	Against wind energy location
63	WindVeto Waldeck Frankberg	Local	Hessen		154	Sturm im Wald	Local	Rheinland-Pfalz	Against wind energy location
64	Windstille Neuhof	Local	Hessen	Against wind energy location	155	Naturpark statt Windpark Stephansh	Local	Rheinland-Pfalz	Against wind energy location
65	Pro Rheinhardswald	Local	Hessen	Against wind energy location	156	N.A.	Local	Rheinland-Pfalz	
66	Pro Märchenland	Local	Hessen	N.A.	157	N.A.	Local	Rheinland-Pfalz	
67	N.A.	Local	Hessen		158	N.A.	Local	Rheinland-Pfalz	
68	N.A.	Local	Hessen		159	Gernug ist genug	Local	Rheinland-Pfalz	Against wind energy location
69	N.A.	Local	Hessen		160	Energie Mensch Natur	Regional	Rheinland-Pfalz	Against wind policy
70	N.A.	Local	Hessen		161	Deutsche Schutz-Gemeinschaft Schall	Local	Rheinland-Pfalz	Against wind policy
71	N.A.	Local	Hessen		162	Bi Niederwallmenach und Umgebung	Local	Rheinland-Pfalz	Against wind policy
72	N.A.	Local	Hessen		163	Bi Einrich	Local	Rheinland-Pfalz	Against wind policy
73	Kein Windrad im Wald	Local	Hessen		164	7 Wege Gegenwind	Local	Rheinland-Pfalz	N.A.
74	Initiative Mensch und Natur in der N	Local	Hessen	Against wind policy	165	Windpark Primsbogen	Local	Saarland	Against wind energy location
75	Initiative gegen Windkraft "im Stenge	Local	Hessen	N.A.	166	Naturschutzverein Schmollenberg	Local	Saarland	N.A.
76	IG Wind	Local	Hessen	N.A.	167	N.A.	Local	Saarland	
77	IG Roldorf	Local	Hessen	Against wind policy	168	Lebensenergie Riegelsberg	Local	Saarland	Against wind policy
78	Gegenwind Weinheim	Local	Hessen	Against wind energy location	169	Gegenwind Saarland	Regional	Saarland	Against renewables
79	Gegenwind Vogelsberg	Local	Hessen	Against wind policy	170	Froher Wald - Für Mensch und Natur	Local	Saarland	Against wind energy location
80	Gegenwind Odenwald	Local	Hessen	N.A.	171	Sachsen Gegenwind	Regional	Sachsen	Against wind energy location
81	Gegenwind im Taunus	Local	Hessen	N.A.	172	Bi Hoher Brand	Local	Sachsen	N.A.
82	Gegenwind Bad-Orb	Local	Hessen	Against wind policy	173	Bi Pro Jeetzetal	Local	Sachsen-Anhalt	Against wind policy
83	Bündnis Winterberg	Local	Hessen	Against wind energy location	174	Windwahnpark	Local	Schleswig-Holstein	Against wind energy location
84	Bi Weickartshainer	Local	Hessen	Against wind energy location	175	Windwahn	National	Schleswig-Holstein	Against wind policy
85	Bi ProWald Niedernhausen	Local	Hessen	Against wind energy location	176	Windvernunft Kiel	Local	Schleswig-Holstein	Against wind policy
86	Bi Kaufunger Wald	Local	Hessen	Against renewables	177	Vernunftkraft Schleswig Holstein	Regional	Schleswig-Holstein	Against wind policy
87	Bi Holzhausen / Hünstein	Local	Hessen	Against wind energy location	178	N.A.	Local	Schleswig-Holstein	
88	Bi Gegenwind Siedelsbrunn	Local	Hessen	Against wind energy location	179	N.A.	Local	Schleswig-Holstein	
89	Bi Diemelsee	Local	Hessen	Against wind energy location	180	Gegenwind Aukrug	Local	Schleswig-Holstein	Against wind energy location
90	Bi Braunfels	Local	Hessen	Against wind energy location	181	Frischer Gegenwind	Local	Schleswig-Holstein	Against wind energy location
91	Bi Aufewacht	Local	Hessen	Against wind policy					

**Table 14.** Overview over arguments of Vernunftkraft-related local and regional initiatives.

Theme	Number	Percentage	Examples [all translated]
Intrusion of space and landscape change	98	87.5%	“Wind turbines only if the distance to the residents is ‘right’”
Nature and species conservation	93	83.0%	“Power plants do not belong in our forests.”
Human health threats	81	72.3%	“For appropriate and health-friendly distance regulations”
Economic costs for locals	53	47.3%	“We entrepreneurs from Beuren fear that the construction of wind turbines on Beurener Berg will have significant disadvantages for our location”
Profit orientation	38	33.9%	“Economic interests of the company Jost”
Identity clash and loss of homeland	36	32.1%	“Against wind turbines in natural and cultural landscapes”
Lack of participation	18	16.1%	“Determination of wind turbine priority zones only at the municipal level”
Not available	18	16.1%	N.A.
<b>Total</b>	<b>130</b>	<b>100%</b>	

**Table 15.** Overview over arguments of Vernunftkraft-related local and regional initiatives.

Theme	Distr.	Main Argument	No.	Perc.	Examples [all translated]
Against specific wind energy locations	58 out of 130 (44.6%)	Distance to residencies	33	56.9%	"Wind power yes - but the distance has to be right."
		Location in forests or nature parks	10	17.2%	"Against wind turbines in natural and cultural landscapes"
		National/regional distribution of wind farms	5	8.6%	"We have already made our contribution to the Energiewende"
		Lack of right of co-determination	4	6.9%	"for the right of everyone concerned to have a say!"
		Technical concerns of wind yield	4	6.9%	"Consideration of the technical realities (network capacities, lack of storage options, geographical differences between supply and demand regions etc.)"
		Not identifiable	18	3.4%	N.A.
Against German wind policy	32 out of 130 (24.6%)	Abandon EEG, pro competition	17	53.1%	"Immediate abolition of the unjustified subsidization of "alternative" energies by the EEG."
		Reform EEG due to profit orientation of investors	7	21.9%	"Thoroughly revise the EEG, cut down green electricity subsidies"
		Stop wind energy expansion, focus on R&D	4	12.5%	"The action alliance" Gegenwind Prignitz-Ostprignitz "demands an immediate nationwide expansion stop (moratorium) of wind energy plants."
		Not identifiable	4	12.5%	N.A.
Against renewable energy	9 out of 130 (6.9%)	Pro gas, against solar, wind and other renewable energy sources	7	77.8%	"When industry has left Germany, nobody in Germany has to worry about the world rescue in 2117 or the end of the coal and gas era. Isn't the future of your direct descendants more important to you than that of people in future centuries?"
		Against wind and solar energy	2	22.8%	"Renewable energies (RE) are only available sporadically and for a limited time and are not secure against base loads."
Against climate change	1 out of 130 (0.8%)	Humanity is not responsible for climate change	1	100%	"Humans only are responsible for around three percent of global CO2 emissions"
N.A.	30 out of 130 (23.1%)	Not identifiable	N.A.	N.A.	N.A.
<b>Total</b>	<b>100%</b>		<b>130</b>		