

ENVIRONMENTAL JUSTICE AND FOSSIL
FUEL INFRASTRUCTURE:
Local Resistance to the Construction of an
LNG Terminal off Rügen

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***ENVIRONMENTAL JUSTICE AND FOSSIL FUEL
INFRASTRUCTURE:***

***Local Resistance to the Construction of an LNG
Terminal off Rügen***

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2025

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Abstract

What does justice imply – and for whom? This question is relevant with regard to various topics and needs to be considered, for example in the context of the environment. The concept of environmental justice (EJ) provides an approach to answering this question. In the context of this thesis, EJ is therefore applied to a specific case, the construction of a liquefied natural gas (LNG) terminal. The focus on the expansion of this fossil fuel infrastructure is a fairly new phenomenon in Germany, as is the protest against it. Similarly new is the qualitative, scientific examination of local struggles in the German research landscape with regard to LNG. In order to expand this state of research and analyze the new energy policy developments and their local implications, the following paper asks to what extent the three dimensions of EJ - distributive, recognition and procedural justice - are reflected in the motives and arguments of the opponents of the LNG terminal off Rügen. Through interviews with opponents of the LNG terminal, the qualitative research design enabled a detailed examination of the predominant motives of EJ in the context of the construction of fossil infrastructure. Local and external groups, as well as non-human entities, are mentioned in the motives for distributional injustices. In addition, complex procedural injustices in the context of the approval process or the dialogue formats between politics and the population were addressed. There was some recognition of certain local groups, but other non-local groups were given less consideration, similar to various local demands or scientific findings.

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1. Introduction

"We are living through a watershed era" (Bundesregierung, 2022) – these were the words of German chancellor Olaf Scholz on 27 February 2022 in his government statement following Russia's war of aggression against Ukraine, which violated international law. This frequently referenced turning point, or *Zeitenwende* in German, in hindsight brought about many changes and is, in part, the origin of the topic discussed here. It is based on the shifting political orientation of energy production in Germany. The energy transition has been talked about and acted upon for years. Coal mining areas are being restructured on a large scale with various consequences for employees and the local population. The advancing climate change leaves no other option than to turn away from fossil fuels and towards renewable energy sources. The design of this change can be varied, as can the resulting benefits and injustices.

This work on environmental justice (EJ) is located in this field of tension between the *Zeitenwende* and energy transition. The case of the liquefied natural gas (LNG) terminal off Rügen serves to contextualize environmental justice (EJ) in relation to the construction of fossil fuel infrastructure. The concept of EJ can help analyze socio-ecological transformation processes, such as the current energy transition. The accompanying changes impact human-environment relationships and raise various issues of justice, which can be systematically examined and illustrated using the EJ framework. However, research on this topic is still underdeveloped, particularly in Germany (Klepp/Hein, 2023). Additionally, with regard to energy production and justice, there is a lack of research on the local implications of fossil fuel infrastructure (Rasch/Köhne, 2017). The connection between EJ and energy science has hardly been considered in tandem and the relevant work of environmental justice movements (EJMs) and local communities in particular has so far received minimal consideration (Partridge, 2022). The examination of the specific case of the LNG terminal off the coast of Rügen is also of interest, as it constitutes midstream infrastructure, positioned between production and energy consumption. Such energy infrastructure and the resulting social conflicts have so far received little academic attention (Finley-Brook et al., 2018). The analysis of LNG infrastructure in Germany is particularly relevant at this point in time, as its expansion has only been pursued with political urgency since 2022. In addition to the completed LNG projects, further plans are underway (von Hirschhausen et al., 2024). Therefore, midstream LNG infrastructure is a largely new phenomenon, especially in Germany, which could give rise to further comparable conflicts in the future.

In order to better understand this new phenomenon in the context of EJ using the example of the LNG terminal off Rügen, the following research question is posed in this paper: To what extent are the three dimensions of EJ - distributive, procedural and recognition justice - reflected in the motives and arguments of the opponents of the LNG terminal off Rügen? This involves scrutinizing three individual dimensions:

1. Where are the injustices (distributive justice)?
2. Is there a fair process (procedural justice)?
3. Who is ignored (recognition justice)?

These questions are based on Jenkins et al. (2016) evaluative questions in the context of energy justice and are intended to supplement the actual consideration of EJ with the thematically appropriate dimension of energy. Since the theory of energy justice has emerged from the framework of EJ and both share a three-dimensional perspective, the integration of these two theoretical strands seems sensible. This will be further demonstrated later in this work through a discussion of the scientific history.

Nevertheless, this work, similar to that of Hilder and Hein (2023), does not aim to analyze theories of justice. Rather, the concept of EJ and its three dimensions serve as a heuristic for the investigation, classification, and categorization of the dispute surrounding the LNG terminal off Rügen. In general, this work is broadly situated within the field of political ecology.

Qualitative data from guided interviews conducted in November 2023 will be used. The interviewees are opponents of the LNG terminal off Rügen who are involved in the local protest. These interviews support the aim of identifying the interviewees' subjective impressions and perceptions of justice. As with Baasch (2023), justice is defined as something subjective and not seen as an objectifiable state.

In the following chapters, the theoretical basis of EJ is first explained with regard to its definition, research history and theoretical dimensions. This is supplemented by new and critical observations of the classical theory and research on EJ in Germany. Based on the case-specific analysis of the LNG terminal, the topic of energy will be examined in terms of justice aspects, focusing specifically on recent research into energy justice as well as transformation processes and conflicts related to energy infrastructure. Following this theoretical foundation, the case study describes the background of the current case of the LNG terminal, as well as the corresponding protest and the stakeholders involved. This understanding is important in order to contextualize and understand the results. In the description of the chosen methods, the concrete procedure of this research is described. This is followed by a presentation of the results obtained in the three-dimensional structure of the dimensions of EJ as defined by the research question. The discussion is also structured in this way and takes a closer look at the results and their significance in the context of the research question. A critical evaluation of the work will also be provided. In the final chapter, the research question will be answered, the findings will be summarized, and suggestions for future research will be given.

2. Theory: Environment, energy and justice

The theoretical basis of this thesis is primarily based on the theory of EJ. It is therefore examined in the following chapter. Furthermore, the topic is considered in the context of

energy in order to create a concrete and customized theoretical basis for the subsequent processing of the research question.

2.1. Environmental justice

For a better understanding of EJ, this first theoretical section provides an introductory description of the concept and its development. The EJM plays an important role in the history of the academic debate on EJ, which is why its influences will become apparent below. However, a detailed discussion of the movement will be omitted at this point, as this work relates more to the concept of EJ than to its movement. On the other hand, the three main dimensions of EJ are discussed, and gaps and potential solutions for these are identified by expanding the concept. Finally, EJ is considered in the German context within which the outlined case of this thesis takes place.

2.1.1. Environment and justice

The composition of the word EJ already anticipates its two constructing concepts. One is about justice and the other is about the environment. These are two theories that in themselves constitute scientific disciplines in their own right. In the literature on EJ, particular attention is also paid to the theory of justice. The doctrine of justice goes back over two thousand years to Plato and Aristotle and is dealt with by religions, philosophies and legislation. Sovacool and Dworkin (2015) see a commonality in concepts of justice in the fact that the focus is on what justice does and not what it is. For example, it combines an overarching framework of values of an entity with individual wishes. Furthermore, justice creates the framework to resolve conflicts not based on individual desires or to make better decisions with regard to a fairer outcome. Ultimately, justice also promotes the health and well-being of individuals through being fairly treated. They also refer to John Rawls' theories of social justice and the relevance of the distribution of primary goods, which should be organized in a way that a person unaware of his or her social status would distribute them. Nancy Fraser's (2005) input to the debate on justice is also worth mentioning at this point, especially with regard to the expansion of the dimensions of justice (see 2.1.4). In terms of justice in general, she defines it as equal participation. Social structures must be organized in such a way that everyone can participate equally in social life. By breaking down institutionalized barriers, injustices can be overcome. She recognizes that today, questions of justice are substantial in the first instance, for example in terms of economic inequality and distribution. However, second-order meta-questions are also important, such as: "What is the proper frame within which to consider first-order questions of justice? Who are the relevant subjects entitled to a just distribution or reciprocal recognition in the given case?" (72).

The extent to which justice can be defined objectively is questionable. Rather, justice is a matter of subjective perception. There is no one truth, but various subjective forms and therefore also different interpretations of justice, which are influenced by norms and moral

concepts. The focus of the question of justice is therefore on what is assessed as just or unjust by whom and not what is just or unjust (Montada, 2012).

In an interview, Robert Bullard, a relevant figure in the early days of EJ research, addresses the question of what is meant by environment as follows:

“The environmental justice movement has basically redefined what environmentalism is all about. It basically says that the environment is everything: where we live, work, play, go to school, as well as the physical and natural world. And so we can't separate the physical environment from the cultural environment” (Schweizer, 1999, 8)

This understanding has moved away from a historical view of the environment as an externally existing 'wilderness'. This notion has been replaced by the perception of environmental conditions that play a role in people's daily lives (Schlosberg, 2013).

Based on this broad interpretation of justice and the environment, there is no fixed, recurring definition in EJM, politics or literature. Rather, there are diverse, alternative interpretations that are context-dependent but have similar elements. According to Walker, these alternate definitions do not have to be problematic, but can create dialogue and discussion (Walker, 2012). Consequently, it is valuable to develop a mutual understanding of different views of justice (Wenz, 1988, quoted from Schlosberg, 2004).

Especially in EJ practiced by activists in movements, these multiple concepts exist side by side or are combined. Schlosberg (2007) sees value in focusing more academic work on the understanding of EJ by movements. In his work on EJ published in 2007, he also criticizes the then often predominant interpretation of EJ as a purely distributive issue and thus also the aforementioned theory of Rawls and the distribution of primary goods. He calls for a greater focus on the movements and their view of non-human entities and thus ecological justice.

“I am not arguing for a single, all-inclusive, holistic theory of environmental and ecological justice; rather, the point is to expand the discourse of justice, and legitimise the use of a variety of tools and notions as they apply to various cases” (Schlosberg, 2007, 8)

This expanded interpretation of (environmental) justice called for by Schlosberg will be discussed in more detail later on by explaining the resulting three-dimensionality of EJ (see 2.1.3).

In addition to the concept of EJ, the scientific literature also deals with environmental racism and environmental inequality. In the history of EJ, the concept of environmental racism, which describes the disproportionate impact of pollution on racial minorities, is found more frequently, especially in the early days. In terms of the EJM, environmental racism is what is being fought against, EJ is what is being fought for. Environmental inequality, on the other hand, understands several dimensions, such as class or gender and their connection as influencing factors for a disproportionate distribution of environmental influences (Pellow, 2000; Sze/London, 2008).

Walker (2012) emphasizes the relevance of distinguishing between EJ and environmental inequality, particularly with regard to claim-making¹. Environmental inequality, for him, is a descriptive account of an imbalance in something such as health, opportunities, or influence among groups, often existing in a bipolar relationship such as old and young, North and South, or rich and poor. This means that such inequality can be measured and described, though not entirely neutrally.

2.1.2. The history of environmental justice

An understanding of the history of EJ is relevant because it illustrates the constantly adapting dynamics of the discipline and the movement towards time and context (Sze/London, 2008). In the following, the most relevant points of the development of the discipline are discussed. This has been documented in detail by Bryant (2003) and Bullard (1999) (Walker, 2009).

In the first 20 years in particular, the focus is on the US context, focusing on its cases as well as the literature and movements that emerged from them. Accordingly, the Warren County case in 1982, which attracted political and academic attention at the time, is often cited as the original event. Civil society activists were fighting against the disposal of waste contaminated with polychlorinated biphenyls (PCB)² in an area inhabited primarily by African American citizens. The previously active environmental groups, consisting of white middle-class individuals, had not, up to that point, made any connection between environmental risks and the residential areas of People of Color or socio-economically disadvantaged individuals (Mohai et al., 2009). Instead, the EJM emerged from a civil society movement for social justice. The protests of African American communities combined environmentalism and racism in their struggle (Bullard, 2000; Partridge, 2022). The term environmental racism was also first defined in 1982 and in the subsequent years, statistical correlations on this topic were collected for the first time (Mohai et al., 2009). The national study "Toxic Waste and Race in the United State" by the United Church of Christ from 1987 and Robert Bullard's book "Dumping in Dixie" (1990) should be mentioned here. Even before that, in the 1970s, research had already been conducted in the US context on the relationship between income and air pollution (Pellow/Brulle, 2007). This evolving first generation of research on EJ, as it is often referred to in the literature, focusses primarily on the distribution of racial groups and health hazard locations, the underlying patterns and active local movements (Walker, 2009).

This focus on quantitative data and spatial distributions expanded in the 1990s towards more qualitative considerations of a broader field of scientific disciplines (Agyeman et al., 2016). Geographically, the concept of EJ has expanded beyond US borders since the 2000s

¹ Walker (2012) uses this term in his influential work as follows: "This, like framing, is used to emphasise that there are many different ways in which we can try to make sense of, or make claims about, the world around us" (Walker, 2012, 21).

² PCBs are, according to UNEP (n.d.) "toxic, man-made, hazardous organic chemicals that have dangerous effects on the environment and our health."

(Mohai et al., 2009). More topics and reference groups have been considered in the context of the concept of EJ. Simultaneously to the scientific expansion, the movement also globalized. In addition, Schlosberg (2013) sees a change in the previously prioritized consideration of the individual towards a more expansive perspective of the community and the non-human. He brings up the example of climate justice as a case of thematic expansion based on principles of EJ. In general, the understanding of environmental and social issues within EJ continues to expand, both in the US and beyond. It is no longer just a question of the distribution of negative environmental impacts. Considering that the movement demanded more than just these aspects, the theory of EJ is broadened to address issues such as procedural fairness, participation, and access to information. Schlosberg in particular, according to Walker (2009), has done relevant work in adding the dimensions of procedural and recognition justice to the theory. These dimensions, which are now largely established in current research, are described in more detail below.

2.1.3. Dimensions

The three main dimensions that have been identified in the literature from the 2000s onwards are distributive, procedural, and recognition justice. A more detailed examination of these dimensions is the subject of the second generation of academic analyses of EJ (Walker, 2009).

Distributive justice

The already mentioned, initially dominant dimension of EJ is that of distributive justice. In particular, the geographically unjust distribution of environmental 'bads' and 'goods', resulting from unequal structures and power relations, is a factor (Hilder/Hein, 2023). Bell (2004) speaks of three questions that need to be asked with regard to distributive justice. Firstly, it is important to ask who the recipients of EJ are. He speaks of a community of justice. This can, for example, refer to a nation state or even beyond and include future generations. It is also about what is distributed, whether harmful or beneficial. The judgement of what is advantageous or disadvantageous for which groups and when is always context dependent. Ultimately, the question arises as to which principles are used for distribution. These can take different forms and therefore have different effects.

In addition to these direct questions on distribution, Walker (2012) also focuses on vulnerability. Environmental influences have different effects on different people and groups. For example, children, older people, or socio-economically disadvantaged people are often more vulnerable to various risks, such as environmental hazards. In addition, different needs must be taken into account when it comes to distributive justice. People in densely populated areas, for example, especially need access to green spaces and recreational areas. Finally, Walker sees the responsibility for the distribution of environmental hazards as relevant, as well as the questions of polluters and those affected. To summarize, he defines distributive justice as follows: "justice is conceived in terms of

the distribution or sharing out of goods (resources) and bads (harm and risk)" (Walker, 2012, 26).

Recognition Justice

The one-sided emphasis on distributive justice in the early phases of research on EJ was criticized by Young (1990), Fraser (1997; 1998; 2000; 2001) as well as Schlosberg. An extension to include recognition justice was therefore considered relevant. However, distributive justice should not be replaced by recognition justice. Both dimensions are connected, overlap and complement each other (Schlosberg, 2004).

Non-recognition is rooted in devaluation, which arises from cultural and institutional processes that diminish the value of certain people or groups in comparison to others. This occurs in particular on the basis of categories such as gender, race or religion (Walker, 2012). In order to be involved, one must first be respected and recognized (Schlosberg, 2004). It is about being accepted as an equal partner in social interactions (Hilder/Hein, 2023, 223).

In addition to the recognition of persons, the recognition of knowledge or facts plays a relevant role in EJ conflicts. Rasch und Köhne (2017) cite the example of today's scientific and economic discourse and its dominance in discussions. Arguments that are 'unscientific' and are not expressed by the associated groups of people are not recognized. Viewpoints must be neutral, objective and scientifically based in order to have an impact on decision-making processes. To meet this requirement, opponents of the Rhineland lignite mining area in Germany and the related resettlement, for example, have explicitly collaborated with research institutions or included specially commissioned experts and their reports in order to legitimize their own position and gain public recognition, so-called 'evidencing' (Beckmann/Heyer, 2023). Similar to the use of this recognized knowledge, the discussion of it by the protest groups plays a role. In Shervals (2023) research on fracking gas in the UK, for example, opponents were very knowledgeable about the national and international situation regarding fracking gas, its development and planning. They tried to keep an eye on legislative changes and the actions of the regulatory authorities and attended public hearings, for example on the controversial construction projects.

The concept of recognition justice is a pivotal element in the expansion of EJ. On the one hand, future generations can be included in the perspective. On the other hand, the anthropocentric perspective can also be supplemented by the non-human and thus, for example, natural areas can be better included in the framework of EJ. Baasch (2023) sees the central question here as being about justice for whom (or what). Walker (2012) defines it as follows: "justice is conceived in terms of who is given respect and who is and isn't valued" (26).

Procedural justice

Recognition justice is very closely linked to the third dimension - procedural justice - which is ultimately also the prerequisite for distributive justice. Schlosberg summarizes this

dependency clearly: "If you are not recognised, you do not participate; if you do not participate, you are not recognised" (Schlosberg, 2004, 26). A fair process is also helpful to enable fair distribution (Hess et al., 2022). It is evident that procedural justice therefore includes participation. Baasch (2023) understands this to mean the participation of actors or groups of actors in processes of planning or opinion-forming as well as participation in the development of solutions.

Procedural justice can be defined as follows: "justice is conceived in terms of the ways in which decisions are made, who is involved and has influence" (Walker, 2012, 26). Baasch (2023) differentiates between three categories of participation:

1. Formal: legally required participation (e.g. in authorization procedures)
2. Informal: non-binding procedures with room for maneuver, usually as part of environmental or climate planning processes to create acceptance
3. unconventional: self-empowering actions such as street blockades or graffiti (e.g. protest actions, civil disobedience)

The focus of procedural justice is primarily on the actions of governments and legislation. In neoliberal systems, the role of non-state actors such as the private sector is also important (Walker, 2012).

According to Walker (2012), procedural justice has several dimensions. On the one hand, there is access to environmental information. Furthermore, the question arises of who can participate and who has the resources and respect to do so, which is strongly linked to recognition justice. An open participation process does not mean that all affected people and groups are recognized (Shervall, 2023). In addition, access to legal means is relevant when it comes to challenging decisions. Finally, the involvement of the population in science should be mentioned, as this allows them to participate in the development of environmental knowledge (Walker, 2012). If processes are designed exclusively, with obstacles to participation, for example through inappropriate locations or times, the procedural equity defined by Bullard is not fulfilled (Bullard, 1994).

As has already become clear, there are various overlaps and interdependencies between the three dimensions. Schlosberg (2004) again points to the EJM, which has long included all dimensions in its fight for EJ. In general, one dimension is not preferable to the other; rather, all three are needed to represent EJ. Fraser's formulation on this is: "Thus, no redistribution or recognition without representation" (Fraser, 2005, 79). This applies above all, but not exclusively, in the context of a political consideration. Walker (2012) summarizes the relationships between the three dimensions particularly clearly in Figure 1. In doing so, he extends Schlosberg's (2007) observation to a range of correlations: "each form of injustice is explained (in part) through its linkage to the others" (65).

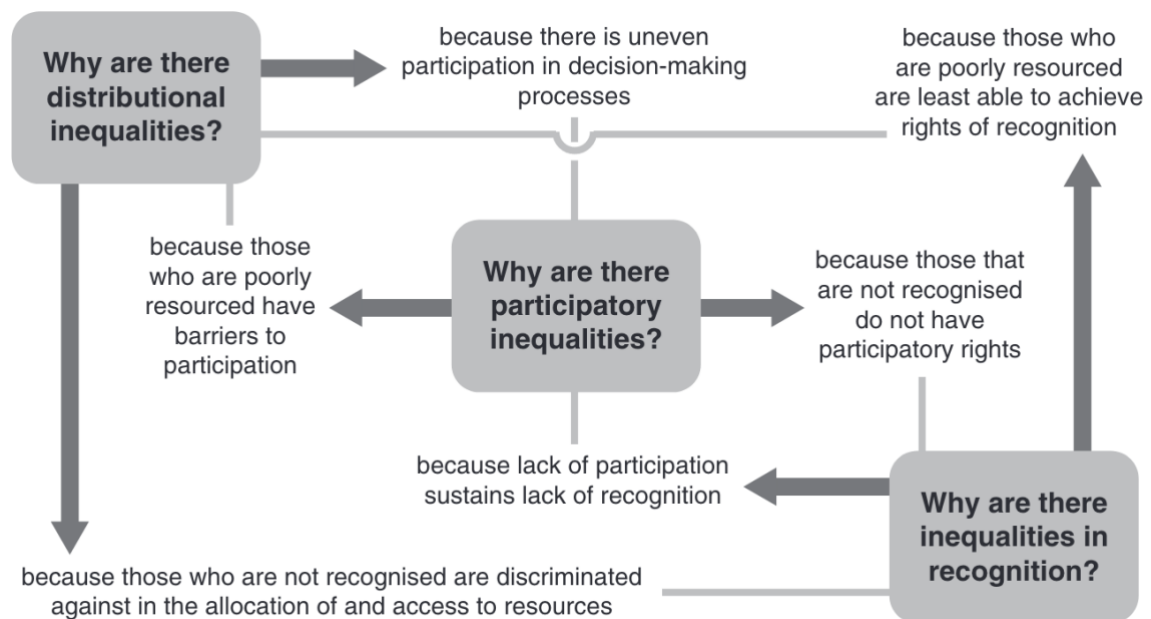


Figure 1 Relationships between the three dimensions of EJ (Walker 2012, 65)

In reality, it is often difficult to clearly distinguish or delimit the three dimensions of EJ. Nevertheless, the resulting structure offers some advantages when evaluating aspects of justice which is why it also serves as the basis for the subsequent evaluation (Baasch, 2023).

2.1.4. Extension of environmental justice

As shown above, the scientific examination of EJ continues to evolve. The following presentation of recent additions and interpretations of the theory of EJ is intended to illustrate that the three-dimensional view of EJ is not the only one. Different topics can be included and the framework of analysis can be modified.

For example, critical EJ focuses on the emergence of inequalities or racial violence (Partridge, 2022). Robert Brulle and David Pellow (2016) coined the term and aim to further expand the second generation of research on EJ and address existing limitations. This leads to various questions, such as:

- “(1) questions concerning the degree to which scholars should place emphasis on one or more social categories of difference (e.g., race, class, gender, sexuality, species, etc.) versus a focus on multiple forms of inequality;
- (2) the extent to which scholars studying EJ issues should focus on single-scale versus multi-scalar analyses of the causes, consequences, and possible resolutions of EJ struggles;
- (3) the degree to which various forms of social inequality and power—including state power—are viewed as entrenched and embedded in society; and
- (4) the largely unexamined question of the expendability of human and non-human populations facing socioecological threats from states, industries, and other political economic forces.” (Pellow, 2016, 223)

Critical EJ utilizes an anti-authoritarian perspective. Ecological justice follows on from this by prioritizing the relationship between humans and non-humans (Pellow, 2016). This addition can be seen as the fourth dimension of EJ and shows, for example, the effects of infrastructure developments on ecosystems, flora and fauna (Hess et al., 2022).

Yaka (2019) developed socio-ecological justice from a critique of Fraser's three-dimensional model of justice (redistribution, recognition, representation), but also based her theory on it. According to Yaka, the associated view is not reflected in the existing model. Instead, socio-ecological justice is positioned more between environmental justice and ecological justice as a connection between the two and thus a connection between nature and culture or the human and non-human. Yaka developed this from her work with anti-hydropower movements, but also relates this understanding of justice to other grassroots environmental activists and their central demands for EJ and common goods in general. Socio-ecological justice refers to "the right of human and non-human worlds to live and flourish together in their environments free from social and ecological destruction and degradation" (11).

Another topic that has only recently risen to prominence is that of knowledge production and access in relation to EJ. Knowledge is not produced in a politically neutral way and access to it is characterized by power and inequalities (Hilder/Hein, 2023). The relevance of scientific knowledge and its utilization has already been made clear with regard to the recognition and procedural dimension. The role that knowledge plays in conflicts over EJ can be seen, for example, in the case of resettlement due to the expansion of opencast lignite mining in the Rhineland mining area. In this case, those affected criticize the lack of transparency on the part of the company in charge, RWE. In this situation, the company itself, as the holder of power, can determine knowledge and access to it (Beckmann/Heyer, 2023). Beckmann and Heyer (2023) categorize these demands for knowledge within their analysis of procedural justice. On the other hand, as already observed, evidencing can also fall within the scope of recognition justice. Therefore, a precise subordination of the discussion of the role of knowledge in the three-dimensional justice dimension does not seem to be feasible. As with the dimensions, no clear boundaries can be drawn. Accordingly, knowledge production and access to it is both part of the three dimensions and an additional way of looking at EJ, which should not be ignored in the subsequent case analysis.

2.1.5. Environmental justice in Germany

As illustrated earlier, research on EJ and the EJM has been established for decades, especially in the US context. In Western Europe, issues such as social inequality and areas with unhealthy living conditions, particularly in cities, have been linked since industrialization. After the Earth Summit in Rio de Janeiro in 1992, sustainable development became a relevant discourse in Europe. This concept combined the social with the ecological dimension, while accounting for the creation of a just world. This generated resonance with the concept of EJ, which has found favour in some Western

European countries since the mid-1990s. Nevertheless, EJ generated little traction in the scientific community and no standardized European EJM has been formed to this day (Köckler et al., 2017).

The topic and the discussion of it is similarly less widespread in Germany, particularly in geographical research. In the fields of sociology and health science, however, the topic has been addressed to a greater extent by researchers (Hein/Dünckmann, 2020). For example, the connection was made that noise and air pollution are more likely to affect people in Germany who are not German, live in eastern Germany or have a low income (Kohlhuber et al., 2006). Nevertheless, Geography as a discipline has dealt with related topics. Above all, political ecology, which deals with human-environment relationships and power relations, is closest to research on EJ (Hein/Dünckmann, 2020).

The German environmental movement consists primarily of middle-class white people and has evolved from a landscape and nature conservation movement and the anti-nuclear movement. The dominant groups are *Naturschutzbund Deutschland* (NABU) and *Bund für Umwelt und Naturschutz Deutschland* (BUND). They and a number of smaller NGOs have recently repeatedly referred to EJ. Trade unions also play a relevant role by calling for a just transition from fossil fuels to renewable energies. With Fridays for Future and Extinction Rebellion, relevant groups of the climate justice movement have emerged in Germany and worldwide in recent years (Hein/Dünckmann, 2020). Citizens' initiatives (CI) play a relevant role in the context of resistance to energy transition projects. In Hoeft's et al. (2017) analysis of citizens' protests in the German energy transition shows that CI are legitimized from both outside and inside. They are ascribed a neutral role by other actors as representatives of local interests. At the same time, this external role coincides with the self-image of the CI analysed, who see themselves as representing the rest of the (still) inactive population. However, German protest groups have hardly made the connection between the struggles for environmental protection and human rights, which is why no significant EJM has developed in Germany in contrast to in the USA (Bellina, 2022).

In public space and urban planning, on the other hand, EJ is being addressed more and more, for example through urban analyses of EJ or through the funding of corresponding programs by the Ministry of the Environment (Köckler et al., 2017). Nevertheless, the concept of EJ is less often echoed in public discourse in Germany (Klepp/Hein, 2023; Köckler et al., 2017).

In the recently published book by Klepp and Hein (2023) EJ and its local implications are described using several examples in Germany. One case is the harbour expansion and use in the Süderelbe area. It becomes clear that such situations of environmental pollution cannot be compared with the US context. Multiple discrimination, as was the case in Warren County, is not found in the affected town of Moorburg (Hilder/Hein, 2023).

The German context for energy production and its transformation has been a highly charged topic for years. The energy transition necessitates the mastery of the transition from nuclear and fossil fuel energy to renewables, a process that must take into account

the technical and social challenges inherent in such a transition (Fraune/Knodt, 2017). This has been and continues to be accompanied by conflicts and rejection of new land uses through infrastructure (Winkelmann, 2019).

2.2. Energy

As the LNG terminal off the coast of Rügen is part of the changing energy supply, the energy dimension is presented below in the context of justice, as well as the change and potential conflicts surrounding energy infrastructure projects, particularly with regard to Germany.

2.2.1. Energy and justice

Another way of expanding or complementing EJ is to focus on a more specific topic or problem, such as the aforementioned climate justice. In the course of research on EJ in the context of energy infrastructure projects, such as the LNG terminal off Rügen, the concept of energy justice is often applied (Hess et al., 2022; Rasch/Köhne, 2017; Stoddart/Burt, 2020) which is why it is mentioned here. This specialized perspective from the combination of energy and justice issues is intended to support the subsequent evaluation. In addition, the understanding of justice overlaps in the scientific discussion of the two theories on EJ and energy justice (Hess et al., 2022). They are based on the same fundamental philosophy and both refer to the three main dimensions of justice already mentioned (Jenkins, 2018). The importance of energy today, the demand for it and the consequences of energy production are far-reaching:

“As we've entered a new geological era, the Anthropocene, experts and publics across the world want to know how to cope with rising demand for energy when our current energy portfolio is already inducing global warming, ocean acidification and climate change.” (Boyer/Szeman, 2014, 40)

The academic debate on energy justice is more recent than that on EJ. In the English-speaking world, the term emerged in the beginning of the 2010s. It built upon research in EJ and is prevalent in social scientific energy research (Bellina, 2022). The EJM has also previously linked issues of energy and injustice (Partridge, 2022).

The early research focused on unequal access to energy systems. Similar to EJ, research on energy justice has expanded and is based on the three dimensions of distributive, recognition and procedural justice. Partridge (2022) criticizes the fact that research on energy justice often makes insufficient references to the EJM, anti-racist or indigenous struggles. In addition, the ecological dimension is hardly recognized in the literature on energy justice in comparison to EJ, despite the many overlaps. The focus is more on politics and less on movements (Hess et al., 2022). Nevertheless, there are various interpretations and principles that conceptually expand the term (Jenkins et al., 2021).

Lacey-Barnacle (2022) characterizes the three-dimensional definition of energy justice, which largely coincides with the understanding of EJ, as follows:

- “(1) Procedural justice – relates to the participation of people in energy related decision-making processes;
- (2) Distributional justice – concerns the sharing and distribution of energy system benefits and burdens;
- (3) Recognition justice – seeks to ensure the acknowledgement of marginalised and/or disadvantaged groups in relation to energy systems.” (947)

For the most part, either the production or consumption side is considered, apart from some more holistic approaches (Fuller/McCauley, 2016). Here too, the concept, like that of EJ, has evolved, moving from a primary focus on distributional aspects to other equity dimensions related to the energy system (Jenkins et al., 2020; McCauley et al., 2016). For example, conflicts that arise when energy systems change or adapt as a result of political decisions are also considered (Bellina, 2022). Jenkins et al. (2021) recognizes the increasing expansion of the literature, but criticizes the lack of diversity in the research landscape. It is dominated by male researchers and focusses on Western and Northern countries. In addition, there are hardly any comparable research designs.

Movements mobilize around energy justice issues, but rarely under the specific framing of it, argue Fuller and McCauley (2016) in their analysis of urban mobilization. The same applies to struggles over EJ. They also came to the conclusion that there is no uniform framing of energy justice within movements.

For this research, the concept of EJ is used to generate knowledge through this holistic and established concept. The emerging research on energy justice will be used as a guiding background knowledge that focuses on energy systems issues. The research question addressed is based on ideas from both concepts.

2.2.2. Energy infrastructure and transition

Today's energy systems face various challenges. Ideally, they must simultaneously achieve set climate targets, guarantee a secure energy supply and take into account the interests of the local population (Sherval, 2023). In particular, the construction of new energy infrastructure presents challenges to policymakers worldwide. This infrastructure is often developed on areas that previously had other uses, such as agriculture, recreation, or other ecosystem services, against which governments frequently decide, citing energy security concerns (Hess et al., 2022). Urgency is another argument used by policy makers in times of transformation, neglecting social issues (Klepp/Hein, 2023).

These challenges must be constantly fought out, especially in times of change. Sherval's (2023) research, for example, deals with fracking gas and the associated debate about bridging technologies in the UK, in which the government positions itself as a proponent and activists as opponents.

Similar conflicts can arise for renewable energy, as Howe and Boyer (2022) illustrate with their work on wind farms in Mexico. If old power structures are perpetuated in new

infrastructure projects, political access, especially for marginalized groups, will continue to be prevented and neither justice nor the often-promised 'development' will be achieved. A socio-ecological transformation is being proposed in various global forums, for example with regard to the necessary energy transition. Klepp and Hein (2023) call for such a transformation to be systemically profound. In this context, it is essential to uncover, analyze and negotiate aspects of justice. EJ plays a relevant role in this.

2.2.3. Energy infrastructure and conflict

Local resistance to new infrastructure projects, which is the subject of this research, arises for various reasons. Sovacool et al. (2022) lists the following with reference to the corresponding authors:

“sense of place identity (Devine-Wright and Batel, 2017), political ideology (Stanley et al., 2021), views about climate science or economic growth (Vesa et al., 2020), a commitment to anarchist or green-anarchist ideology (Sovacool and Dunlap, 2022), and perceived poor social safeguards or heightened environmental risks to projects (Kirchherr et al., 2016)” (2)

Sacrificing a place because of new infrastructure is particularly difficult for people with a strong local connection and creates a kind of danger for them (Devine-Wright, 2009). Due to ignorance, overlooked arguments, and the rigid framing by the UK government, for example, Sherval (2023) concludes that communities have lost trust in political decision-makers and, for these reasons, are protesting against the industrialization of rural areas through fracking. In addition, the government's perceived top-down approach to rural areas and the simultaneous centralized decision-making process were also perceived negatively by local communities.

The 'Not-in-My-Backyard' debate is sometimes taken up in the context of local resistance to infrastructure projects. This concept, described by Sherval (2023) as outdated, assumes that protest is based on uninformed self-interest (Jenkins et al., 2016). This framing of 'selfish' protest parties can be used by advocates of infrastructure projects to discredit resistance and accuse opponents of acting against the common good with their protest, as is the case with opponents of wind power, for example (Jenkins et al., 2016; Sherval, 2023). Such framing and the monocausal understanding of reasons for protest that it contains have already been criticized in detail by various authors from different disciplines (Sovacool et al., 2022). In contrast, it has been established that local protest arises from different, often altruistic motives (Jenkins et al., 2016; Sherval, 2023). Rather, it is justice-related aspects, as formulated by Baasch (2023), that shape resistance to infrastructural changes in the living environment. These are influenced, for example, by perceived injustices in planning and implementation procedures, unequal power relations or strongly emotional factors such as concerns about the loss of familiar and valued environments.

Energy conflicts always involve a large number of actors and are therefore complex and dynamic (Hoeft et al., 2017b). Various groups can also be found among infrastructure

opponents. For example, in protest groups against power lines in Bavaria, CI's demonstrated alongside local politicians (Schmitt, 2016). In the case of resistance to power lines, a similarly broad coalition of various political parties and civil society organizations can be seen. Supported by the individual motives for resistance, the community of opponents can focus on tasks such as networking, gathering information and developing a common awareness of the problem (Winkelmann, 2022). In the context of resistance against mining and forced resettlements in the Rhineland region, the external activist group *Ende Gelände* also participated, for example (Beckmann/Heyer, 2023). With regard to the forms of protest in the context of the German energy transition and its new infrastructure projects, these often focus on legal procedures and professionalized press work (Winkelmann, 2019) and less on attention-grabbing or violent actions.

With regard to the LNG terminal off Rügen, it is evident that this project does not constitute an initiative for the enhancement of renewable energies; rather, it entails the establishment of new infrastructure for fossil fuels. This requires a different perspective. The overlaps in resistance to any new energy infrastructure projects have become apparent. Nevertheless, the dimension of the form of energy should not be ignored. The extractive industry, be it coal, natural gas or metals, does not always create the often-vaunted economic development, but also structural inequalities for local communities (Malin et al., 2019). Walker (2009) speaks of a co- or dislocation of consumption, production and environmental inequalities and that these unjust conditions are often the content of demands for justice. The transport of raw materials creates a division of places of production and consumption, which is especially relevant in the case of LNG, which is distributed globally via ships and pipelines. Unconventional oil and gas, which includes LNG from fracking, is also becoming increasingly relevant as the production sites of accessible conventional fossil fuels are running out (Mitchell, 2011).

3. Environmental justice and the LNG terminal off Rügen

The succeeding primary section of this thesis specifically examines the relationship between EJ and the protest movement against the construction of the LNG terminal off Rügen. In order to facilitate a more nuanced interpretation of the subsequent interviews, this section will firstly provide a comprehensive overview of the background to the construction of the LNG terminal, the stakeholders involved, and the protest process. The methodological approach of the research is then described, followed by a presentation of the results. Finally, the results are discussed, and a critical assessment of the work is presented.

3.1. Background

LNG is the focal point of this work and the protest being examined. In order to transport it by ship in a liquid state and thus in a smaller volume, the natural gas must be cooled down to -163°C (Wachsmuth et al., 2019). The corresponding infrastructure for import and export

is usually located near the coast. In the past, natural gas was extracted from conventional natural gas reservoirs. Nowadays, its unconventional extraction, for example from fracking, is becoming more common. However, LNG is not synonymous with natural gas from fracking (Benham, 2016). The natural gas that is to be landed off the coast of Rügen is criticized by environmental associations such as BUND because it is said to consist mainly of gas extracted by fracking (Bund für Umwelt und Naturschutz Deutschland, 2023). This form of extraction involves injecting fluids into the ground to create cracks that allow the trapped natural gas to escape (Wachsmuth et al., 2019). This technique is not used in Germany (Hanisch et al., 2017). The criticism of this form of extraction is that it has a major impact on the environment and can pollute water, soil, and air, among other things. This can also lead to health problems for the local population or to a negative impact on climate change due to methane leaks resulting from the process (Andy Gheorghiu Consulting et al., 2023; Bund für Umwelt und Naturschutz Deutschland, 2023). In 2023, the USA constituted 80 per cent of all LNG imported. There, in turn, 80 per cent of natural gas is obtained from fracking (Bundesverband der Energie- und Wasserwirtschaft, 2024; Bundesverband Erdgas, Erdöl und Geoenergie, 2023). The Federal Ministry for Economic Affairs and Climate Action (2022) states with regard to all German LNG imports that these can originate from the USA, but also from Qatar, Russia, Algeria or smaller LNG producers. It also states that the supplies from the USA will also include natural gas obtained through fracking, although the exact proportion cannot be determined.

The current relevance of LNG for the German gas supply began with Russia's war of aggression against Ukraine in violation of international law. Since the invasion in February 2022, the question has arisen as to how the Russian natural gas imported until then can be replaced by other sources. Germany's LNG capacities were previously low, as the political will was in favor of Russia and its gas resources. In 2022, this political focus changed to an official move away from Russian natural gas (Kędzierski, 2023). 55 per cent of natural gas in Germany was previously sourced from Russia. With the start of the war, the natural gas market came to a head, prices rose and there were concerns about a supply shortage. However, the German Institute for Economic Research (DIW) showed back in April 2022 that it would be possible to move away from Russian natural gas by making savings and using other import infrastructure. A supply emergency that would have necessitated the expansion of the LNG import terminals did not arise. One year after the start of the war, wholesale natural gas prices were at the same level as before the outbreak of the war. In the context of the nevertheless expanded German LNG infrastructure, the authors speak of stranded assets (Holz et al., 2022, 2023).

In order to make Germany independent of Russian natural gas, according to the political justification, two new floating and regasification units (FSRU) co-financed by the federal government were inaugurated in Brunsbüttel and Wilhelmshaven within a year, which can convert the LNG arriving by ship back into its original gaseous state by heating it

(Bundesregierung, 2023). This rapid implementation was made possible by the LNG Acceleration Act (LNGG):

"The Act proposes new regulations to allow for land-based and floating LNG terminals and the necessary connections to be constructed more quickly. This will involve swifter approval, tendering and review procedures. In order to help overcome the gas supply crisis, the Act creates exemptions to environmental impact assessments. Public consultation will continue to take place, albeit shortened to two weeks." (Bundesregierung, 2023).

The application of the LNGG is based on the assumption of an imminent gas shortage (von Hirschhausen et al., 2024). In July 2023, the German Bundestag voted in favor of including the town of Mukran on Rügen in the LNGG (Grahm et al., 2023). Here, two FSRUs are to be stationed in the port of Mukran by the operator Deutsche ReGas. These will receive the LNG arriving on tankers, regasify it and feed it into a newly built 50-km-long offshore pipeline, the Baltic Sea connection pipeline. This pipeline runs along the seabed in a pipe trench through the bays of Prorer Wiek and Greifswalder Bodden to Lubmin on the mainland (see Figure 2). There, the natural gas is fed into the existing gas network. In addition, the harbor access road in Mukran will be expanded and deepened for the FSRU units and delivery traffic (Deutsche Umwelthilfe [DUH] 2024). The project was originally planned by RWE with an offshore site off Sellin on Rügen. These plans were cancelled and both the location and the operating company changed (Norddeutscher Rundfunk, 2023b). The terminal is currently (April 2024) in trial operation. The official operating permit was handed over to the operating company on 10 April 2024, which expects regular operations to start in the coming weeks (Norddeutscher Rundfunk, 2024).

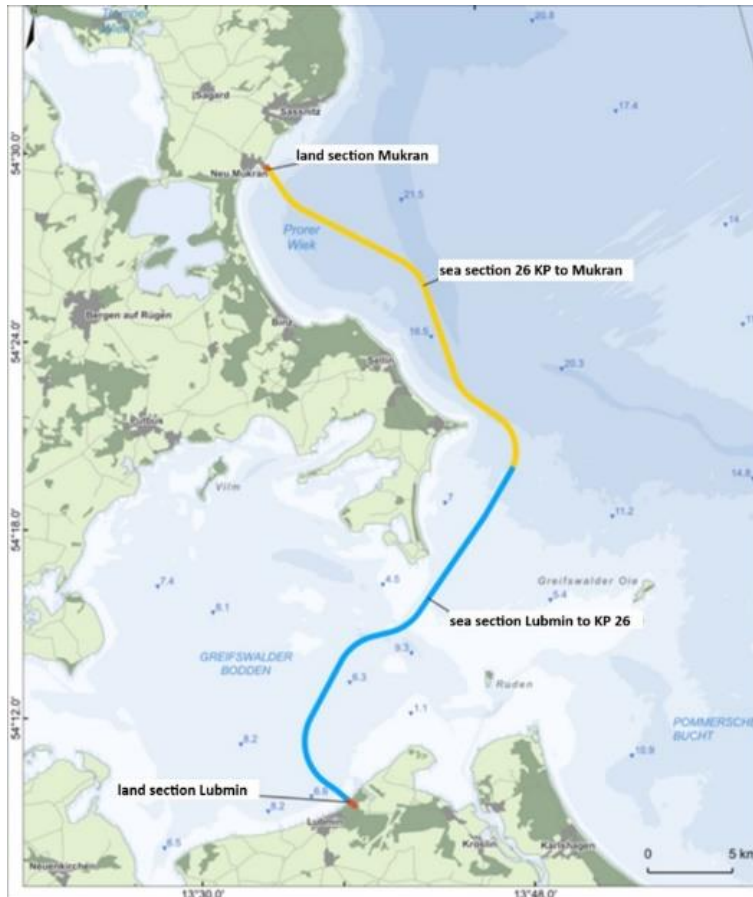


Figure 2 Baltic Sea connection pipeline (Gascade, n.d.) (own translation)³

The expansion of the LNG infrastructure in Germany goes hand in hand with the prospect of using it for hydrogen in the future. Both the German government and investors are emphasizing this plan and see it as part of the energy transition from fossil fuels to low-carbon energy sources. The planned demand for hydrogen in Germany cannot be met by domestic production alone. On the other hand, it is criticized that the LNG infrastructure cannot be converted directly to hydrogen. It would first have to be modernized with not inconsiderable investment (Bundesregierung, 2023; Kędzierski, 2023; Riemer et al., 2022).

3.2. Protest and stakeholders

The course of the protest and the stakeholders involved were partially discussed in the interviews conducted and in personal conversations. This information, as well as that shared via the online presences of the active groups, forms the basis for the following description of the protest and the stakeholders.

Most interviewees became aware of the planned construction of the LNG terminal off Rügen at the beginning of 2023, such as Opponent 3 or the four people in the group interview. According to the CI *Lebenswertes Rügen* (BILR), 2500 people attended the first demonstration in the Baltic seaside resort of Baabe on Rügen in February 2023 (Bürgerinitiative Lebenswertes Rügen, 2023b). The BILR already took part in a

³ KP = Kilometer point

demonstration against the LNG terminal in Lubmin in January (Bürgerinitiative Lebenswertes Rügen, 2023a). In 2023, several other actions were organized, particularly on Rügen, but with less participation, as reported by Opponents 4 and 8, among others. In May and September, the external group *Ende Gelände* organized climate camps on Rügen and took part in the local protest (Ende Gelände, 2023; KIB, n.d.).

The protest groups can generally be divided into local and external stakeholders. The central stakeholder is BILR, which already existed before the protest against the LNG terminal and which has founded its own working group on the LNG protest, which works closely with CI in other places on Rügen, primarily those on the east coast, according to Opponent 8. The person also reports that there is cooperation with people from the tourism industry or nature conservation organizations, such as the local NABU. Opponent 1 reports that the town of Binz, represented by the mayor and the tourism director, is also cooperating with the CI in the protest. In addition, 34 mayors from Rügen have voiced their opposition to the LNG terminal, with the exception of the mayor of Sassnitz, where the LNG is set to land in the town of Mukran (Presseportal, 2023). There are groups that operate independently from the aforementioned alliance and are aligned with the political right, such as *Wir für Rügen* ('We for Rügen'). Within the BILR, the question of the extent to which they should differentiate themselves from these partially right-wing actors was discussed (Opponent 5, personal communication, 5 November 2023). However, the fieldwork did not reveal any visible, in-depth cooperation.

External groups involved in the protest against LNG include prominent nature conservation organizations in Germany such as People for the Ethical Treatment of Animals (PETA 2023), Greenpeace (Sadik, 2023), BUND (2023) or the World Wide Fund for Nature (WWF 2024). Some of them are organizing their own campaigns, taking part in protests organized by the local alliance or positioning themselves online against the terminal. The climate justice movement is also part of the resistance. Opponent 1 describes that this includes *Ende Gelände* mentioned above, but also Fridays for Future with its local group on Rügen, supported by supra-regional groups such as Fridays for Future Berlin. Activists from fracking areas in the USA are not actively involved in actions on the island of Rügen, but have met with committed Rügen residents and pledged their support for the protest both in person and through (video) messages sent online (BI Lebenswertes Rügen, 2023). Deutsche Umwelthilfe (DUH) is also working together with NABU to prevent the terminal through legal action (DUH, 2023). Opponent 8 adds that DUH is also working closely with the BILR. The DIW, represented in particular by the scientist Prof. Dr. Christian von Hirschhausen, Research Director of the Energy, Transport, Environment Department, is another prominent player in the resistance and has already published several studies that speak against the LNG terminal off Rügen (Deutsches Institut für Wirtschaftsforschung o. J.; Holz et al., 2022, 2023; von Hirschhausen et al., 2024).

In this case, the state government plays an ambiguous role with regard to its stance on the LNG terminal. Minister President Manuela Schwesig, for example, has expressed herself

partly in favor of the project and partly against it (Norddeutscher Rundfunk, 2023a). Other stakeholders, such as the State Secretary Heiko Miras or the Minister for Climate Protection, Agriculture, Rural Areas and the Environment Till Backhaus, are, like the Minister President, occasionally in dialogue with the CI on site, which was reported on in some interviews, for example by Opponent 2 or 4. The state government is positioning itself against the plan ahead of the Bundestag and Bundesrat vote on the inclusion of Mukran in the LNGG in July (Deutschlandfunk, 2023). With the vote, the federal government decided in favor of a rapid expansion of the LNG infrastructure off Rügen (Kliss/ARD Berlin, 2023). In particular, Federal Chancellor Olaf Scholz, Federal Minister for Economic Affairs and Climate Action Robert Habeck and Commissioner for Eastern Germany Carsten Schneider have positioned themselves as supporters of the project. This becomes clear during visits by Olaf Scholz and Robert Habeck to Rügen, as well as during further visits by Carsten Schneider (Der Beauftragte der Bundesregierung für Ostdeutschland, 2023; Tagesschau, 2023). The companies involved, Deutsche ReGas and Gascade, are equally on the side of the supporters. Deutsche ReGas is the project sponsor and operator of the LNG terminal. Gascade is the transmission system operator and is building the Baltic Sea connection pipeline from Mukran to Lubmin (Gascade, n.d.).

In addition to the demonstrations already mentioned (see Figures 3 to 5), the protest also utilized other methods. These included, for example, actions such as a 'vigil' or body painting, which were organized at various locations on Rügen, as reported by Opponent 8. In addition, external groups such as *Ende Gelände* and Greenpeace used practices of civil disobedience, for example through the short-term occupation of pipeline pipes on the harbor site in Mukran or the pipeline laying ship (Greenpeace, 2023; Norddeutscher Rundfunk, 2023c). However, the number of these actions is rather low. Local actors in particular contacted state and federal MPs, distributed flyers, started a petition or collected signatures, as reported by Opponents 13 and 2. The BILR also has a very active presence on Facebook in 2023 (BI Lebenswertes Rügen, n.d.) and published press releases (Bürgerinitiative Lebenswertes Rügen, n.d.). Other CI also posted content about the protest on their Facebook pages and websites (BI Lebenswertes Göhren, n.d.; Bürgervereinigung Zukunft Sellin, n.d.). Organized by *Ende Gelände*, three people from the climate justice movement lived on Rügen for around three months to further support the local protest (Opponent 5, personal communication, 5 November 2023).

The active groups and forms of protest involved will not be analyzed in depth here, as such an analysis of the general resistance is not the main focus of this work.



Figure 3 Demonstration march in Sassnitz on 23 September 2023 by local actors with the participation of *Ende Gelände* (own photo)



Figure 4 Demonstration on the pier in Binz on 4 November 2023 with banners of mainly local actors (side 1) (own photo)



Figure 5 Demonstration on the pier in Binz on 4 November 2023 with banners of mainly local actors (side 2) (own photo)

3.3. Methods

A qualitative research design was developed to answer the guiding research question on the dimensions of EJ. The starting point for this was the participant observation of a demonstration in Sassnitz on Rügen on 23 September 2023 (see Figure 3), which the author attended. This provided a first impression of the protest groups involved and their concerns. The author found out about this demonstration and a panel discussion in Berlin on 16 October 2023 via the social media presence of *Ende Gelände* and the BILR, where activists from Texas spoke about their resistance to fracking in the USA. People from the Rügen protest were also present. The author was able to identify the interviewees for this work through snowball sampling. After each interview, she asked the interviewees which other interviewees they would recommend and whether they could provide the author with the relevant contact details. In addition, the author herself contacted CI on Rügen involved in the protest by email and received some feedback. Ultimately, the author spoke to 14 people during two visits to Rügen in November 2023, online and on the phone. This included an unplanned group interview with four people. The people spoken to are all involved in the local protest against the LNG terminal, some more than others. All have already taken part in actions and demonstrations. A large proportion are also active in leading roles in CI or other local protest groups. The author also took part in another demonstration on 4 November 2023 on the pier in Binz (see Figures 4 and 5). The findings of the participant observations of the actions were recorded in field notes. However, as the

forms of protest are not a relevant topic of this thesis, this information is only indirectly incorporated into the work and is not part of the evaluation. The same applies to background knowledge about the protest groups and the case of the LNG terminal, which the author acquired by regularly following the related news and social media appearances. The data basis on which the analysis is based relates exclusively to the interviews conducted.

The ten individual interviews and the group interview were between 20 and 90 minutes long. Particular attention was paid to ensure a quiet interview environment in order to minimize distractions or influence from other people present. This was successful in most cases. Some of the interviews took place in people's homes or in closed rooms close to their homes, such as in cafés. The invitation to the people for the group interview was organized by one of the interviewees without the help or knowledge of the author. The questions improvised in this case were nevertheless based on the guidelines designed for individual interviews and it turned out that this unplanned conversation opened up some new insights and information. The guidelines developed for the individual interviews contained open and flexible questions, some of which were adapted after the first round of interviews (2.11.2023 to 5.11.2023, Opponents 1 to 5). This allowed findings from the first interviews to be incorporated into the guidelines, less relevant questions to be shortened and important ones to be added or emphasized and expanded. Care was taken to keep the interviews as open as possible, allowing participants to share their personal experiences, what is especially important to them, and what they feel is worth communicating. For this reason, the guideline was partially adapted and modified depending on the interview. Adjustments were made based on which facets the participants addressed and whether their responses raised further questions. In general, similar topics were addressed in all interviews. These include, for example, the personal motives that drive someone to be active in the protest, the assessment of the actions of politicians and companies, as well as reflection on their own role and the associated impact.

In some cases, a deeper exploration of the protest process and the stakeholders was undertaken to better understand the overall situation. This approach, congruent with the inductive categorization that took place later in the research process, enabled the interviewees and their positions to be dealt with as impartially as possible. The questions were roughly modelled on Petersen's (2020) work on the Atlantic Coast Pipeline and the protest against it. Care was taken to allow people to speak at length, freely and without interruption in order to capture their thoughts and opinions on the topic of the LNG terminal as uninfluenced a manner as possible.

Any characteristics of the interviewees, such as gender or exact age, are not listed in this paper. On the one hand, the consideration of these dimensions is not part of the research question, on the other hand, the identity of the persons should be protected. This data protection was not an explicit wish of all interviewees, as some of them have their faces, real names and opinions on the LNG terminal in the press. However, as this does not apply

to all interviewees, the protection of the interviewees' identity is considered appropriate in the context of this work. Some rough categorizations, for example to age groups or CI, are made in the results section where necessary, if it is relevant for the corresponding statement.

The interviews were conducted in German, therefore all direct quotations in the following chapters are based on the author's own translation. With the consent of the interviewees, all interviews were also recorded acoustically. Using this recording, the interviews were subsequently analyzed using the simple transcription system according to Dresing and Pehl (2015).

This written data was analyzed using the application MaxQDA and the content-structuring qualitative content analysis according to Kuckartz (2018). This analysis method was chosen to enable both deductive and inductive categorization and to assign the content of what the people said to the dimensions of the EJ. Similar to Hilders and Heins (2023) evaluation of the three dimensions, the interviewees usually do not make any direct statements on (in)justice, especially not on the theoretical concepts of distributive, procedural and recognition justice. This assignment of the statements made to the dimensions is therefore based on the author's own interpretation. The material was therefore initially coded deductively on the basis of the three dimensions in order to subsequently develop inductive codes that map the specific injustices within the dimensions. The material was then coded again using the inductive subcategories developed. The subsequent results and discussion section is based on this structure. Following the coding process, thematic summaries were created, as recommended by Kuckartz. This compresses the material on the one hand, and on the other hand emphasizes and reduces it to what is really relevant to the research question (Kuckartz, 2018). The category-based evaluation of the main categories was then carried out for the analysis. As subcategories were formed, these are analyzed instead of the main categories, as Kuckartz also describes. The analysis question - what is said about this topic - is used as a basis (Kuckartz, 2018). The order in which these results are presented is based on the content of the subcategories and what is said. Similar or related topics are thus described one after the other. In addition, relationships between subcategories of a main category, as well as between main categories, are analyzed. This was done by examining categories that were frequently mentioned together.

3.4. Results

The insights gained from the interviews are presented below. As the material was coded in the aforementioned three-dimensional scheme of distributive, procedural and recognition justice, it is also broken down in this structure. The order in which the dimensions are treated is of no significance.

3.4.1. Distributive justice

The motives and arguments of the respondents revealed various references to the dimension of distributive justice or injustice. One issue that was raised in all the interviews was the negative impact of the construction and operation of the terminal on nature, which was also made possible by the LGG and the resulting suspension of environmental impact assessments. Particular mention was made of the negative impact on the Baltic Sea and the animals living in it. For example, the reef was destroyed by the construction of the pipeline, according to Opponent 2, or the "sensitive natural area of the Greifswalder Bodden", according to Opponent 6, and the herring's spawning behavior was impaired as a result. The noise generated or sediment stirred up and the resulting scaring effect on the fish were also criticized. Opponent 1 also mentioned the insufficient amount of data available on the Greifswalder Bodden ecosystem, which means that construction projects do not have the opportunity to take the natural environment into account. Opponent 5, a person who does not live permanently on Rügen, saw these negative effects on the local environment, however did mention that this was not their primary concern.

Due to the frequent references in nature conservation arguments to the negatively impacted fish, the connection to the fishing industry and fishermen is not far off. According to the opponents interviewed, the construction and operation of the LNG terminal is already affecting them today and will continue to do so in the future. Due to the pipeline construction, fishermen already seem to be catching less. The aforementioned displacement effects and their causes have led to this situation. The findings are based on statements from fishermen to whom the opponents interviewed referred, although none of them work in the fishing industry themselves. Their concerns about the potential loss of their work were nevertheless emphasized. Opponent 1 expressed concerns about the entire coastal fishing trade and feared its decline, also triggered by past construction measures.

Similarly, closely linked to the argument of the destruction of nature is that tourism would be disadvantaged by the LNG terminal. For Opponent 8, there was a direct link between less nature conservation and loss of labor and income in the tourism sector or the fishing industry. This was also used as a basis for the BILR protest. Two interviewees were directly dependent on the tourism sector itself. Due to the considerable relevance of this industry for Rügen, suppliers and other businesses dependent on it, such as restaurants or local shops, would also face difficulties. The noise and visual impact of the LNG ships, especially for the town of Binz, which is located in the same bay as the LNG terminal and is an important tourist destination, was cited as a reason for a potential reduction in tourist numbers. Opponent 2 put it this way: "You don't lie on the beach and look at freighters. So, most people don't want that, don't do that".

These factors would also all contribute to changes in the region, which represents a further dimension of distributive injustice. Some of the interviewees already noticed vibrations, noise, light and visual nuisance. These are caused by the LNG ships traveling off Rügen to

the existing terminal in Lubmin. In future, these environmental impacts are expected to increase with the completion of the terminal. It was feared that the region would change and degrade from an idyllic holiday destination to an industrial location. Opponent 13 described the following picture:

“You have an incredibly high quality of life because of this natural environment, and that's really being taken away from me. I mean, when I imagine that these tankers will be arriving here constantly every two or three days, it's indescribable. If you grew up here and always had this sense of the beach, it's something you experience all year round, it's painful. Because when you're as deeply rooted in this nature and this way of life as I am, it's like driving a dagger into this natural environment and into your surroundings, like someone destroying your front yard. It's painful to the highest degree”

The originally planned location near Sellin would have placed the terminal within the line of sight of the Sellin pier, which is considered a landmark of the region and was criticized during the group interview. However, this point is no longer valid with the new location in Mukran.

Related to the concern about changes to the Baltic Sea and Rügen was the criticism of its industrialization, both in the past and with regard to the planned LNG terminal. In some interviews, it was discussed that the Baltic Sea is already burdened with a high volume of shipping traffic and the Nord Stream pipelines, while at the same time containing ecosystems worthy of protection. This negative trend could be further fueled by the LNG terminal. At the same time, there are concerns on land that additional industries, such as the hydrogen economy, might settle in the area. Opponent 7 commented as follows: "But what does that have to do with this island? What does an industrial center have to do on this island? This island doesn't need that".

The unfair distribution of negative environmental impacts should be offset politically through compensation. However, the respondents questioned the meaningfulness of these measures, and in their view, this did not outweigh the disadvantages experienced by the local population. One point was the political promise to create a better rail connection from Rügen to Berlin. According to the opponents, however, this had already been planned for some time. Opponent 6 said that the connection had not been realized in the past because it was unprofitable and would not be in the future. Furthermore, it would not compensate for anything and was merely an attempt to "keep people quiet". Similar arguments were made in the group interview, and it was also assumed that the rail connection would not be realized in this way. Another point that politicians promise the people of Rügen is that the LNG terminal will create jobs. Opponents 3 and 7 were both skeptical as to whether these jobs would really be created, and it was noted that the required workforce would not be available on the island, meaning that there would be no need for jobs. Rügen is also disadvantaged in that the added value generated by the LNG terminal does not remain on

Rügen but is siphoned off to other regions in Germany where the natural gas is purchased. Opponent 9 said in the group interview:

“In the main committee, we were there. And then I said, well, if they want to push this through now, what does the region gain from this investment? Once again, nothing at all. It's exactly like with offshore installations, they're using our region as an economic hub for the interests of other regions. The energy that's generated here, whether it's gas or electricity, all flows south. The region gets nothing from it. Even the tax revenues, they all flow south. None of it stays here. There's no value creation left here.”

In addition, the local politics were criticized, as in the past, with externally planned construction projects like Nord Stream, they were only focused on obtaining compensation from the federal government.

The issue of security, which the BILR also brought to the attention of politicians, can also be categorized in the spectrum of distributive injustice in the opponents' arguments. Opponents complained that there was no, or insufficient, disaster protection or safety concept or that the concrete implementation of this had not yet been finalized. After Opponent 12 asked the State Agency for Agriculture and the Environment, a safety radius was stated that did not take local conditions into account and further responsibilities for this were not communicated to the person, which they criticized. In addition, there is no professional fire brigade on Rügen. Opponent 2 was concerned about what would happen in the event of an accident.

In all but two interviews, the people disadvantaged by the LNG terminal in natural gas extraction regions were addressed, particularly in the USA. In the same context, some opponents reported that they had only learnt about the negative consequences for people in fracking regions through the protest. This had happened through direct contact with people on the ground via video calls or through direct dialogue at a panel discussion in Berlin in October 2023. The health consequences such as high cancer rates in the regions around fracking fields were discussed, as well as the environmental destruction caused by the fracking process. Opponent 6 had the following opinion in this regard:

“If I start this story further back, with fracking gas, because that's what it ultimately is, and we now know that most of it is sourced from the USA, when you see how it's extracted there, it's impossible to view it positively or even call it a transitional technology or a stepping stone. It's just unacceptable. What it does to people, the land, and nature there, and I mean, it even leaves radioactive traces. Sometimes I think we are completely out of our minds for adopting such a technology. You have to consider that chemicals are being injected into the ground, and we still don't know if they're contaminating groundwater, and yet we're cheerfully accepting it. Sometimes I really feel like we're in a madhouse. And it's not just about the trouble or disadvantages it could bring to us; we already know that this entire LNG

operation is a real environmental disaster from start to finish, and it simply cannot be condoned.”

Fracking is not practiced in Germany, and the ambivalence of not carrying it out domestically while still promoting it in other regions of the world or purchasing the natural gas was viewed critically. In addition to the health consequences, Opponent 1 also mentioned the negative impact on local fishermen, as this would reduce their catches.

Another disadvantaged group is that of the young or future generations. The two interviewees under the age of 20, Opponents 4 and 5, both reported that they were afraid or felt disadvantaged by the construction of the LNG terminal and called for a greater focus on climate justice. Two other people spoke about the responsibility they felt towards their and all children and the future generation and would therefore also act in the interests of their future.

The opponents' motive of distributive injustice goes hand in hand with that of the climate crisis. On one hand, it was argued that the LNG terminal is outdated, as the climate crisis is already showing its effects, and such an investment would further exacerbate this. Additionally, it was criticized from a future perspective that the terminal is planned with a long operational lifespan, which would contradict climate protection efforts. A young person expressed concern about the specific threat posed by climate change to Rügen, which would to a great extent affect and alter the island, given their plans to live there long-term.

A final issue that was raised in the context of distributive justice is that business and politics are the only beneficiaries of the LNG terminal. It is domestic and foreign companies and their interests that rank highly, not those of the local population. The companies involved are private, not state-owned, unlike other LNG terminals in Germany. In this context, some instances of general criticism of capitalism and growth were voiced, with calls for a departure from these principles. Additionally, it was noted that politics is primarily concerned with its own interests. Opponent 6 said that Rügen had become "a pawn of geopolitical interests". The German government had also concluded long-term supply contracts with Qatar, for example, and would receive a feed-in tariff through the LNG terminal, leading Opponent 4 to conclude that economic interests would play a significant role.

3.4.2. Procedural justice

In addition to motives centered around unfair distribution, opponents also raised various points that can be attributed to procedural injustice. They particularly criticized the approval process and the associated procedures. Firstly, the reason cited politically in favor of building the LNG terminal was the gas shortage. According to Opponent 12, this was used from the beginning by the state and federal government as a "hook". Some opponents criticized this because they could not identify a current gas shortage. They referred in part to DIW studies with the participation of Christian von Hirschhausen. These negated the

need for a higher demand for natural gas in 2023. At most, a shortage could have occurred within a finite and completed past period. Opponent 14 interpreted the statements made by Federal Chancellor Olaf Scholz and Economics Minister Robert Habeck to mean that the gas shortage was merely a political decision resulting from political fear and not from a real shortage. At the same time, the long-term nature of the infrastructure was also criticized here. Several opponents also emphasized that politicians were persistently insisting on the gas shortage without providing adequate justification.

Some opponents argued that the gas shortage situation was necessary for the application of the LNGG. Since this shortage does not exist, they found the application of the LNGG unacceptable and therefore unlawful, especially considering its duration until 2027. Additionally, it was criticized that the LNGG suspended environmental impact assessments, thereby disregarding nature. Opponent 13 also criticized the minimal legal requirements that the LNGG adheres to. As a result, the person completely lost their "trust in politics" because this law "cancels everything out":

"Restrictions on competition, tenders, and review procedures allow them to distribute construction contracts at their discretion and in the billions, without needing to issue a European-wide tender. Moreover, once the construction project is completed, they are not required to even check whether everything was done properly or if the money was used correctly, and so on."

Opponent 4 also argued, based on a study by DUH, that the terminal would not be completed before January 2024 and that an accelerated procedure and suspended inspections were therefore nonsensical. A proper inspection was called for. In the group interview, Opponent 10 criticized the "one-sided legalization" of the LNGG. All legal disputes were examined by the Federal Administrative Court in Leipzig and not by the local, regional and federal constitutional courts in accordance with the "normal democratic principle".

Two further injustices that arose in the process of initiating the LNG terminal in the eyes of the opponents were the interrelated issues of the Aarhus Convention and the application process. The Aarhus Convention, which prescribes the participation of Baltic Sea neighbors in construction projects above a certain length, had been circumvented, according to the people in the group interview and Opponent 8. According to Opponent 11, the suspension of the convention was made possible by assessing and approving the pipeline sections separately and not as an entire project. This approach was frequently criticized in the interviews, as the Minister for Climate Protection, Agriculture, Rural Areas, and Environment of Mecklenburg-Vorpommern had promised in a meeting with members of the BILR to evaluate the pipeline applications as a whole. However, even before the mining authority had examined the applications, he had announced in the newspaper that the project was eligible for approval, and partial approvals were subsequently granted. This also helped to speed up the process and construction.

In almost all of the interviews, opponents accused politicians and the companies involved of being dishonest with the population and spreading untruths in relation to various situations. Firstly, the reasons for the relocation from Sellin to Mukran were questioned by Opponents 4 and 7. It was assumed that the Mukran site was originally fixed and that Sellin had merely been used as a pretext to show the population that politicians were reacting to the protests. According to Opponent 4, Mukran was objectively the better location and a careful examination, which the politicians said they had carried out, could not have resulted in Sellin as the location. Opponent 14, on the other hand, assumed that the initial plans for Sellin had only been used so that the protest and the initiatives would "run dead" by then. The person described the following experience:

"And after we had, I think, already spent ourselves with three major actions, a demonstration and festival against LNG and then the big action with the human chain in Binz at Easter, the impression arose that the real plans were actually taken out of the drawer for the time being, because they had said goodbye to Sellin relatively quickly and also to RWE, and then at the first meeting in Binz with Habeck and Scholz, which I attended on behalf of the CI, they were immediately able to conjure up alternative plans for Mukran and serve us ReGas on a gold platter, quite literally on the part of the federal government. This gave us the impression that these were the real plans all along, and that the supposed project at Sellin, which was initially planned, was likely just a way to exhaust the initiatives opposing it. This impression is what we were left with."

"They don't speak the truth", "they lie", were further impressions that the person expressed with regard to politics. Nevertheless, the person also said: "if they had spoken openly about what the political motives were for building such a nonsensical, insane project here, then perhaps it would have been possible to talk to the people here". In addition, the politicians had promised things that they had not kept. These include, for example, the participation of the population, which was to be realized through the appointment of the Eastern Germany Commissioner as a communicator. According to the opponents in the group interview and Opponent 8, this was not followed up on, nor was the assurance that no individual applications would be approved. The state government, most notably Manuela Schwesig as Minister President, was criticized for its wavering course with regard to the LNG terminal. The compensation in the form of the rail connection was also portrayed as a lie, as this was not going to be implemented, according to the impression in the group interview. Opponent 6 felt "cheated" in this regard. There was a similar lack of belief in the feasibility and sense of the government's hydrogen plans. Opponent 1 and the people in the group interview specifically insinuated that politicians and operators were saying that the infrastructure currently being built could not be used for hydrogen. Opponent 1 stated, "I consider it a lie," and Opponent 11 said, "They're pulling the wool over our eyes."

Deutsche ReGas was also criticized for dishonesty. On the one hand, reference was made to a non-public meeting between the Federal Chancellor and Deutsche ReGas before the deal for the LNG terminal was finalized. Opponent 7 wondered, "And I ask, what kind of shady deals are these? What's really at play here?" The competence of the new company Deutsche ReGas was also questioned, as was that of the managers, who had previously been tax consultants and fund managers, according to Opponent 6, who could not imagine how people with such a background would manage a "highly technologized infrastructure": "That's nonsense, it's a fairy tale and there are other financiers behind it who know about it, who have an interest in LNG gaining a foothold here".

A central point that was raised in almost all interviews in the context of procedural injustice was the lack of or inadequate dialogue and the corresponding formats. "So it was a farce, yes, there was no dialogue," was how Opponent 6 assessed this issue. Many interviewed individuals learned about the LNG plans from local newspapers. Opponent 4 perceived that they had been disregarded and positioned before the completed facts regarding the construction. According to Opponent 10, the municipality of Sellin was only informed about the plans for the first site after making independent enquiries to the federal government. When this became known, the mayor of Sellin allegedly claimed, according to Opponent 6, that it would be sufficient to put up a few informational boards about the project, which the person found "absurd" and "shocking." The person found it "outrageous that leading politicians here thought we could build a floating terminal like this and then we would just need a few information boards to explain it". The person further realized: "So that was really a moment when I thought to myself, I must be in the wrong movie here". With regard to specific dialogue formats with politicians and companies, in which some interviewees took part, some criticism was also voiced. On the one hand, arguments in favor of the LNG terminal were "repeated ad nauseam". This is how Opponent 14 described it, referring back to an event with Olaf Scholz and Robert Habeck. At the same time, the person also saw that "only the cause was promoted" at this meeting. There seemed to be no interest in a compromise or joint solutions on the part of politicians. Opponent 4 took a similar view, stating: "Yes, after the protest, Federal Minister of Economics Dr Habeck and Federal Chancellor Olaf Scholz also came to the island for a discussion, as I think they had roughly formulated it. But it was more of an information event, as those present there described it". Open questions from the public were inadequately addressed: "They talk about dialogues, but they are actually monologues, and the questions echo in the room, remaining mostly unanswered or being answered evasively," continued Opponent 14. A person specifically complained about the parliamentary state secretary in the group interview: "And of course, he knows all his people from here a bit and knows what is coming or could come (...). You can raise your concerns however you like. You won't get through, no chance." On another occasion, the Eastern Germany Commissioner had suggested a meeting with BILR's representative. However, the CI had rejected this proposal, as the appointment was to take place a few days later and at a time that was not considered

feasible for some of the people approached. The CI also demanded an open event. These demands were not met by the Eastern Germany Commissioner, which is why the event did not take place. Another example cited by Opponent 2 was that not enough time was left after an event for questions from citizens and that it was not recorded, as the rest of the event had been. The impression was created that the dialogue formats had only been organized in order to "fulfill an obligation", according to Opponent 6. Opponent 5 made a similar observation, further criticizing the fact that the petition committee, which had to come to Rügen after the Bundestag petition, only came after the pipeline sections had been approved. By then it was "a bit irrelevant". The same applies to the Commissioner for Eastern Germany, who also only came when construction had already begun. Opponent 1 criticized the actions of politicians as "token participation" or "press appointments for photos". This was intended to "calm the situation here (...)". Two other actions were specifically criticized by Opponent 8. The civil police visited a BILR member who was actively involved in resisting the LNG terminal and inquired about further protest actions. Additionally, Opponent 8 complained about the action where the federal government used taxpayer money to distribute flyers promoting the LNG terminal to all households on Rügen and commissioned a newspaper ad in support of the terminal.

The partially articulated opinion that politics merely supports the companies, or rather that the companies control politics, can also be categorized as procedural injustice. These two parties sit together on podiums and the population sits opposite them. This is how Opponent 13 saw and condemned it, whereas on the contrary, the population and politicians should have faced up to the companies. According to Opponent 1, the state government was "caught off guard" and allowed itself to be "harnessed by the corporations". The impression was that investors and lobbyists were controlling politics. The Commissioner for Eastern Germany also campaigned in the interests of the industry, as he wanted the natural gas for his home region and the industry based there, criticized Opponent 4, which is not in the interests of Rügen. In comparison with the LNG terminal in Brunsbüttel, the dominance of the corporations is even clearer, as unlike Rügen, no private company operates the terminal there.

In some discussions, a failure of democracy and the rule of law in the process of building the LNG terminal was identified. Opponent 7 considered it undemocratic that the petition was ignored and that experts were not consulted. In general, the entire project had caused the local population to lose faith and trust in politics. Opponent 1 spoke of the first "nail in the coffin of this democracy" and described the LNGG and the actions at European level as not being in line with the rule of law. Similar statements were made in the group interview. With regard to the East German past and the politically right-wing tendencies of the population, Opponent 14 concluded that the Second World War was not "properly dealt with" in Germany, especially not in the GDR. Because the West had "taken over" the East, many people had "lost their identity", although they should have been proud of their "peaceful revolution". As a result of the loss of work and identity, many people tended to

focus on themselves and became less politically engaged. The person was of the opinion that such a protest movement would have been "stronger" in regions that had been "socialized with democratic rules for longer".

3.4.3. Recognition justice

In the context of the interviews, a number of sub-categories were identified that can be assigned to the dimension of recognition justice. The fact that local demands were not recognized was particularly prominent. The impression was created that politicians were not listening properly and that they thought they knew better than the local people. The same applies to Deutsche ReGas, which also does not take the objections of the population seriously and does not deal with local circumstances. In the following example, provided by Opponent 6, the head of Deutsche ReGas is depicted:

"He still can't even pronounce Mukran correctly, where his terminal will be. He says MU-kran to this day, as if I were to say BER-lin, you know, and am talking about Berlin. He still can't pronounce Mukran correctly, so there's zero engagement with the issue."

A number of people criticized the fact that the petition, which was intended to demonstrate the resistance of the local population and Germany to accept the LNG terminal, was not taken into account. Opponent 13 was also disappointed that the objections they raised to the politicians were merely noted, and if they received any responses at all, they were "poor answers". Opponent 3 also said that "they didn't respond at all to the needs of the population". Opponent 2 gave an impressive account of how politicians and the companies involved had announced at an event that "we are creating jobs". However, according to the person, these jobs are not even necessary on Rügen, as there is a shortage of staff in many sectors. The person expressed great incomprehension about this. The change of location is also being framed by politicians as a response to local demands, whereas opponents are against any locations off Rügen, according to Opponents 4 and 8. "So for me, this whole LNG is always synonymous with politicians not talking to their citizens and doing what they want" - this summary of the LNG issue by Opponent 10 was echoed in other conversations. Opponent 5, a younger person, described the following impression in this regard:

"So sometimes I really feel like I'm, I don't know, standing in a room and I'm shouting and nobody's listening to me and I'm like hello, this is my future. So it's a general sense of injustice that I feel. And that Rügen won't necessarily make things better here, or, I don't know yet. I don't know how it will turn out yet. And I always say that we'll get through it, also a bit to motivate myself."

A similar sense of powerlessness was reflected in a statement from Opponent 14: "And the people who always say from the outset that it's not worth getting involved, I might have to silently agree, that's actually the worst experience I've had in my life, I have to say honestly".

In addition to the low level of recognition of local demands, the disregard of scientific arguments and expertise was criticized. This applied to both politicians and the companies involved. Referring to an expert report by DIW and Christian von Hirschhausen on the gas shortage situation, Opponent 13 described how this scientific expertise had been "simply labelled as untrue" by politicians and Deutsche ReGas and that this knowledge seemed to have no significance. According to Opponents 2 and 1, "specialists" or "technically skilled people" also deny the feasibility of converting the terminals to hydrogen. However, politicians do not take this knowledge into account either. The same applies to the findings and concerns of local conservationists, which have also been ignored. The BILR demanded the participation of experts in meetings with local and state politicians, but this was not allowed.

In interactions with the politicians and the involved companies, some people missed an approach of mutual respect. "On the contrary, the whole demeanor of the individuals is generally condescending, ridiculous, and as if we were some kind of weirdos," described Opponent 2. In addition, the demeanor of these parties was described as arrogant. Opponent 1 had the same impression: "Those were not consultations; it was not on equal footing". Opponent 6 compared the behavior of the politicians as follows:

"It just reminds me of those conquistadors who came with beads or glass marbles and then swindled the indigenous people out of their gold. That's how I feel too, we're getting a railway connection that has been planned for a long time, and in return, we're ruining everything else we have here."

Regarding the East German past, Opponent 8 felt that especially the ruling party SPD, being rather "pro-American", was creating a "divide" with people from the former GDR who were "more pro-Russian," which deepened the already existing rift. The person found this "frightening" and was enraged. A similar impression was shared by Opponent 12 in the group interview:

"But no, the fundamental issue, which for me is actually the significant one, that we've observed over the months, or perhaps it's just my observation, is that wherever we went, to any event where the responsible politicians were present, the impression we got was that they think the people sitting and talking with them are all fools who have no idea what they're talking about. And therefore, they can tell us anything."

Furthermore, the East German past was seen as the basis for the LNG terminals being planned differently in West Germany. Due to the protest, the terminal in Wilhelmshaven, for example, was only planned for five years, whereas it was planned for 43 years off Rügen. In Wilhelmshaven, retrofitting for hydrogen could only account for 15 percent of the total investment in the pipeline, while no value had been set at all for Rügen. In the event of an accident or necessary dismantling, the federal government is also liable there, whereas the state of Mecklenburg-Vorpommern is liable off Rügen.

One of BILR's demands that was mentioned by a few interviewees was that events should be open to the public. In practice, it is usually a small group of people who can enter into a direct dialogue with politicians. Opponent 10 spoke of this,

“that there are always secret meetings. The next one is next Friday, as I told you yesterday. There will be someone from the district, someone from the state government, someone from here. And then [Opponent 11] and [Opponent 10] will come. Where is Hirschhausen? We have called for one. Where are the experts who also speak critically? Again, none of them are here. And the public shouldn't be there either. Why not?”

During the group interview, it was also mentioned that the people wanted a public panel discussion "by supporters and opponents" "for the population". Specifically, Opponent 9 called for the following exchange:

“Where there is a meeting on equal terms. Where you talk about content. Where you have the same level of knowledge. And then engage in professional exchange. Ultimately, let's face it, both the politicians and we are just laypeople, and consulting with experts was actually our primary goal.”

Opponent 10 added:

“But the composition of this consultation has always been influenced unilaterally. At no point has it ever been staffed by all sides. We have always said that we need arguments from all sides.”

The aforementioned rejected offer of talks by the Commissioner for Eastern Germany to the BILR was also criticized by two people in the context that only a limited group of people had been admitted. Opponent 8 also criticized a residents' meeting in Sassnitz, which the person attended. Only people who are residents in Sassnitz, as confirmed by their identity card, are said to have been admitted. Opponent 8, a resident of Sassnitz, left their ID card at home "symbolically", so to speak, to protest against this behavior. After a conversation with the Eastern Germany Commissioner present, who already knew the person from previous consultations, everyone was granted access to the event. "This doesn't just affect Sassnitz, it affects Rügen" - was the argument used by Opponent 8 to justify this action.

The previously discussed aspects of recognition justice reflect a lack of acknowledgment of the people and their demands. However, in most of the interviews, various points were also raised where people felt recognized. On the one hand, the press had recognized them, especially the BILR. This applies to both regional and national media. In the eyes of the interviewee, many people on Rügen and beyond had also become aware of the case and the protest against it. Opponent 7 drew the following conclusions from this:

“So we don't have a say, I don't think, I would say, but it has already got things moving. People across Germany have realized that something is happening here on Rügen, that there is resistance. That's how the climate justice movement came about in the first place, because they realized that there really is resistance here that is making a difference, trying to make a difference, where the politicians don't

get through quite so easily. Otherwise, Mr. Habeck and Mr. Scholz wouldn't have come to the island, I say.”

The attention of the politicians was, for example, achieved through the demonstrations on Rügen. Opponent 12 commented on the political response to the resistance: "And then they actually gave it a bit of thought." Opponent 14 also realized that the state and federal governments would not have had to talk to them "if they hadn't wanted to. They could have let us run aground". Opponent 8 also identified concessions by the state government in that, for example, Manuela Schwesig had publicly positioned herself against the LNG terminal after a discussion with the BILR. In view of the parliamentary petition, the opponents wrote to members of parliament. After the vote, some of them wrote back and explained themselves and their vote. Opponent 8 appreciated this recognition, regardless of how the people voted. From their own experience, the person, who is very active in the protest, reported that the BILR's Facebook page, which extensively covered the LNG issue near Rügen in 2023, was well received. Furthermore, in the person's view, the BILR has a significant standing. The person based these opinions on personal experience and conversations. Opponent 4 emphasised the organisation of the first protest, which they estimated to have involved between 2,000 and 3,000 participants. Opponent 13 also acknowledged the mobilising influence of the BILR. Both Opponents 9 and 14 recognized that the actual protest goal of preventing the LNG terminal off Rügen had not been achieved. Nevertheless, both hoped or assumed that their protest had signalled to politicians that a different approach would be necessary for future projects. Opponent 14 said the following:

“It is sometimes difficult to take comfort in the fact that we may not be able to achieve what we want for the island, but that it will definitely make it more difficult to push through such projects politically in the future. That is my great hope.”

3.5. Discussion

The presented results clearly show how the motives of the interviewed opponents of the LNG terminal can be assigned to the three dimensions of EJ. The motives generally align with the literature in many respects. For instance, there is a reference to the sense of place identity, characterized by the fear that their home might change. On the other hand, links to political ideologies are established through the criticism of democracy and capitalism. However, the climate crisis is also recognized, and anarchist perspectives are brought to the protest promoted by groups such as *Ende Gelände*. The risks for people in production areas or for the local nature are also part of the protest argumentation and are therefore comparable to the motives listed by Sovacool et al. (2022) in the context of resistance to energy infrastructure projects.

At the same time, however, it also shows that no explicit references to EJ or energy justice appear among the stated motives. This finding aligns with the existing literature on the subject, as evidenced by the work of Fuller and McCauley (2016), who also noted the

absence of a distinct framing for energy justice within the aforementioned movements. Climate justice, on the other hand, was mentioned only in a few instances in the interviews for this study. Since the climate justice movement, as it is also referred to by the interviewees, is part of the protest, it stands to reason that the concept of climate justice also finds its way into the motives. In addition, two interviewees are themselves associated with the climate justice movement and at the same time called for more climate justice in the interviews.

It is striking that this analysis of the dimensions of EJ reveals various correlations and overlaps in the opponents' motives with regard to the three dimensions. Some of the arguments mentioned can be assigned to two dimensions simultaneously. One example of this would be the overlap between the codes 'procedural justice - dialogue (formats)' and 'recognition justice - local demands'. This includes, for example, the criticism that politicians do not talk to citizens and therefore do what they want. This means that the process is not designed inclusively, which means that citizens' concerns cannot be recognized.

There were also connections within the individual dimensions. The codes 'procedural justice - dialogue (formats)' and 'procedural justice - politics/companies dishonest', for example, can be found in some of the same statements in the interviews. This criticism by Opponent 8 shows such an overlap:

“We're experiencing the same thing with this hydrogen hype. Everywhere, everywhere, it's now argued that hydrogen is very important, a future technology, and so on. And nothing is clarified, as we hear. There's no money (...), and people are not being consulted.”

This suggests that the dialogue between politics or the companies and the public is perceived by the opponents as being characterized by dishonest statements.

Moreover, the dimensions themselves do not seem to be able to exist independently. If we take Schlosberg's (2004) thesis as a basis - that those who are not recognized do not participate and those who do not participate are not recognized either - the dilemma surrounding the protection or disadvantage for future generations and nature becomes even more impressive. They have no opportunity to participate, which silences their concerns, and negative environmental impacts can affect them without any possibility of response.

A similar connection is evident in the comparison made by Opponent 6 between the actions of the conquistadors and the indigenous people with the compensations for Rügen. This statement was previously assigned to the recognition dimension of 'equal footing,' as it particularly aims to convey this content. Nevertheless, it is also about the distributive injustice suffered by the people of Rügen and the dishonest behaviour of politicians in offering the rail connection as a legitimate form of compensation. This further emphasizes the inseparability and interdependencies between the three dimensions. These connections were also emphasized by Walker (2012) theoretically illustrated in Figure 1.

Furthermore, the realities experienced by those affected often do not clearly distinguish between the dimensions of justice but combine various points in one statement.

Across the dimensions, there are references to politics. Sometimes, a distinction is made between different political levels—municipal, state, and federal—regarding their varied actions concerning LNG. A similar differentiation across various political levels is observed in Schmitt's (2016) work on the construction of power lines in Bavaria.

3.5.1. Distributive justice

According to the opponents' motives, they themselves are affected by the environmental impact. As local residents, they complain about aspects such as noise and visual pollution and are concerned about potential job and economic losses in the tourism and fishing industries. The general alteration of their home is also among the issues directly affecting the local population that speak against the LNG terminal. On the other hand, people are affected who have no direct geographical and/or temporal connection to the opponents, namely people in fracking areas and future generations. Indirectly, however, the reference to the latter group is given by the fact that some interviewees are parents or under 20 themselves and are therefore related to or part of the next generation. What is interesting, however, is the reference to the production sites and the consequences for the people there, which for some people only came about when the climate justice movement joined the protest. Members of *Ende Gelände* drew the attention of people on Rügen to the issue by organizing direct exchanges with affected activists in the USA. This holistic connection between places of production and those of further transportation, as exemplified by Rügen as a terminal location, enriches the perspectives of a protest and links local struggles with broader ideas of justice. The existing literature on energy justice, which primarily deals with only one perspective, could benefit from such a consideration of production and transport sites.

The third group that appears in the opponents' arguments is that of non-human entities. These include fish, especially herring, the Greifswalder Bodden as an area worthy of protection, and the entire Baltic Sea. On the one hand, the Baltic Sea and the herring are recognizable to the locals and historically form the identity of the island, for example through the heritage of coastal fishing. On the other hand, the Baltic Sea offers a kind of recreational area for the island's population. Nevertheless, its relevance, as well as that of the people not present in space and time, suggests that altruistic motives also play a significant role in the protest. From this it can be concluded, as it has been in other research, that the accusation of the Not-in-My-Backyard theory has little substance. Resistance and its motives are fuelled not only by selfish ideas and reluctance to change, but also by the altruistic desire to protect non-human entities.

It is also important to recognize that the entire topic of LNG is about fossil fuel infrastructure and not renewable energies. The associated 'fossil nature' shapes the arguments of the opponents. The energy is not generated locally, but has to be transported

over long distances, unlike often the case with wind or solar power. The protest against the LNG terminal is first directed at this transport infrastructure and only then at production. This production is based on forms of exploitation of a finite resource. The consumption of this form of energy is harmful to the climate. All of this resonates in the protest and characterizes it differently than would be the case in situations of resistance to renewable energies. This can be seen, for example, in the aforementioned consideration of climate change or the health consequences for people in more distant production areas. As Howe und Boyer (2022) show using the example of wind power in Mexico, the production of renewable energy can also perpetuate existing systems of oppression, but fossil energy does so in any case. The systems in question, which are employed in the context of fossil energy production, find resonance with arguments often voiced in discourses that critique capitalism and the concept of growth. These currently dominant economic forms are based on fossil fuels and their excessive utilization. If a fossil fuel project is criticized, a general criticism of the system is therefore not far-fetched and is made clear by the opponents' call for "less is more".

A 'classic' unequal distribution along lines of discrimination based on characteristics such as race or gender, as often evidenced in early research on EJ in the USA, is less apparent in the motives that have emerged here. In their research on the port expansion in Hamburg and the Moorburg district affected by it, Hilder and Heins (2023) did not recognize any multiple discrimination as in the famous case of Warren County. Nevertheless, a partial marginalization and associated injustice regarding the district was identified, which is based on historical class dimensions. In the case of Rügen, the East German past can be attributed at least in part to a similar marginalization. The author was asked in several interviews whether she had seen the documentary "*Wem gehört mein Dorf*" ("Who owns my village")⁴. This deals with the island's East German past and the sell-out by West German investors after reunification, as well as their influence on local politics and the development of Rügen, particularly regarding tourism. The CI *Lebenswertes Göhren*, for example, emerged from the protest against this dominance of investors, and the BILR was also primarily concerned with large-scale tourism projects and the fight against mass tourism on the island before the LNG terminal, as some interviewees emphasized. As in other examples of protest against energy infrastructure, the ambivalence of arguing in favour of tourism can be attributed to the broad alliance and the mobilization momentum of such an issue. Nevertheless, this history shows the basis on which the LNG terminal was planned. Among other things, it is external interests and factors that see the former East German island as a place of investment and consider the local population and their ideas about the island to be of secondary importance.

In light of this historical but ongoing tourism issue, the protest groups hold both non-local gas production companies and the politicians responsible for profiting from the disadvantage of the local population in the case of the LNG terminal. In the distribution

⁴ Documentary by Christoph Eder from 2021 (see www.jip-film.de/wem-gehoert-mein-dorf)

dimension, these external actors are therefore on the side of those who cause environmental pollution and those who profit from it. Consumers, particularly those who purchase the natural gas, such as non-local companies, are also included on this side of the argument. Local entities on and around Rügen, as well as in the USA and in the future, are the ones depicted in the interviewees' motives as being on the losing side.

3.5.2. Procedural justice

The various arguments raised by the interviewees with regard to the process reveal complex procedural injustices. The application process and the associated issues surrounding the LNGG are particularly significant. Here, opponents are questioning the basis for the political action that builds on this and are therefore alleging injustice. In their view, a gas shortage does not seem to exist, which undermines the basis for the LNGG. The LNGG is also unjust, so that it fails to take nature into account especially due to the lack of or inadequate impact assessments. In order to speed up the construction of the terminal due to a supposed gas shortage, individual applications were approved. In the eyes of the interviewees, this also enabled the Aarhus Convention to be circumvented. This political game of creating the basis for their actions is identified and criticized as such by the opponents.

The situation is similar regarding the opportunities for political participation. It became apparent that the population was officially involved. The Federal Chancellor and the Federal Minister of Economics visited the island and events on site, as did the Commissioner for Eastern Germany and the state government, who took part in some dialogue formats. However, according to the opponents interviewed, these consultations were not organized in the interests of the population. There was an impression of a seemingly superficial participation, which resembled more of a monologue than a dialogue. The partially exclusive organization of the event formats underlines Sherval's (2023), argument that participation does not automatically mean that everyone is equally involved. The behaviour of the politicians in not sufficiently involving the public or considering their interests during the process of initiating the LNG terminal could, according to some interviews, lead to a general deterioration in the relationship between the state and the public. Feelings of being disregarded, which resonate with the recognition dimension, could have arisen due to inadequate participation, potentially leading to disenchantment with politics or the erosion of trust in democracy and the rule of law. In the eyes of the protesters, the state, which should play a proactive and precautionary role towards its population, has not fulfilled this duty, but has sided with profit and is acting against the citizens. Sherval's (2023) findings on the protest against fracking in the UK show a similar effect. As there, the centralized, top-down decision-making process of the government is criticized and feeds the protest. The resulting fatalistic feeling of the interviewees that the relationship between the state and the population has suffered carries through many conversations, especially when talking about the rest of the population of Rügen. Some people involved

in the protest have the impression that the non-protesting population might think that active resistance is no longer worthwhile. The people interviewed are all involved in the protest, which gives them a certain amount of confidence or hope that their actions will still have an effect. Rasch and Köhne (2017) see this locally based decision-making, as demanded by the protesters, to be the right approach and criticize top-down actions in energy infrastructure decisions.

However, it is not clear from this work why the state or federal government acts in this way. As Sherval (2023), Hess et al. (2022) and Klepp and Hein (2023) have already noted, governments often find themselves in a multidimensional dilemma between secure energy supply and loss of various land uses, public will, and time urgency. In the case of the LNG terminal off Rügen, these dimensions come together, and the resulting conflict is not surprising.

3.5.3. Recognition justice

It became notably evident during the evaluation of the dimension of recognition justice that local demands were not being adequately recognised. The aforementioned dialogue formats that took place could be used to claim that the population was involved and thus recognized. However, based on the numerous arguments put forward by the opponents, which were not addressed, it can be concluded that the local demands were not and are not being recognized. This is illustrated by the impression of a lack of political response and disregard for local needs, as in the example of the promised labour force. Here again, the link between recognition and procedure is particularly clear.

The unidentified discrimination of specific groups and the non-recognition that would come with it is less relevant in this case compared to other examples. However, as was shown in the section on the distribution dimension, non-human entities or non-present people are treated differently by the policy. They are less recognized and, according to the interviewees, experience disadvantages, especially due to the negative environmental impacts generated. This leads to the conclusion that only locally visible, external entities are recognized, if at all.

Another point that can be made regarding recognition is the consideration or lack thereof of scientifically grounded arguments. The protesters like to refer to studies or statements by experts, such as Christian von Hirschhausen, to legitimize their points. However, this knowledge is apparently not accepted by politicians, which leads to the impression that a different understanding of truth separates the two sides. For example, one side believes in a gas shortage that makes the LNG terminal necessary, while the other does not. This accusation against the government of not relying on scientific facts is also reflected in the current climate movement through the demand "Listen to the science" (Pohlmann et al., 2021). At the same time, the depth of knowledge that individuals have about the process and the issue is striking, which is again comparable to the example of the anti-fracking protests discussed by Sherval (2023). However, Rasch and Köhne's (2017) view of what

counts as legitimized knowledge is not entirely consistent with that of the LNG protest. On the one hand, the people actively shaping the resistance are not people in political or scientific positions, which means that their opinions are not valued according to Rasch and Köhne. At the same time, however, people and knowledge from sources legitimized by politics in the past, such as the DIW (Bundesministerium für Wirtschaft und Klimaschutz, n.d.) are involved in the protest, but this is not accepted by politicians either. On the other hand, the practice of evidencing, which the local protest group utilizes through this cooperation, becomes clear. This shows parallels to the protest against brown coal and forced resettlement (Beckmann/Heyer, 2023).

In addition to the protest against the terminal and the possible defeat and disappointment at the injustices experienced, the people also expressed a positive feeling about the sense of community created by the protest. Some people spoke with joy about the connections they had made through the protest. The individuals, for example, formed connections with young people from the climate justice movement or among each other on the island. In this context, one could speak of increased recognition within the protest parties.

3.5.4. Criticism

The underlying methodology of this work, besides its validity, also presents some obstacles, which should be mentioned at this point. Firstly, the group of people interviewed was limited to local protesters, all of whom are assimilated with the BILR. Other active groups such as DUH, *Ende Gelände* or the wider population of Rügen were not interviewed on the topic in this study, nor were potential supporters of the project. However, by surveying this homogeneous group, it was possible to cover their views comprehensively. The work thus has a focus on the local perspective, which represents an independent added value. In addition, the people interviewed live in different places on Rügen and are partly active in various local CI and other civil society groups, which shows a certain breadth of the sample. Another challenge in addressing an active protest against new infrastructure measures arises from the temporal dimension. Since both the protest and the construction measures, as well as the underlying political and business activities, can be highly dynamic, personal views and opinions of those affected can change significantly. The interviews took place in November 2023 and look back on a protest phase of almost a year, which also shows a lot of activity on the part of the protest, the construction measures and political action. The insights gained are therefore valid in themselves but must always be seen in the context of the survey period. In addition, the scope of this study is limited, which prevents a more comprehensive temporal recording of the protest. Despite the construction work having been completed, the protest against the LNG terminal remains active (April 2024) (Bürgerinitiative Lebenswertes Rügen, 2024).

The exclusive use of interview data and the lack of further inclusion of, for example, social media content can, like the previously mentioned challenges, be attributed to the scope of the work, the associated limited content coverage, and the restricted time for completion.

In addition to the previously mentioned advantages that led to the selection of this analytical framework, the analysis of EJ also presents certain challenges. Firstly, it became clear that the three dimensions overlap in some respects and that it is not always possible to clearly categorize certain motives. Rather, there were connections and dependencies within the individual dimensions, but also between the three dimensions. These difficulties in categorizing the interview statements were also noted by Baasch (2023). Such a strict differentiation of the dimensions is hardly feasible when applying them to real situations and statements. Nevertheless, the core statements could always be assigned to the dimensions that dominated them. This primary classification should not be seen as the only correct one but rather as a suggestion and interpretation made here within the overall context of the statements provided by the individuals. Nevertheless, this assignment to the dimensions provides a helpful structure that enables an evaluation of the thematized justice motives. Furthermore, this classification could provide a foundation for future research on other cases with the same dimensional structure, thereby facilitating comparative analyses.

Another differentiation issue of the work is the simultaneous reference to EJ and energy justice. In terms of language, the research question focused on the concept of EJ, although theoretical aspects of energy justice also found their way into the analysis and consideration of the topic. This simultaneous consideration need not be viewed as negative. The background of the two theories clearly points to their similarities. Due to the already elaborated and older research on EJ and the fact that energy justice originates from it, its primary use in this work is comprehensible. However, the influences of the even more recent theory on energy justice should not be ignored, as the case in question is energy infrastructure. As with the three dimensions, reality is frequently not directly attributable to a single thematic theoretical strand. In addition, the theory of climate justice could still be considered, as references to fossil fuels also come into play here. However, it was decided against this in order to focus on the locality that the work methodologically pursues. Climate justice offers an even more global perspective, which was not addressed in this work.

4. Conclusion

The war in Ukraine continues, and Germany, like other European countries and those around the world, will rely on fossil fuels for several more years to decades. The transition will therefore continue to persist. This work has demonstrated the potential implications of a political shift towards a new energy form and the associated infrastructure on a local scale. The analytical framework provided by the theory of EJ supported the understanding of justice perceptions. The statements made by opponents of the LNG terminal can be implicitly assigned to the three dimensions of EJ. This division and conceptualization, which is common in theory, was not explicitly used by the individuals, but could be assigned to the respective dimension through independent interpretation. The contents that became

visible within the dimensions, which point to the experienced and perceived injustices, are comparable with existing literature. The open research approach that was pursued in this study nevertheless enabled a view that was as unbiased as possible. As a result, the concrete dimensions of injustice for the case of the LNG terminal off Rügen were appropriately analysed and the results testify to diverse, locally and case-specific injustices. The guiding research question of the extent to which the three dimensions of EJ are reflected in the arguments and motives of the opponents is answered in detail in the results section. The identified injustices, with regard to the distribution dimension, ultimately manifest in the disadvantage of local groups due to factors such as inadequate safety standards or damage to the fishing and tourism industries. Overall, this also contributes to a transformation of the region, as does the existing and ongoing industrialization of the Baltic Sea. None of this can be offset by the politically proposed compensation for the local people. Additionally, the natural environment of the Baltic Sea and especially the fish are disadvantaged. On a more global scale, opponents argue that the LNG terminal will penalize people in the natural gas production regions and further contribute to the climate crisis. This could have further negative consequences for future generations. Politics and the companies involved, on the other hand, are the winners of these injustices.

The opponents answer the question of whether there is a fair process with a resounding "no," based on their arguments. Aspects of the approval process, such as the non-existent gas shortage, the LNGG, the split application approval or the circumvention of the Aarhus Convention speak in favour of this view of the opponents. The dialogue with politicians, including the dialogue formats that were not conducted in the interests of the interviewees, as well as the perceived dishonesty of politicians and companies, also contributed to an unjust process. Overall, there was a sense that the politics in this process were aligned with or directed by the companies' interests. All these criticisms contribute to an impression of a failure of democracy or the rule of law.

The question of who is being ignored has been extended to who or what is being ignored. On the one hand, it is the various local demands put forward by opponents or scientific findings that are hardly taken into account. On the other hand, a relatively small circle of people was directly consulted by the government, creating the impression that this exchange did not occur on equal terms, but rather that the government viewed the local population from a position of superiority. To a certain extent, the interviewees nevertheless received attention, for example from the media or the local population and beyond. In addition, there was also an exchange with politicians, which was criticized in some cases, but was seen as appreciative in some respects.

Future research can benefit from these results in a variety of ways. The current orientation of the German government to promote LNG is a new development that can continue to be observed in the future. This also applies, for example, to the federal government's new energy and hydrogen partnerships, as well as the hydrogen expansion plans that imply the import of "large quantities" of hydrogen (Bundesministerium für Bildung und Forschung,

2023; Bundesministerium für Wirtschaft und Klimaschutz, 2023). In turn, the corresponding infrastructure must be provided for this import of energy. In particular, the local implications that could arise for any infrastructure locations in Germany and in partner countries must be considered. Building on these local perspectives, a meta-level analysis could be further developed in related research projects. Questions of climate or energy justice could be differentiated. The same applies to a holistic case analysis of the production, transport and consumption of fossil fuel or renewable energy and the overarching dimensions of justice implied therein.

The relevance of non-human entities and their unequal recognition and opportunities for participation, which is emphasized in parts in this case, can also be taken as an opportunity for future research. The research conducted by Yaka (2019) can be a starting point for this as could be ecological justice as the fourth dimension of EJ according to Pellow (2016). The still emerging research on marine justice also offers the opportunity to better explore issues such as the relevance of the Baltic Sea and its living organisms, as discussed here (Bercht et al., 2021; Widener, 2018).

Finally, what is essential for this and similar cases of structurally and politically created injustices is adequately summarized by Walker (2012): “Most fundamentally, it is about the way that people should be treated, the way the world should be” (17).

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