

# Liquefied Natural Gaslighting?

*An Analysis of the German Government's Discourse  
Surrounding LNG and Considerations of Energy Justice.*

*Pauline Harich & Anne-Sophie Kneip*

---

Master Thesis Series in Environmental Studies and Sustainability Science,  
No 2023:021

A thesis submitted in partial fulfillment of the requirements of Lund University  
International Master's Programme in Environmental Studies and Sustainability Science  
(30hp/credits)



## LUCSUS

Lund University Centre for  
Sustainability Studies



**LUND**  
UNIVERSITY

---

## **Liquefied Natural Gaslighting?**

An Analysis of the German Government's Discourse Surrounding LNG and  
Considerations of Energy Justice.

Anne-Sophie Kneip & Pauline Harich

A thesis submitted in partial fulfillment of the requirements of Lund University International  
Master's Programme in Environmental Studies and Sustainability Science

Submitted May 5, 2023

Supervisor: Bregje van Veelen, LUCSUS, Lund University

**Empty page**

## **Abstract**

In 2022 the Russian war against Ukraine left Germany without imports from their biggest energy supplier, forcing them to find new energy sources. One of the government's measures was the investment in LNG, which impacts society and the environment. With a critical discourse analysis, this thesis analyzes how the government justifies their choice for LNG and how energy justice is considered within their discourse. The discourse was compared to further literature, to analyze if the government's discourse aligns with state-of-the-art knowledge on LNG.

The analysis revealed that the government's main reason for LNG investments is to ensure Germany's energy supply, justifying the decision by saying that LNG is used as a bridge technology, being under time pressure and protecting the economy. Five of eight energy justice principles were present in the government's discourse, but only one, availability, could be confirmed in a review of other literature outside the discourse.

## **Keywords**

LNG, energy justice, discourse, energy crisis, Germany, supply security

## **Word count**

11.953 words

## Acronyms and Abbreviations

BMBF	Bundesministerium für Bildung und Forschung (Federal Ministry of Education and Research of Germany)
BMUV	Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz (Federal Ministry for Environment, Nature Conservation, Nuclear Safety and Consumer Protection of Germany)
BMWK	Bundesministerium für Wirtschaft und Klimaschutz (Federal Ministry for Economic Affairs and Climate Action of Germany)
CDA	Critical Discourse Analysis
CO <sub>2</sub>	Carbon Dioxide
DUH	Deutsche Umwelthilfe
EEA	European Environmental Agency
EU	European Union
EJ	Energy Justice
FSRU	Floating Storage Regasification Unit
LNG	Liquefied Natural Gas
RQ	Research Question
UN	United Nations

## **Acknowledgements**

First of all we want to thank our supervisor Bregje for her guidance throughout this process. Your great feedback, inspiring questions and supportive comments made this a learning experience that we will gladly look back on.

Pauli, I want to thank you for suggesting to tackle this thesis together. It was a pleasure to be your teammate, to brainstorm together, to be confused at times, to postpone decisions, to solve this puzzle and to make these months more fun than expected.

Anso, your unfailing optimism has made this process probably the most fun learning experience I've ever had - I couldn't have imagined anyone else as a team member. Thank you very much for agreeing to write a joint thesis with me and for making the last few months in Lund an even more memorable time.

Together we want to thank our friends for all the fun dinners, trips to the sauna, cabin adventures and memorable nights. Jules, thanks for taking the time to read our thesis and share your thoughts on it with us.

Shoutout to Love Coffee, without you our meetings, writing sessions and breaks would have been half as sweet.

# Table of Contents

<b>1. Introduction</b>	<b>1</b>
1.1. Context and problem description	1
1.2. Research Questions and Structure	2
<b>2. Background Information</b>	<b>3</b>
2.1. Germany's energy sector before the war	3
2.2. Germany's energy sector since the war	4
2.3. Liquefied Natural Gas	5
<b>3. Theory</b>	<b>6</b>
3.1. Energy Justice	6
3.1.1. Intro	6
3.1.2. Energy Justice Principles	7
3.2. Discourse	9
3.2.1. Introduction	9
3.2.2. Critical Discourse Analysis	10
3.3. Application of key theories	11
<b>4. Method and Methodology</b>	<b>13</b>
4.1. Methodology - Critical discourse analysis	13
4.2. Method - Document Analysis	14
4.2.1. Comparing the discourse with further literature	16
<b>5. Results</b>	<b>16</b>
5.1. RQ1 - The government's discourse	16
5.1.1. Secure energy supply	17
5.1.2. LNG as a bridge technology	18
5.1.3. Time pressure	18
5.1.4. Economic aspects	19
5.1.5. Less mentioned themes	19
5.1.6. Summary of RQ1	20
5.2. RQ2 - Energy justice within the discourse	20
5.2.1. Availability	20
5.2.2. Affordability	21
5.2.3. Sustainability	22
5.2.4. Due Process	23
5.2.5. Good governance	24
5.2.6. Intragenerational Equity	24
5.2.7. Intergenerational Equity	24
5.2.8. Responsibility	25

5.2.9. Summary of RQ2	25
5.3. RQ3 - The discourse in alignment with further research	26
5.3.1. LNG's potential to obstruct Germany's Energiewende	26
5.3.2. LNG has detrimental local and international environmental effects	28
5.3.3. German LNG has negative effects beyond the country's borders	29
5.3.4. Summary of RQ3	30
<b>6. Discussion</b>	<b>31</b>
6.1. Discussing the results	31
6.2. Discussing the theory	33
6.2.1. Implications for CDA and EJ	33
6.2.2. Implications for Sustainability Science	34
6.3. Limitations	34
<b>7. Conclusion</b>	<b>35</b>
<b>References</b>	<b>36</b>
<b>Appendix</b>	<b>46</b>



# 1. Introduction

## 1.1. Context and problem description

Until 2022, Russia was the European Union's (EU) largest supplier of fossil fuels and the second-largest supplier of nuclear fuels (Sturm, 2022). Germany too was very dependent on Russia's fossil fuel supplies. In 2020, Germany imported more than half of its natural gas, about a third of its oil, and around half of its coal from Russia (Wintour, 2022).

In February 2022, this dependence was shaken to its foundations. Russia invaded Ukraine and began a war of aggression that, among the devastation of Ukraine, a thereby provoked refugee crisis (UNHCR, 2023) and a worsening of global food security (Abay et al., 2023), also caused an energy crisis within the EU (Kuzemko et al., 2022a). The crisis has revealed several structural and political problems in Germany and brought the instability of the existing energy system to light. Due to sanctions of the EU against Russia's fossil fuel imports (Bundesregierung, 2022), Germany was forced to drastically change its energy mix within a very short time. The high number of Russian imports had to be reduced as quickly and as much as possible (Oltermann, 2022).

One of the measures taken by the German government (from now on "government") to tackle the crisis was the development of national liquefied natural gas (LNG) terminals. In Germany, however, the use of LNG is being discussed critically. The costs of implementation are extremely high, environmental consequences and the future use of the infrastructure are partly unclear (NDR, 2023). Simultaneously many social aspects are also not fully clarified; the distribution of negative consequences and benefits within the society is uncertain. Whether LNG is a suitable means to address the social impacts of the energy crisis and to drive a sustainable energy transition at the same time is still unclear (Kuzemko et al., 2022a).

The concept of energy justice (EJ) addresses issues of this kind. EJ aims to provide a framework for informing energy policy decisions more equitably (Sovacool & Dworkin, 2015), as the energy sector is the cause of many injustices and inequalities (Heffron et al., 2018). Research confirms that there is a link between a rise in CO<sub>2</sub> emissions, which the energy sector is largely responsible for, and an

upsurge in social inequalities (Heffron et al., 2018) – so there is a high need for justice considerations to be integrated far more into the decision-making process.

By examining an energy decision for its consideration of justice, the thesis aims to contribute to sustainability science. The study of the interaction between different domains corresponds to the field of sustainability science, thus promoting interdisciplinarity (Kates et al., 2001). In the case of this thesis, the focus is on the connection between justice as a social domain and the economic and technological domain of energy. By connecting them, we intend to achieve a better understanding of how complex sustainability issues such as energy systems, can be addressed in a holistic way. As the burning of fossil fuels is the largest contributor to climate change (UN, 2022), energy use, including the decision to use LNG, is a key component in limiting global warming to 1.5 degrees (EEA, n.d.).

To understand whether and how EJ was considered in the decision to expand LNG, examining the discourse of this decision can be useful. Depending on how this energy decision was presented by the government, the problem definition, as well as the solution, may have been affected (Entman, 1993). A critical discourse analysis (CDA) can be used to understand the framing as it "reveal[s] sidelined agendas and undeclared goals, and [...] identif[ies] themes through which a topic is constructed as well as those it avoids" (Eckert & Kovalevska, 2021, p. 3). Through this we can also analyze how EJ is present in the discourse as well as in what ways it is absent, opening up the opportunity for a discussion on how to make energy decisions more just.

In this thesis, therefore, a CDA will be used to find out how the use of LNG as compensation for the loss of Russian fossil fuel imports is presented in the discourse of the government. Through a deeper understanding of the discourse we want to understand whether EJ was considered in the decision by the government and lastly put the government's discourse into the context of further research to understand how they differ or align.

## **1.2. Research Questions and Structure**

The thesis, therefore, aims to answer the following research questions (RQ):

- **RQ1:** What constitutes the government's discourse regarding their LNG investments?
- **RQ2:** How is energy justice considered within this discourse?
- **RQ3:** How does the government's discourse align with research on EJ and LNG?

The first part of this thesis will present background information on the energy sector in Germany and a brief overview of LNG. The following section discusses the theoretical foundations of the thesis, namely EJ and discourse. CDA and document analysis are then presented in the methodology section. The three RQs are answered in the results section and then reviewed in the discussion section. A conclusion forms the end of the thesis.

## **2. Background Information**

### **2.1. Germany's energy sector before the war**

Germany has long been regarded as a leader in sustainable energy transitions and has early on established energy policies that intend to reduce environmental harm (Buschmann & Oels, 2019; Feder, 2022; Plehwe, 2022). Germany has established specific goals for sustainable energy in their energy transition, the so-called *Energiewende* (Heering & Gustafson, 2021). These include the replacement of fossil fuels with renewable energies and regenerative resources to amount to 60% of the gross final consumption of energy and 80% of the gross electricity consumption by 2050. Additionally, the generation and consumption of energy must become more efficient. This should reduce energy consumption by 50% until 2050 (BMBF, n.d.).

The country's renewable energy infrastructure is growing, yet not enough to meet the current demand (Feder, 2022). Even before the war, hurdles that stand in the way of a sustainable transition have existed. Be it technical challenges like not having enough workers to retrofit buildings, social questions like who would be responsible for paying, or economic ones like green hydrogen being expensive and rare, even if it is often portrayed as the solution fuel for the transition (Feder, 2022). In addition to these challenges, while advancing policy and technology towards a transition, Germany simultaneously is path dependent on fossil fuels (Plehwe, 2022), which is for instance fostered through high set-up costs of new infrastructure or policies (Buschmann & Oels, 2019).

The Russian war against Ukraine has highlighted how dependent Germany is on Russia's energy sources. Their energy cooperation started around 1969 and up until the start of the war in 2022, Germany could rely on Russia's imports (Belov, 2022). The decision made within the EU taxonomy to categorize natural gas as an indispensable "bridge technology" on the way to a more sustainable energy system has intensified this dependence (Oltermann, 2022). Between 2014 and 2021, Germany imported 372 billion cubic meters of gas from Russia, which amounts to over a third of the amount of gas that was imported during the four previous decades (Belov, 2022). Before the war, Germany imported 55% of their gas, 50% of hard coal as well as 35% of oil from Russia, which has all been halted (Bundesregierung, 2023).

## **2.2. Germany's energy sector since the war**

The war forced the government to quickly readjust to decreases in their energy supply while trying to show solidarity with Ukraine, thus their immediate goal after the start of the war was to work on stopping all Russian imports. Since Germany's dependence on Russia was so enormous, new energy sources had to be established rapidly.

Among the decisions that the government took to mitigate the effects of the war (e.g. extreme energy prices) was to invest in LNG (Kuzemko et al., 2022a). This measure has been scrutinized not only because it means investment in another fossil fuel, thus strengthening the country's fossil path dependency (Kuzemko et al., 2022a), but also because LNG has other negative environmental consequences (Garrett, 2018). The country's decision to push its LNG infrastructure has led to an increase in global LNG prices, therefore some developing countries that relied on LNG can now no longer afford it (Mayer, 2023).

The decision to invest in LNG is a new era in Germany's energy policy sector and hints at a restructuring of the country's energy-related priorities. Past energy crises caused by wars have shown that they often come with a refocus on national security, including energy security (Kuzemko et al., 2022b; Žuk & Žuk, 2022). This renewed target is often combined with putting climate goals on hold (Žuk & Žuk, 2022).

This links to the “energy trilemma” that many governments try to balance, which means finding the right combination of addressing energy costs, securing the energy supply all while not forgetting environmental sustainability (Schmidt et al., 2019). Decisions in the energy sector often lead to inequalities and environmental damage, impacting EJ (Heffron et al., 2018). The energy trilemma and EJ are connected (Figure 1) in a way that often one part of the trilemma has a stronger influence on laws and policies leading to imbalance; however by basing laws and policies on the idea of EJ, this imbalance could be reversed (Heffron et al., 2018).

The government’s decision to invest in LNG affects all three aspects of the energy trilemma. Since the trilemma and EJ are interrelated, EJ is also affected. These connections sparked the idea behind this thesis.

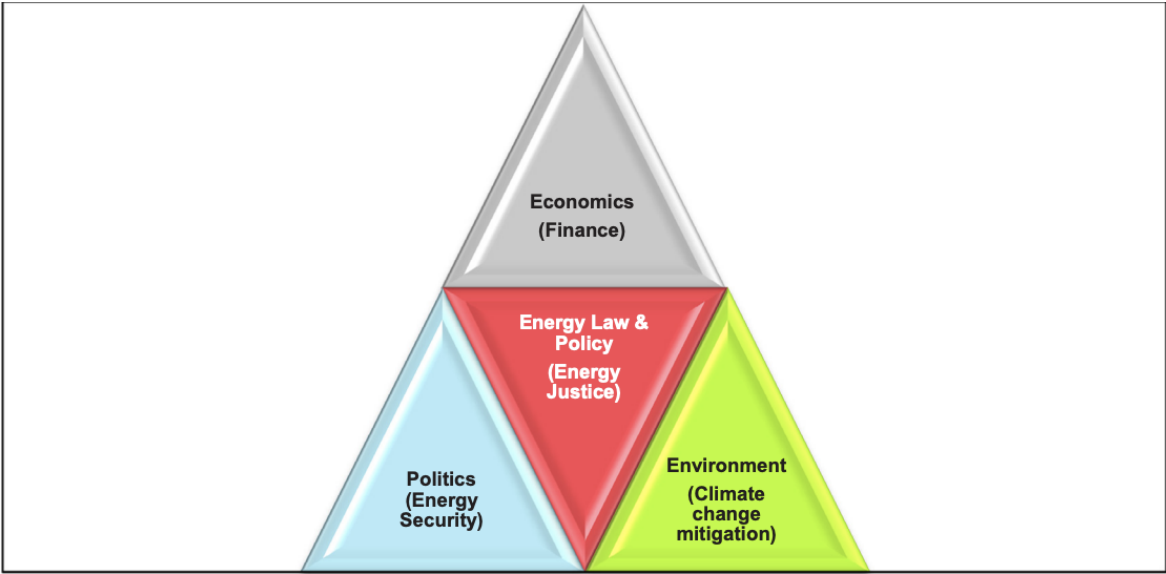


Figure 1: Connection between energy trilemma (gray, blue, green) and EJ (center/red) (Heffron et al., 2018, p. 1195)

### 2.3. Liquefied Natural Gas

LNG is a natural gas that is cooled down to less than minus 160°C in an energy-intensive process to liquefy it. The liquefaction process makes the gas highly compressed compared to its gaseous state, making it attractive from a transportation perspective. In addition to being easy to transport, other advantages are its positive effect on energy security, competitiveness, and being a replacement for

more polluting fuels (e.g. diesel) (European Commission, 2016). For use, the LNG is converted back to its gaseous state.

Germany obtains its LNG from various supplier countries, such as Norway, the Netherlands, or Qatar, but at the moment most of the gas comes from the USA. This is particularly problematic in terms of the environment, as the USA extracts gas through fracking (Hesseling & Lerch, 2023). Fracking is causing severe environmental damage as well as emissions and is prohibited in Germany (Heynen, 2022). The origin of LNG is therefore a contributing factor when determining the environmental friendliness of LNG. In principle, the environmental friendliness of LNG must be looked at closely. While it is generally true that the overall emissions from LNG are lower than those from oil or coal, gas is still a fossil fuel that releases CO<sub>2</sub>. As the liquefaction and the reliquefaction process as well as the cooling of the gas are highly energy-intensive, LNG is often more climate-damaging than natural gas transported through pipelines (Wachsmuth & Oberle, 2019). Additionally, the use of chemicals can cause local environmental damage, such as pollution of the sea, in the area surrounding the terminals.

In June 2022, a law, called the LNG Acceleration Act, was passed to accelerate the construction of the terminals, and three permanent terminals are now scheduled to be in operation by 2026/2027. Floating terminals are only supposed to be used as an interim solution, the first one was put into operation beginning of 2023 (BMWK, 2023).

### **3. Theory**

#### **3.1. Energy Justice**

##### **3.1.1. Intro**

The concept of EJ is a relatively new academic field that has emerged to address the lack of consideration of justice-related issues within energy research. It is an interdisciplinary approach that, by combining the (social) concept of justice with energy research, aims to shift the research field of "energy" from being viewed only from a technical and economic perspective (Sovacool et al., 2017). It aims to provide a "way to better assess and resolve energy-related dilemmas" (Sovacool & Dworkin, 2015, p. 441) in order to more equitably distribute the benefits and

drawbacks of energy production and consumption and to focus on a fair decision-making process for all stakeholders. The concept claims that justice should be considered as an integral part of (policy) decisions and that not only a "transition" but a "just transition" should be envisioned (Heffron et al., 2018). The goal of EJ is to achieve justice across the global energy system (McCauley et al., 2019). By refocusing on non-economic issues, EJ can also help to better balance the conflicting objectives of the aforementioned energy trilemma.

This thesis uses an approach developed by Sovacool and Dworkin (2015). They present three different EJ tools that can be used in different contexts. First, they present EJ as an analytical tool for researchers "for altering how energy problems exist or are framed" (Sovacool & Dworkin, 2015, p. 437). Secondly, they introduce EJ as a conceptual tool for philosophers and ethicists, which discusses the concept of justice as a tool with different functions; for example to solve disputes and to make better decisions. The last and third tool is the decision-making tool, which forms the center of our research.

### **3.1.2. Energy Justice Principles**

EJ as a decision-making tool for energy planners and consumers translates the general concept into more practical principles. It is important to note that decision-makers in this context are not only policy-makers but anyone who makes energy decisions, including, for example, homeowners, businesses, and investors. The tool argues that the following eight aspects should be increasingly emphasized within energy decisions: **Accessibility, affordability, due process, good governance, sustainability, intragenerational equity, intergenerational equity, and responsibility** (Sovacool & Dworkin, 2015). The principles mentioned above will be the theoretical focus of the thesis. Since the thesis deals with a specific political energy decision and wants to understand to what extent this decision respects EJ, the principles are the appropriate framework, since they were developed for this very purpose. Sovacool and Dworkin (2015) define the principles as follows:

**Availability** describes the necessity of a sufficient energy supply in an (economic) system and is considered a basic element. Included here are the physical resource, any technical aspects, for example, the production and distribution of energy as well as the investment in various energy resources and the maintenance of the infrastructure that guarantee the function of the system.

**Affordability** of energy describes that energy prices should not become a hurdle for its consumers; on the one hand it is about stable prices and on the other hand, about "equitable prices" (Sovacool & Dworkin, 2015, p. 439), which do not burden low-income households too much. The principle can be linked to the principle of availability, since it is not enough for energy to be available in sufficient quantities, it must also be affordable.

The **due process** principle is intended to ensure that individuals and communities affected by energy decisions have an appropriate say in the decision-making process. It is about active consent, where, for example, an affected community can make an informed decision that takes into account potential environmental as well as social impacts.

The **good governance** principle concerns a "democratic and transparent decision-making process" (Sovacool & Dworkin, 2015, p. 439). The principle includes access to information as a priority for ensuring democracy and reducing corruption.

The **sustainability** principle refers to the "sustainable use of natural resources" (Sovacool & Dworkin, 2015, p. 439). States are obliged not to exploit natural resources without regard to the environment or future generations, but to use them in a sustainable way. The avoidance of environmental damage – in the states that have natural resources but also beyond – also falls under this principle.

**Intragenerational equity** means that all people have the right to access energy to meet their basic needs, such as food, shelter, and water. The principle includes the notion that physical security as a fundamental right can only be realized if there is a certain level of access to energy.

**Intergenerational equity** is about justice between present and future generations. It discusses that "future people have a right to enjoy a good life [...] undisturbed by the temporal damage our energy systems will inflict over time" (Sovacool & Dworkin, 2015, p. 440). The principle includes the moral responsibility that the present generation leaves behind a world that is no less worth living in than the present one. Future generations should already be considered now and resilience should be achieved.



The last principle is called **responsibility** and states that "all nations have a responsibility to protect the natural environment and minimize energy-related environmental threats" (Sovacool & Dworkin, 2015, p. 440). It is the most complex and contentious of the eight principles because it involves different types of responsibility. It is about the responsibility of governments, but also of industrial nations, of the current generation as well as humans in general.

## **3.2. Discourse**

### **3.2.1. Introduction**

Having discussed EJ, we will now go into the concept of discourse, which in this thesis signifies the portrayal of the LNG decisions by the government. The way in which LNG is presented, allows us to go into how EJ is present or absent from the discourse.

Discourses can be understood "as socio-historical practices shaped by the interactions between language in speech and writing [...], broader geographical contexts, and power relations" (Jara & Bruns, 2022, p. 2). Language is not only a mirror of reality but simultaneously influences how reality is seen (Hajer, 2006).

Importantly, multiple discourses surrounding the same topic can exist simultaneously, if that is the case, often one discourse becomes hegemonic. This means it becomes prevalent in thoughts and discussions surrounding certain issues or topics and can eventually be institutionalized (Adger et al., 2001). Antonio Gramsci established the concept of hegemony: by perpetuating values and beliefs that benefit the ruling class or those who are already privileged, those not in power inadvertently behave in ways that reinforce existing power relations (Berberoglu, 2017). Thus, those who (un)purposefully control the discourse, create and reinforce often unequal power relations (Jørgensen & Phillips, 2002), making it crucial to unpack dominant discourses in order to remedy unjust situations. Furthermore, hegemony is challenged by counter-hegemonic forces, especially in times of crisis, of those who demand rectification of injustices (Kalt, 2021), pointing to the temporal nature of hegemony.

Political power can be exercised through the representation of a topic, which is especially relevant since "on most matters of social or political interest, people are not generally so well-informed and

cognitively active, and that framing therefore heavily influences their responses to communications” (Entman, 1993, p. 56). Politicians are aware of this, so they consider precisely how they frame their messages, among other things by deciding which information to include and which to omit (Schaffner & Sellers, 2009). Since “governing takes place through problematizations” (Bacchi & Goodwin, 2016, p. 10), the way in which governing entities, in this case the government, portray an issue is even more important to analyze. Especially since only a single path is presented to be the right one, often underestimating the complexities of the world (Leach et al., 2010).

Due to their power and reach we assume the government's statements to be part of the hegemonic discourse regarding LNG, thus it is the focus of our analysis.

### **3.2.2. Critical Discourse Analysis**

There are many different approaches for theorizing, analyzing, and deconstructing discourse, this thesis focuses on the so-called critical discourse analysis. CDA is a theory and methodology for analyzing discourse, established among others by Norman Fairclough (Keller, 2011). The approach combines language theory with social theory and views discourse as having a dialectical relationship with reality, meaning that discourse shapes reality and vice versa (Fairclough, 1992). It posits that there is a connection between discourse and how social and cultural spheres develop (Jørgensen & Phillips, 2002).

CDA is connected to the concept of hegemony since it wants to uncover unequal power relations while siding with those oppressed by hegemonic discourse (Jørgensen & Phillips, 2002). Using CDA as a tool thus comes with assuming a political position and being normative by “[addressing] social wrongs in their discursive aspects and possible ways of righting or mitigating them” (Fairclough, 2013, pp. 10–11). Furthermore, Fairclough (2005) argues that during a crisis there is a more acute fight for discursive hegemony and posits that CDA can contribute to finding a way out of a crisis (Fairclough, 2013). A discourse analysis only becomes critical if the text that is being analyzed is put into context (Chen & Gunster, 2016; Jørgensen & Phillips, 2002). The goal of conducting a CDA “is to reveal hidden meanings in texts and how power, understood as influence, is realized through language, and then to reconstruct the knowledge created by discourse” (Krzywda et al., 2021, pp. 4–5). This points back to the power that those who communicate the hegemonic discourse have

since their presented idea of an issue influences how it is dealt with (McElwee, 2016). Fairclough (2005) also highlights that the effects of discourses goes beyond the discourse itself and can manifest in non-discursive manners.

Fairclough's approach to CDA is theory and methodology in one, so the details related to how it can be used in practice will be covered in the methodology section.

### **3.3. Application of key theories**

Having introduced the concepts of discourse and EJ in a more theoretical way, we want to summarize how these concepts and their combination have already been applied in research.

EJ studies have shown how energy injustices are normalized through institutionalization (Hartwig et al., 2023), that the EJ principles help structuring discourse and that framing not only impacts public opinions but also decisions regarding energy issues (Shukla & Swarnakar, 2022). Other studies have analyzed how incomplete discourses have detrimental effects on EJ (O'Shaughnessy, 2021) or how there can be mismatches between citizens' discourses and policy discourse on energy futures, which increase the likelihood of EJ issues in the future (Haarbosch et al., 2021). Within a German context, EJ research has been approached by analyzing how impactful narratives can be for just transitions (Kalt, 2021).

Other studies combine CDA and EJ. Jara and Bruns (2022) uncovered different views on EJ between indigenous groups in Canada and the country's government. It simultaneously showed how the application of a CDA reveals injustices in a wider context and how discourse shapes power relations (Jara & Bruns, 2022). Moreover, Walker et al. (2019) analyzed how the indigenous and mainstream media represents the involvement of indigenous communities in renewable energy projects in Canada, unveiling the influence a certain framing or representation has on how a topic is perceived.

The review of the mentioned literature has established the value of analyzing discourses within or related to the energy sector to reveal hidden power structures and the effects they can have on current and future EJ issues. The EJ principles (Sovacool et al., 2017; Sovacool & Dworkin, 2015)

allow the analysis of energy decisions, motivating our choice to use the principles. Furthermore, the practical application of CDA to EJ issues has revealed the value of this method(ology), establishing that CDA is a valid tool to analyze energy discourses in a wider context, to reveal discursive differences regarding how an issue can be portrayed and what implications this can have on EJ (Bacchiocchi et al., 2022; Jara & Bruns, 2022; Walker et al., 2019).

Certain studies have put their focus on discourse and energy in Germany, e.g. Buschmann and Oels (2019) have researched how discourse plays a role in the country's carbon lock-in and path dependency, and elaborate on how discursive lock-ins are often overlooked. Furthermore, there is a connection between the dominant discourse in Germany and a delay in the fossil fuel exit (Plehwe, 2022). Schmidt, Schmid and Sewerin (2019) have analyzed Germany's energy policy discourse for the previous three decades and have highlighted that the country needs a change in paradigm to bring about changes in their energy policy. Moreover, they state how a shock or crisis can lead to a needed change in paradigm and go into how paradigm changes have already happened in Germany's energy policy past (Schmidt et al., 2019). Research on German parliamentary debates highlights that "analyses of framings, discourses and policy narratives [has shown] that ideas and conceptualizations of energy policy problems are important for policy outcome" (Leipprand et al., 2017, p. 284).

Steffen and Patt (2022) highlight how important framing of the source of the energy crisis is; depending on how an issue is presented and by whom, the solution to it can change. They state: "The war as a focusing event could lead to major policy change, but it depends on the interpretation of the event" (Steffen & Patt, 2022, p. 2). Others expand on how the crisis can change the perception of energy sources, stressing again that understanding influences the selection of policy goals, instruments, and institutions (Osička & Černoch, 2022). Moreover, Sovacool et al. (2017) emphasize the need to look at energy technologies as more than apolitical tools that countries use, they have far more complex implications.

This existing literature shows that in the context of Germany and beyond there is an understanding that discourse already has and will continue to influence energy policies, showing the importance

of investigating what is said, by whom, for whom, what it is influenced by and what the consequences will be.

Further, the combination between LNG and discourse is not extensively researched. One study could be found that conducts a CDA on how a LNG campaign tries to legitimize its use by establishing an economic benefits narrative as well as borrowing from environmental narratives (e.g. coal is dirty, thus in comparison gas is see-through and clean). Thus, establishing discursive legitimation (Chen & Gunster, 2016). Similarly, the combination of EJ research with LNG is not a well-established field, we found one analysis in the USA regarding EJ and gas infrastructure which showed a link between LNG and EJ (Finley-Brook et al., 2018).

Finally, it has not yet been attempted to analyze the discourse surrounding LNG with regards to EJ in Germany, identifying the contribution that this thesis makes to current literature.

## **4. Method and Methodology**

### **4.1. Methodology - Critical discourse analysis**

As introduced, Norman Fairclough is one of the founders of CDA (Keller, 2011). He sees three dimensions (Figure 2) in communicative events in discourse (Jørgensen & Phillips, 2002). The first is **text**, which does not only include written language but also spoken words and images. The second dimension is the **discursive practice**, which stands for the production, distribution and consumption of text. Importantly, text and discursive practice cannot be analyzed completely separately, since the analysis already includes the consumption of the text (Jørgensen & Phillips, 2002) hence our analysis will consider these dimensions as being entangled. The third dimension is “the wider **social practice** to which the communicative event belongs” (Jørgensen & Phillips, 2002, p. 10). Thus, the analysis of the third layer includes positioning the analyzed text and discursive practice into wider context and analyzing what effects it has or changes it induces.

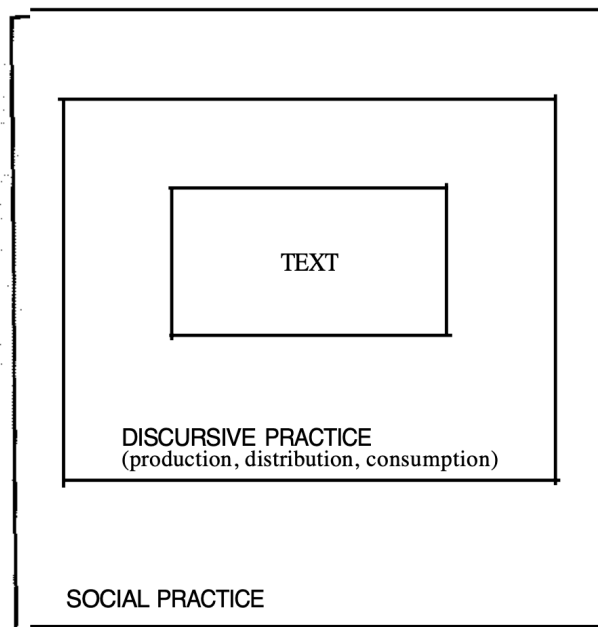


Figure 2: Three dimensions (text, discursive practice, social practice) of a discursive event (Fairclough, 1992, p. 73)

The three dimensions of the CDA prove useful to approach the research questions. Analyzing the framing of the government regarding LNG investments (RQ1) as well as looking at the representation of EJ within the government’s statements (RQ2), connects to the text and discursive practice dimension. RQ3 however, goes into how the first two dimensions have a potential for interacting with the third dimension, so what implications there are for EJ when looking beyond the analyzed discourse.

#### **4.2. Method - Document Analysis**

To conduct the CDA and eventually be able to answer the research questions, we did a document analysis. This method is applied to data that is not specifically made for social science research purposes, which comes with the advantage that the documents are not altered or influenced in any way by the research (Bryman, 2012). What is important to note is that documents are created to “convey an impression, one that will be favourable to the authors and those whom they represent” (Bryman, 2012, p. 555), thus they never present a purely objective reality and need to be considered within the context of their production and consumption (Bryman, 2012). This consideration is an important part of doing a CDA.

This thesis aims to analyze statements by the current government regarding their investments in LNG to reveal how these are framed and what repercussions can be established regarding EJ. Since paraphrasing can alter the meaning of a statement (Fairclough, 2003), these were excluded from the analysis. Only texts coming directly from the government and its members were considered to ensure that what was analyzed was their proper framing. The documents were retrieved from the government's official websites and Google.com by looking for (a combination of) the following search terms: "Liquefied Natural Gas", "LNG", "Flüssigerdgas" (LNG in German), "Deutschland" (Germany in German) and "Krise" (crisis in German). Only documents that were created between February 24, 2022 (i.e. the beginning of the war) and March 6, 2023 were included.

After gathering all initial results, some documents were excluded either for being too technical, not containing enough information about LNG or for being too repetitive with regards to already included documents. This ultimately resulted in 37 documents that we coded. A complete list can be found in the appendix.

Coding is a way of categorizing what ideas lie behind text. It helps to analyze data in a more structured way (Gibbs, 2007). To answer the first research question regarding the government's discourse surrounding their LNG investments, we used a data-driven coding approach (Gibbs, 2007). This means that categories of the ideas that the documents included were deductively established. By reading and re-reading the selected documents we detected ideas and topics that reappeared, which we then based our codes on.

To tackle the second question which aims at reviewing how EJ was included in the government's framing, we use a concept-driven coding approach, which means that before reviewing the data. We created a coding manual that was based on the reviewed literature (Gibbs, 2007), more specifically Sovacool's EJ principles (Sovacool & Dworkin, 2015), which was then inductively applied to the documents. Yet, enough space for flexibility was kept to adjust the coding manual based on the data.

For the first and second RQ the coding was performed with the tool *atlas.ti* and the complete list of codes that were extracted from the data or applied to the data can be found in the appendix.

#### **4.2.1. Comparing the discourse with further literature**

RQ3 focuses on how the government's discourse aligns with research on EJ and LNG. Since it concerns knowledge and information about LNG that goes beyond that of the government we also made use of gray literature to answer the question. The use of gray literature has also been decided upon since Germany's decision to invest in LNG is quite recent, thus the academic literature surrounding this topic is limited, while gray literature "has recent information about a topic of interest and is focused" (Yasin et al., 2020, p. 36227). By using further information, such as reports from international organizations, NGOs, NPOs, or news articles, a fuller picture can be obtained, since the material is given by different sources with various backgrounds and motives (Yasin et al., 2020). Ultimately we used a combination of all gray and academic literature to address RQ3, which allowed us to triangulate the findings from the CDA, and to examine them more critically as it unveils different perspectives regarding the same topic.

## **5. Results**

### **5.1. RQ1 - The government's discourse**

The thesis' first question is "**What constitutes the government's discourse regarding their LNG investments?**". To answer, this section will first go over the government's main points namely (a) ensuring a secure national energy supply, (b) LNG as a bridging energy, (c) being under time pressure and (d) protecting the economy. These are the four biggest ones by which the government justifies its LNG investments since the ideas come up often and spread out throughout the majority of the analyzed statements. Then a selection of smaller points in the government's discourse will be covered.

Importantly, the following points in the discourse are not completely independent of each other but there are interconnections. Moreover, when referring back to the CDA and the three dimensions of a discursive event, RQ1 is concerned with reviewing the text and discursive practice dimensions, so the first and second dimensions.



If a statement or frame is repeated multiple times as well as in different outlets, it can be assumed that it reaches more people than if a message is only mentioned in a small number of statements.

### **5.1.1. Secure energy supply**

The most prominent goal that the government claims to reach through their investments in LNG is what they call *Versorgungssicherheit*, meaning a **secure energy supply**. The German chancellor Olaf Scholz stressed that “security of supply is the first priority” (15)<sup>1</sup>, which the country wants to ensure through the construction of LNG terminals. They allege that LNG is a way through which the supply security can be established until the country is able to provide climate neutral energy (2).

The government claims that there are multiple ways through which the LNG infrastructure allegedly strengthens Germany’s energy supply security. First of all, it enables the country to **become independent from Russia**: “The objective is to become independent of Russian gas, to be prepared for all eventualities, and yet to survive the next winter and fill the gas storage facilities” (11). It was stated that the government “had to decide to also purchase LNG gas due to the security of supply situation because [their] goal is to completely replace energy sources from Russia as much as possible” (16).

The next point that the government pursues in order to secure their energy supply is by **diversifying their sources of energy**, which, they claim, is also enabled through LNG investments (5). The country “intends to diversify its gas supply with the help of LNG, thus strengthening energy security” (14). Furthermore, the government sees LNG as a great investment since it is a source of energy that can be delivered quite spontaneously and flexibly by ship and the contracts are able to be set for short or long term (6).

Lastly, within the government’s discourse, their investments in LNG technology are seen as a way through which they can increase the **resilience** of their energy infrastructure and supply, thus making their energy supply more secure. The German chancellor claims that with LNG they have

---

<sup>1</sup> The numbers in parentheses signify the document that the quote or information comes from. The full list of the documents can be found in the appendix.

“created opportunities to respond more quickly and comprehensively to supply shortages in the event of a crisis situation” (15). With safety buffers that arise from having a national LNG supply, Germany supposedly becomes less susceptible to risks (36).

### **5.1.2. LNG as a bridge technology**

Another dominant theme that we identified through the analysis is the use of LNG as a **bridge technology** for a transitional phase on the way to climate neutrality. The use of LNG is presented as only being an interim solution (15, 18, 26). The government states that the LNG infrastructure, which is currently being built, will be used to import **hydrogen** in the future (1, 18, 23, 30) and that the terminals will be “built in such a way that it is “hydrogen ready” as far as possible” (2). Already in 2025, the import of green hydrogen to Germany is to begin in order to achieve the climate targets (26). The theme is directly connected to the theme of energy supply security, as fossil LNG and infrastructure development are presented as the **short-term solution** for the alternative import possibility of gas, while the use of hydrogen is framed as the long-term solution. This reinforces the impression of a strong prioritization of the theme supply security when the decision in favor of LNG was being made.

Importantly the portrayal of LNG as a temporary solution and the plan of using the LNG infrastructure for hydrogen in the future are omnipresent in the documents we analyzed.

### **5.1.3. Time pressure**

The third theme in the government's argumentation was that - due to the sanctions imposed on Russia - a solution had to be found as quickly as possible and that the government was therefore acting under **great time pressure**. In the government's discourse, the decision in favor of LNG is recurrently justified by the fact that it offers a quick solution to create an alternative gas supply option, as the so-called floating storage and regasification units (FSRUs) are flexibly chartered by an existing FSRU fleet operator. The analysis of the documents showed that the decision for LNG has been made “under high pressure and with great speed” (36) and that “to quickly implement solutions for the winter of 2022/2023 and for the winter of 2023/24, FSRU terminals have been and will be initially deployed” (36).

#### **5.1.4. Economic aspects**

The final aspect that is repeatedly put forward is the **securing of a strong national economy** through an energy supply secured by LNG. The use of LNG is framed as inevitable to keep the German economy running and to ensure the upkeep of production by German companies (27, 30). The theme can be summarized by the following government statement: "Without the fastest possible construction of the required LNG infrastructure, it will not be possible in the foreseeable future to substitute Russian gas to the extent that is absolutely necessary to avert the most serious economic damage." (10)

#### **5.1.5. Less mentioned themes**

While the previously mentioned points are those with which the government most openly and most often supports their decision to invest in LNG, there are other points that might be less frequently mentioned by the government, but are still relevant, as also connected to EJ.

Firstly, the government frames their investments in a way that makes it seem like LNG was only one of the few options to keep the energy supply running. Therefore a narrative of having **no better alternative** is created. Especially "due to the low substitutability of gas with other energy sources" (10) and since "gas proves difficult to substitute for other energy sources" (12).

Another recurring theme is so-called "**European solidarity**". The analyzed government documents contain the argument that the LNG infrastructure is not only beneficial for Germany's security of supply but that neighboring countries will also profit from it (29). Chancellor Scholz claims that LNG capacity is needed "so that the lights don't go out for people at home here and in many other countries around the world" (17). "Thinking in the spirit of European solidarity" is cited as a pillar guiding planning for the LNG terminals (35).

Furthermore, the government claims that their investments in LNG will **not cause any new lock-in effect** (10), meaning it will not reinforce "fossil infrastructure" (19). Chancellor Scholz claims: "We are not creating any new permanent dependencies on fossil energy sources - not at home and not in the producing countries" (17).

Additionally, the government also uses the **price of energy** as a justification for their LNG investments, since they claim these will be a measure to counteract energy price increases caused by the pandemic aftermath, inflation and the war. They want to assure that households as well as the local industry can afford to pay for the energy they need. The goal is to “build alternatives to Russian imports at affordable prices” (15).

#### **5.1.6. Summary of RQ1**

We identified four main aspects that play an important role in the government's discourse and strongly influence the discourse. To summarize the research question of how the government presents the decision to use LNG in the discourse, it can be stated that the government sees LNG primarily as a means of **securing energy supply** in order to become independent of Russian energy imports. In addition, the decision is framed as a **transitional solution**, with LNG to be replaced by hydrogen in the near future. **Pressure on the government to act** also plays a role in the discourse, as does the **protection of the German economy** through a stable energy supply.

### **5.2. RQ2 - Energy justice within the discourse**

The second question of this thesis was “**How is energy justice considered within this discourse?**”. The next paragraphs go into how the eight EJ principles are represented in the government's statements regarding their decision to invest in LNG. What is important to highlight is that these principles are by no means completely independent of each other, but that they are connected. Yet to prevent redundancy and repetition, we will not go into all overlaps.

Akin to the result section regarding RQ1, the following points can be considered as the combination of the text and discursive dimension of a CDA.

#### **5.2.1. Availability**

Firstly, LNG is portrayed as a measure for ensuring that the country's energy supply is secure, which in turn means that energy is available. A secure energy supply is not only ensured through “alternative gas supply options” (36), but also by “strengthening the resilience” (35) of the energy system. Chancellor Scholz states: “It is also necessary to diversify energy imports to Germany and

ensure sufficient reserves of energy sources. This also includes the procurement of LNG and the expansion of the infrastructure it requires” (5).

Furthermore, the government states that becoming more independent from other countries is also a way by which the energy supply is ensured, thus the availability is guaranteed. Having a national LNG infrastructure supposedly means “creating the conditions to become completely independent of imports of Russian pipeline gas” (22). The war showed Germany that obtaining a large percentage of energy from one source was a danger to their supply security and thus also threatened the availability of energy. Furthermore, Germany not only wants to regain their independence from Russian energy sources but from other regions (e.g. Northwestern-Europe) as well (1).

To avoid endangering the availability, “the LNG import capacities necessary for security of supply must not be too tightly calculated, but must be planned with a safety buffer [...] in the interests of resilience” (37). The government advocates for a buffer, since it can help the country react more flexibly to changes in supply or critical situations (36).

To summarize, the principle of availability is present in the government’s statements. By creating a secure supply, through diversification, independence and resilience as well as by planning with a buffer, the LNG infrastructure can be connected to promoting energy availability.

### **5.2.2. Affordability**

The principle of affordability has also found mention within the discourse of the government. The analyzed documents showed consideration of increasing energy prices and their consequences for German citizens, the need for affordable energy prices for private households and the economy as well as specific aspects of the price of LNG.

The discourse acknowledges that “energy prices have been high in Germany for some time now” (15), which is placing a financial burden on citizens (5). Besides acknowledging the energy crisis, the need for affordable energy is also specifically included in the discourse: “We must prevent

heating the home and turning on the washing machine from becoming a luxury. Affordable energy is and remains the driving force of a modern society” (15).

Furthermore, the CDA showed that aspects around the price of LNG are included in the discourse as well. The documents included statements about LNG generally being more expensive than pipeline gas as it requires conversion from gaseous to liquid state and vice versa (2). In addition, it was discussed that the price is determined by supply and demand (2) and that therefore "massive price increases for natural gas" (10) are to be expected due to the loss of Russian imports.

### **5.2.3. Sustainability**

A further EJ principle is sustainability, which is also present to some extent in the analyzed documents.

Firstly, the Government puts a lot of emphasis on the fact that they plan on using LNG infrastructure for hydrogen in the future. The Vice Chancellor Robert Habeck stressed: “we are planning the conversion to green hydrogen or hydrogen derivatives, such as ammonia, right from the start. This also applies to the construction of the hydrogen infrastructure. In this way, we are setting the course for climate neutrality and shaping the transition” (3). Yet the government also acknowledges that only fixed terminals can be reconditioned to be able to hold green gas, thus reaching climate goals will only be possible if floating LNG terminals are replaced with fixed ones (36).

Still, the government is convinced that “natural gas remains the key bridge to a climate-neutral future” (15) since they also claim that “LNG emissions are generally lower than those from coal” (2). In general, the government points out that “everything [they] do today to secure gas supplies must be in line with [their] goal of achieving carbon neutrality in Germany and worldwide in the future” (17). The government also states, that “the LNG import facilities built to address the gas supply crisis [...] do not themselves directly release greenhouse gasses” (37).

What is more, due to time pressure the government allowed the floating LNG terminals to be built without an environmental impact assessment (9), yet this assessment will become mandatory again for fixed LNG terminals that become operational after the winter of 2022 (13).

To make sure that Germany reaches their goal of becoming climate neutral in 2045, the government points to the law which defines that LNG-terminals can only be used until the end of 2043 (10). Yet, “the plants can only be operated beyond this date if they are used for climate-neutral hydrogen and its derivatives. This underlines that the goal of climate neutrality by 2045 at the latest is not in question” (11).

In general, the government’s discourse around LNG includes an acknowledgment that investments in LNG are investments in fossil fuels, thus negatively impacting the environment, but they relativize this by pointing towards their existing climate goals and plans for hydrogen use in the future. Looking at the discourse alone, one can say that the principle of sustainability was taken into account in the decision to invest in LNG.

#### **5.2.4. Due Process**

Aspects concerning the EJ principle of due process have found very few mentions within the analyzed governmental discourse. Only information related to the LNG Acceleration Act was found, which can be assigned to the due process principle. The information is included that “public participation will still take place - but shortened to two weeks” (18). At issue is the LNG Acceleration Act, which includes various regulations for the development of land-based and floating LNG terminals; one of these provisions is the aforementioned shortening of the public participation period (18), which potentially represents a rather negative effect on the principle of due process, as it gives affected communities and organization less time to present their objections. We, therefore, consider that the principle is not taken into account within the discourse. The reduction of the public participation timespan is intended to accelerate the realization of the procedure (10), which can be related to the discourse element “time pressure”.

### **5.2.5. Good governance**

We have identified overlaps between the principle of good governance and the principle of due process as they both relate to the LNG Acceleration Act and have found no mention in the discourse besides that. Besides the reduction of the public participation period, the new law regulates an omission of the so-called environmental impact assessment. Even though the disclosure of certain information before the granting of approval of the LNG terminals (draft approval decision, application documents, reasons for granting the exemption, etc.) is mentioned (10), the environmental impact assessment is still being excluded from the process. This represents a potentially negative impact on the principle and it is therefore found to not be considered within the discourse.

Furthermore, the fact that these issues – the shortening of the public participation period and the omission of the environmental impact assessment – were only addressed in two documents relating to the LNG Acceleration Act confirms the exclusion of the principles of due process and good governance from the discourse. This can be linked to the second dimension of CDA, which emphasizes that the nature of a discourse's source is also relevant, as information can only become part of the discourse if it is present throughout the analyzed texts.

### **5.2.6. Intragenerational Equity**

Topics regarding the EJ principle of intragenerational equity could be identified. Especially the already discussed theme of European Solidarity (see chapter 5.1.5.) can be related to intragenerational equity. In the analyzed discourse, the government claims that the planned LNG terminals in Germany will not only benefit Germany but will also enable many neighboring countries to further support their security of supply, all in the name of European solidarity. This corresponds to intragenerational equity because it is a matter of an equitable distribution of energy within a generation. However, the extent and "fairness" of the distribution of LNG imports do not emerge from the analysis.

### **5.2.7. Intergenerational Equity**

The principle of intergenerational equity is one of the more complex elements within the analyzed discourse.



The decision to invest in LNG infrastructure was portrayed as a solution to the immediate problem of unstable energy supply in the short term (see chapter 5.1.1. and 5.1.3.). The trigger and motive for the decision cannot be directly linked to the principle of intergenerational equity, since the primary goal was to stabilize the short-term energy supply.

In the future plans for the LNG terminals, however, future generations are taken into account. As discussed, the creation of a resilient energy system, the transition from LNG to hydrogen, the avoidance of lock-ins as well as the government's goal to become climate neutral are part of the discourse. All of these elements do more or less consider coming generations and aim at securing a liveable future by mitigating climate change.

#### **5.2.8. Responsibility**

We find that the principle of responsibility is not specifically addressed. Among other things, the principle considers the responsibility of governments to minimize negative environmental impacts. While the discourse contains elements that touch on these issues, responsibility itself is not mentioned and therefore not explicitly part of the government's discourse.

#### **5.2.9. Summary of RQ2**

The question of how EJ was considered in the discourse of the government can be summarized as follows: through the CDA we were able to establish that the principles of **availability, affordability, sustainability, intragenerational equity, and intergenerational equity** are presented as being considered in the discourse of the government and therefore five of the eight principles find a place in the discourse. The principles of **due process, good governance, and responsibility** have found little to no mention within the discourse of the government, thus we deem them to be absent from the discourse. In terms of due process and good governance, even a negative impact on EJ was found. Shortened participation periods and the omission of environmental impact assessments can be considered to be in clear contradiction with the objectives of EJ.

### 5.3. RQ3 - The discourse in alignment with further research

We extend the results of the first two questions beyond the government discourse by asking: “**How does the government's discourse align with research on EJ and LNG?**”. The aim is to gain a broader understanding of EJ in the LNG decision-making by including sources outside the discourse under study and to consider from an 'outside perspective' whether the government's discourse is consistent with the issues and concerns discussed in the public sphere. Due to the scope of this work, only the three most prominent EJ-related topics will be included, meaning those that are also discussed in literature beyond that making up the government's discourse.

This section also concludes the CDA, by representing how the first two dimensions of the discourse (text and discursive dimension) are connected to the final dimension - the social practice. This means going into how the statements of the government have potential impacts on wider society, in this case exemplified by the EJ principles.

#### 5.3.1. *LNG's potential to obstruct Germany's Energiewende*

As introduced, the government plans to use LNG only temporarily and claims that the investments in related infrastructure will not lead to any kinds of (fossil) lock-ins. Further, by pointing towards future use of the terminals for hydrogen, the government aims to eradicate doubts about reaching the country's climate goals. In the following, however, the discourse and further research will be contrasted with each other regarding LNG. More specifically regarding the point that it is being portrayed as a temporary measure with no lock-in potential that can eventually be replaced by hydrogen.

Firstly, contrary to what the government states, **LNG investments have the potential for causing or strengthening lock-ins** (Brauers et al., 2021; Goldthau & Sovacool, 2012; Kemfert et al., 2022). Reasons for this are “the long lifetime and large sunk costs of existing infrastructure” (Brauers et al., 2021, p. 10), causing infrastructural lock-ins. Further, it can also lead to institutional lock-ins, since “both private and political actors and institutions profit from existing and additional natural gas projects and their role for energy provision and security” (Brauers et al., 2021, p. 9). Such developments can also be found in the case of Germany, which has signed LNG supply contracts with Qatar for at least 15 years (Tagesschau, 2022).

Secondly, referring back to discourse, **the way LNG is portrayed also changes how investments are perceived**. By calling it a bridge technology that gives renewables time to mature further, investing in its expansion is legitimized (Kemfert et al., 2022). Yet, since “the synthetic gas niche (e.g. hydrogen) is not a threat but a complement to the existing natural gas regime” (Brauers et al., 2021, p. 13), it means that no matter if LNG terminals are used for unsustainable natural gas or green hydrogen, the fossil fuel industry benefits. Therefore, it becomes more obvious that LNG investments are “in direct conflict with the goals of the *Energiewende*” (Wiertz et al., 2023, p. 2), since it strengthens the fossil fuel industry instead of promoting renewables. Similarly, since budgets are finite, investments in LNG reduce the amount of money flowing into renewable energy projects (Brauers et al., 2021). These developments could have a **slowing effect on the *Energiewende***.

Thirdly, in the government’s statements, it is claimed that the newly built LNG structure will be used for hydrogen, a climate-friendly energy source. They call the terminals “hydrogen-ready”, but this is a “vague term [that] encompasses infrastructure with varying capabilities to integrate hydrogen [...], mostly creating a further lock-in but no systemic changes” (Brauers et al., 2021, p. 13). In general, the use of LNG infrastructure for other liquefied gasses is **complex, requires planning for it in advance and poses economic risks**, since the future demand for these alternatives is hard to estimate (Riemer et al., 2022). Furthermore, even in the case that the terminals themselves can be used for hydrogen, further investments need to be made to then distribute and use them (Riemer et al., 2022), relevant aspects that are not included in the government’s discourse.

After including other perspectives, the government's framing of LNG as bridge technology needs to be questioned in terms of EJ. The results of RQ2 showed that the principles of **sustainability** and **intergenerational equity** have been considered in government discourse. However, the inclusion of other sources showed that the **use of LNG might not be in line with these principles**, since they uncovered how the government’s discourse differs from a discussion of LNG that is based on more varied information and knowledge. The examined aspects, namely possible lock-ins, the delay of the *Energiewende* as well as the uncertainty concerning the use of hydrogen, have a potential

effect on climate targets, which in turn may affect future generations. Nor does the principle of **responsibility** seem to have been taken into account in the decision to use LNG. The results of RQ2 already showed that this principle was not included in the discourse, and after reviewing further literature it becomes clear that this **EJ principle was not taken into account** as potential lock-ins conflict with the responsibility to minimize environmental impacts.

### **5.3.2. LNG has detrimental local and international environmental effects**

There are aspects of environmental friendliness absent from the government's discourse, which have an impact on EJ. For example, the government's discourse does not address the fact that LNG emits more emissions and is, therefore, more environmentally harmful than pipeline gas (Wachsmuth & Oberle, 2019). This has several reasons, which have already been mentioned in chapter 2.3., in which we also introduced the environmentally harmful effects.

As already stated in the results of RQ2, the environmental assessment, that usually needs to take place to minimize environmental damage, has been suspended (BMUV, n.d.). Putting this in the context that the same ship that is now bringing LNG to Germany was previously declined by Australia because it failed its environmental assessment (DUH, 2022), it shows that the EJ principle of **sustainability** and subsequently **intergenerational equity have not actually been respected** in the government's decision.

What is more, LNG is made up mostly of methane, which is a powerful greenhouse gas and has a warming potential that is 84 times greater than that of CO<sub>2</sub> (Fitzgerald et al., 2019). So leaks of LNG during the production, transportation, regasification or use have a direct impact on the environment.

The discussed aspects shed a different light on EJ considerations with regard to LNG. The results of RQ2 showed that the principles of **sustainability** and **intergenerational equity** are included within the government's discourse. However, again after including other perspectives, the **use of LNG does not seem to be aligned with those principles**. The environmental effects of the use of LNG would violate the principle of sustainability as it means the avoidance or at least minimization of environmental damage. Misalignment with the principle of intergenerational equity would take

place as those environmental effects could have an impact on future generations, leaving them in a world different from now. Again, as the government does not seem to be aware of its responsibilities, the principle of **responsibility** is not being considered in the LNG decision.

### **5.3.3. German LNG has negative effects beyond the country's borders**

The developments outside Germany that have been triggered by LNG investments are also not included in the government's discourse but have serious consequences in terms of EJ. Due to the greatly increased European demand, in which Germany plays a major role, LNG prices have tripled compared to before the war (Müller, 2022). This has affected poorer countries that can no longer afford LNG at current world market prices. In emerging economies, such as Pakistan, India, Sri Lanka, or Bangladesh, increasing power outages affect citizens and the economy, as industries have to be taken off the grid, worsening unemployment (Mayer, 2023). This connects to the EJ principle of **affordability**, which the government's discourse has considered in a German context, yet not beyond the EU.

Furthermore, some facets of the principle of **intragenerational equity are respected in discourse, but not in reality**. It is not enough to consider intragenerational equity in an exclusively European context, especially when the consequences are so severe. Even Vice Chancellor Habeck admitted in an interview with ZDF television: "Germany has also eased its burden in Europe at the expense of other countries. This was clearly the case" (Mayer, 2023). Interestingly the government is aware of these consequences, as the above quote shows, but no reference to them could be found in all the documents analyzed for this thesis.

LNG shortages in other countries may also have implications for global climate change policy and could potentially undermine sanctions against Russia (Reich, 2022). Kuzemko et al. (2022a) address that the "uncoordinated LNG shopping spree [...] further complicate[s] fossil fuel phase-out in transitioning and developing countries [...] by creating incentives, directly or indirectly, for investment in coal, gas and associated supply chains" (Kuzemko et al., 2022a, p. 5). Some are forced to revert to more polluting sources like coal, while others start purchasing from Russia (Stapczynski & Mangi, 2022).

These consequences are not mentioned in the government's discourse either, but they impact EJ, by increasing the use of polluting forms of energy and by potentially influencing the geopolitical conflict with Russia through the new dependencies. These issues can be linked to the EJ principles of **sustainability, intergenerational equity and responsibility**. Complicating the phase-out of fossil fuels particularly affects the principles of sustainability and intergenerational equity, as this could jeopardize climate goals. Both principles were identified as being taken into account in the discourse, but this cannot be confirmed outside the discourse. The principle of responsibility, which was also not identified in the discourse, can also be classified as not sufficiently taken into account; Germany has not fulfilled its responsibility to keep the negative impacts as low as possible. In addition, the principle of **due process** can be applied to all these developments, namely the energy shortage in some emerging countries, the changed use of resources and the new connections with Russia, as the affected countries were not involved in the government's decision.

Lastly, possible investment by Germany in the development of new gas fields and LNG production in Senegal also has EJ consequences. The idea is that Germany invests in the development and in return can close supply contracts and secure further gas supplies (Wettengel, 2022). The project should be mentioned briefly, since - if a realization takes place - enormous impacts could occur. These could be further lock-ins, local effects on the environment and for local citizens (Wille, 2022). The new gas field development contradicts the goal of ending fossil fuels, which is why this project is under strong criticism (Wettengel, 2022). **Again, the principles of sustainability, intergenerational equity, and responsibility would be violated.**

#### **5.3.4. Summary of RQ3**

All in all, by contrasting our results from RQ2 with other literature, we have found that relevant EJ issues have not been included in the discourse and some EJ considerations have proved to be unjustified. The results of RQ3 are discussed further in the following section.

## 6. Discussion

### 6.1. Discussing the results

We identified that the government brings about multiple reasons and justifications for their investments, above all the idea of ensuring energy security. Moreover, within the analyzed discourse we found five of the eight EJ principles to be considered. Yet, by reviewing how aligned the discourse with further research is, we found that there are not only EJ issues that are completely absent from the discourse (e.g. international effects), but also that some of the justifications for LNG that seemed to consider justice, are not well-founded (e.g. LNG not creating lock-ins or the use of LNG infrastructure for hydrogen).

Looking more closely at the results, it is possible to break them down further. Regarding RQ1, we found that in the discourse, security of energy supply (a) was cited as the main **reason** why the government considered it inevitable to invest in LNG infrastructure. Points (b) LNG as a bridge technology, (c) time pressure and, (d) economic aspects, however, are used by the government as a **justification** for why the decision was made specifically for LNG. Aspect (b) justifies that the use of a fossil fuel is nevertheless compatible with climate goals, as it should only be used until it can be replaced by hydrogen. Point (c) is used as a justification, as FSRUs are supposed to be the fastest solution to secure energy supply. Point (d) justifies the decision, as without the use of LNG there could have been serious consequences for the German economy. All in all, the government cites security of supply as a **reason** for opting for LNG and **justifies** it by saying that LNG is only an interim solution that can be implemented quickly and thus avoid economic consequences.

Looking merely at the results of **RQ2** a preliminary conclusion would be that the LNG investment decision includes nuanced considerations of EJ. Only analyzing LNG in Germany through the government's lens paints quite a **positive picture**, which **cannot be entirely confirmed** by further literature. The results of our **third question** showed that the government's framing of the decision to invest in LNG does not include a holistic picture of all relevant EJ issues. We were able to identify **a difference between the government's discourse and further research**, revealing that out of the five EJ principles present in the discourse, four were invalidated by other literature (affordability, sustainability, intragenerational equity, and intergenerational equity). Even if they were included in

the government's discourse, the comparison to information in further research showed that the principle of availability is the only principle that is considered in the discourse and beyond.

Still, we want to mention that even when a principle is misaligned between discourse and literature, it may still be taken into account in the decision, although not holistically. For example, energy prices are considered in the discourse, but only for Germany and not further.

This disconnect between the discourse and further research is a valuable outcome of this thesis, especially when considering that the government is at an influential position, meaning that the discourse they pursue has the potential to influence decisions and perception. This is not an inevitable consequence of each discourse, but since the government inherently has power, their discourse has far greater influence than others. **When LNG is presented in a more positive light than gray and academic literature show, the considerations for EJ differ.** To exemplify, by omitting the global effects that Germany's LNG path has caused (e.g. steep LNG prices that developing countries now can no longer afford), these are also less likely to be rectified, thus the EJ-related negative consequences that come with these effects are more probably to remain unaddressed or even known. We connect this to what Chen and Gunster (2016) call "discursive legitimation", through which the government in British Columbia, Canada promoted their LNG infrastructure by only focusing on positive economic aspects and claiming that it will even help them become environmental leaders. Thus, also omitting relevant negative aspects of LNG, like potential lock-ins (Brauers et al., 2021).

Our findings confirm to a large extent what we have found in the literature review. Firstly, as Schmidt et al. (2019) stated, the war and the resulting energy crisis have led to a refocus in Germany's energy policy, i.e. **prioritization of energy security**. Further, we concur that this reprioritization led to a reduced focus on environmental and justice issues, supporting the findings of Kuzemko et al. (2022) and Žuk and Žuk (2022). Our findings are also consistent with Heffron et al. (2018), who found that focusing on only one aspect of the energy trilemma, in this case energy security, often results in **imbalances regarding EJ**.



While this thesis has not analyzed the direct link between the government's discourse and actual effects on EJ, but rather the potential for impacts, we refer back to Fairclough's (2005) proclamation regarding discourse having non-discursive effects as well as to EJ research which revealed that incomplete or mismatched discourses can have negative effects on EJ (Haarbosch et al., 2021; O'Shaughnessy, 2021). This is relevant since it means that the government's discourse, which ignores many EJ implications resulting from their LNG investments, likely has real negative implications for EJ.

Moreover, we want to highlight the implications that the LNG investments potentially have on the German energy transition. Germany has specific climate and energy goals that it wants to reach to slow down global warming, yet our results have shown that LNG will more likely stand in the way of these goals. By omitting relevant negative justice aspects, the discourse portrayed LNG as a valid source of energy to invest in (Kemfert et al., 2022). However, since these investments also mean more investments in climate-damaging fossil fuels, thus reinforcing lock-ins, as well as a reducing focus on and budget for renewable energy sources, we **deem LNG to be harmful for the *Energiewende***. This reveals how the current discourse not only has present effects but simultaneously influences the future. This also connects to Kalt's (2021) research on how narratives can stand in the way of just transitions.

Lastly, Buschmann and Oels (2019) have pointed out that analyses regarding how discourses can play a role in lock-ins, tend to be neglected, even though they can have negative consequences on Germany's energy transition. Our thesis is a contribution to researching these discursive lock-in potentials.

## **6.2. Discussing the theory**

### **6.2.1. Implications for CDA and EJ**

The combination of a CDA and the eight EJ principles proved to be an effective approach for our research aim. The EJ principles provided a valuable guide for our coding manual and allowed us to systematically analyze the government's discourse regarding EJ. In our literature review, we could already identify the effectiveness of the combination of CDA and EJ (Jara & Bruns, 2022; Walker et al., 2019), which can be confirmed by our thesis.

The CDA, especially the third dimension, has made us understand how the discourse can have further effects that go beyond the discourse itself. For example, as described in section 5.3.1., it showed how the discourse legitimizes the investment in LNG and thus has actual effects such as potentially slowing down the energy transition. Thus, through the CDA, we were able to identify concrete implications of the discourse for EJ, thereby fulfilling our research objective.

### **6.2.2. *Implications for Sustainability Science***

Our thesis is in line with the aim of the academic field of EJ to address the lack of justice in energy research. Through our research, we have contributed to making visible that the consideration of justice in energy-related decision-making is still limited and the consequences of this are far-reaching. Our work also shows that a purely technological or economic perspective is not sufficient to tackle complex sustainability problems. Social components should be taken into account to create comprehensive solutions.

### **6.3. Limitations**

We are aware that our thesis has some limitations, which have also shaped our results.

For RQ3, we compared the discourse with a combination of academic and gray literature on EJ and LNG. Due to the time and scope limitations of the thesis, we decided against examining this **literature as a second discourse and to undertake a discourse comparison**. However, academic and gray literature is not free from biases and may have been influenced by power relations, making the use of this literature a limitation of our thesis. We, therefore, suggest a discourse comparison between the government discourse and the “further literature” discourse as a potential further research possibility.

Furthermore, we are aware that the analysis of **37 documents is not a holistic representation** of the discourse and, again due to time and scope constraints, we could not examine all existing government documents. This is a limitation, as the understanding of a discourse changes depending on what material is included.

We also acknowledge the **linguistic limitations** of this work. The documents analyzed were originally written in German, and we have translated relevant quotations into English with the help of the translator DeepL. Although we are both fluent in English and German, we cannot rule out that some meaning may have been lost in translating.

## **7. Conclusion**

This thesis revealed what the German government's discourse around LNG consists of and how EJ is considered within it. The main points in the discourse were that LNG is a measure to temporarily secure energy supply, chosen under great time pressure and to protect the German economy. Regarding EJ, **we found indications of five from eight principles in the discourse**. Yet, the review of the alignment between the discourse and further research revealed a discrepancy. **Only the principle of availability was aligned**, which means that none of the other principles can be confirmed, bringing negative potential implications for EJ since discourse and reality shape each other.

At the time of submission of the thesis the German LNG infrastructure is by no means finalized, the war is still ongoing, the energy crisis is not solved, meaning that the government's discourse is subject to change over time. This also signifies that the way EJ is considered in the government's discourse, thus also the way it is dealt with can, could be positively transformed, which this thesis could be a starting point for.

## References

- Abay, K. A., Breisinger, C., Glauber, J., Kurdi, S., Laborde, D., & Siddig, K. (2023). The Russia-Ukraine war: Implications for global and regional food security and potential policy responses. *Global Food Security*, *36*, 100675. <https://doi.org/10.1016/j.gfs.2023.100675>
- Adger, W. N., Benjaminsen, T. A., Brown, K., & Svarstad, H. (2001). Advancing a Political Ecology of Global Environmental Discourses. *Development and Change*, *32*(4), 681–715. <https://doi.org/10.1111/1467-7660.00222>
- Bacchi, C. L., & Goodwin, S. (2016). *Poststructural policy analysis: A guide to practice*. Palgrave Macmillan.
- Bacchiocchi, E., Sant, I., & Bates, A. (2022). Energy justice and the co-opting of indigenous narratives in U.S. offshore wind development. *Renewable Energy Focus*, *41*, 133–142. <https://doi.org/10.1016/j.ref.2022.02.008>
- Belov, V. B. (2022). A Paradigm Change in Energy Cooperation between Germany and Russia. *Herald of the Russian Academy of Sciences*, *92*(S6), S512–S520. <https://doi.org/10.1134/S1019331622120024>
- Berberoglu, B. (2017). *Social theory: Classical and contemporary: a critical perspective* (1 Edition). Routledge, Taylor & Francis Group.
- BMBF. (n.d.). *German Energy Transition*. [https://www.bmbf.de/bmbf/en/research/energy-and-economy/german-energy-transition/german-energy-transition\\_node.html](https://www.bmbf.de/bmbf/en/research/energy-and-economy/german-energy-transition/german-energy-transition_node.html)
- BMUV. (n.d.). *Umweltprüfungen UVP/SUP*. Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz. Retrieved April 14, 2023, from <https://www.bmu.de/themen/bildung-beteiligung/beteiligung/umweltpruefungen-uvp-s>

up

BMWK. (2023). *Bundeswirtschafts- und Klimaschutzministerium legt Bericht zu Planungen und Kapazitäten der schwimmenden und festen Flüssigerdgasterminals vor.*

<https://www.bmwk.de/Redaktion/DE/Pressemitteilungen/2023/03/20230303-bmwk-legt-bericht-zu-planungen-und-kapazitaeten-der-schwimmenden-und-festen-Ing-terminals-vor.html>

Brauers, H., Braunger, I., & Jewell, J. (2021). Liquefied natural gas expansion plans in Germany: The risk of gas lock-in under energy transitions. *Energy Research & Social Science, 76*, 102059.

<https://doi.org/10.1016/j.erss.2021.102059>

Bryman, A. (2012). *Social research methods* (4th ed). Oxford University Press.

Bundesregierung. (2022). *Sanktionen gegen Russland.*

<https://www.bundesregierung.de/breg-de/themen/krieg-in-der-ukraine/eu-sanktionen-2007964>

Bundesregierung. (2023, January 20). *Klimafreundliche und krisensichere Energieversorgung |*

*Bundesregierung.* Die Bundesregierung informiert | Startseite.

<https://www.bundesregierung.de/breg-de/themen/klimaschutz/energieversorgung-sicherheit-2040098>

Buschmann, P., & Oels, A. (2019). The overlooked role of discourse in breaking carbon lock-in: The case of the German energy transition. *WIREs Climate Change, 10*(3).

<https://doi.org/10.1002/wcc.574>

Chen, S., & Gunster, S. (2016). “Ethereal Carbon”: Legitimizing liquefied natural gas in British Columbia. *Environmental Communication, 10*(3), 305–321.

<https://doi.org/10.1080/17524032.2015.1133435>

- DUH. (2022). *Deutsche Umwelthilfe schlägt Alarm: Uniper plant mit LNG-Terminal Wilhelmshaven große Mengen umweltschädlicher Biozide ohne Umweltverträglichkeitsprüfung in die Nordsee einzuleiten*. Deutsche Umwelthilfe e.V.  
<https://www.duh.de/presse/pressemitteilungen/pressemitteilung/deutsche-umwelthilfe-schlaegt-alarm-uniper-plant-mit-ling-terminal-wilhelmshaven-grosse-mengen-umwelts/>
- Eckert, E., & Kovalevska, O. (2021). Sustainability in the European Union: Analyzing the Discourse of the European Green Deal. *Journal of Risk and Financial Management*, 14(2), 80.  
<https://doi.org/10.3390/jrfm14020080>
- EEA. (n.d.). *Climate and Energy in the EU*. Retrieved May 3, 2023, from  
<https://climate-energy.eea.europa.eu/topics/energy-1/renewable-energy/intro>
- Entman, R. M. (1993). Framing: Toward Clarification of a Fractured Paradigm. *Journal of Communication*, 43(4), 51–58. <https://doi.org/10.1111/j.1460-2466.1993.tb01304.x>
- European Commission. (2016). *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on an EU strategy for liquefied natural gas and gas storage*.  
<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016DC0049&from=EN>
- Fairclough, N. (1992). *Discourse and Social Change*. Polity Press.
- Fairclough, N. (2003). *Analysing discourse: Textual analysis for social research*. Routledge.
- Fairclough, N. (2005). Critical discourse analysis in transdisciplinary research. In R. Wodak & P. A. Chilton (Eds.), *A new agenda in (critical) discourse analysis: Theory, methodology, and interdisciplinary* (pp. 53–70). J. Benjamins.
- Fairclough, N. (2013). *Critical discourse analysis: The critical study of language* (2. ed.). Routledge.

- Feder, T. (2022). Germany's green transition regains momentum. *Physics Today*, 75(5), 23–25.  
<https://doi.org/10.1063/PT.3.4998>
- Finley-Brook, M., Williams, T. L., Caron-Sheppard, J. A., & Jaromin, M. K. (2018). Critical energy justice in US natural gas infrastructuring. *Energy Research & Social Science*, 41, 176–190.  
<https://doi.org/10.1016/j.erss.2018.04.019>
- Fitzgerald, L. M., Braunger, I., & Brauers, H. (2019). *Destabilisation of Sustainable Energy Transformations: Analysing Natural Gas Lock-in in the case of Germany*, STEPS Working Paper 106. STEPS Centre.  
[https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/14499/WP\\_106\\_Fitzgerald\\_et\\_al.%20FINAL\\_Jan\\_2020.pdf?sequence=108&isAllowed=y](https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/14499/WP_106_Fitzgerald_et_al.%20FINAL_Jan_2020.pdf?sequence=108&isAllowed=y)
- Garrett, T. (2018). Proposed liquefied natural gas (LNG) terminals in the Rio Grande valley of Texas – citizen group participation versus natural gas corporations. *Journal of Global Responsibility*, 9(1), 58–72. <https://doi.org/10.1108/JGR-11-2017-0055>
- Gibbs, G. (2007). *Analyzing Qualitative Data*. SAGE Publications, Ltd.  
<https://doi.org/10.4135/9781849208574>
- Goldthau, A., & Sovacool, B. K. (2012). The uniqueness of the energy security, justice, and governance problem. *Energy Policy*, 41, 232–240.  
<https://doi.org/10.1016/j.enpol.2011.10.042>
- Haarbosch, S. W., Kaufmann, M., & Veenman, S. (2021). A Mismatch in Future Narratives? A Comparative Analysis Between Energy Futures in Policy and of Citizens. *Frontiers in Sustainable Cities*, 3, 654162. <https://doi.org/10.3389/frsc.2021.654162>
- Hajer, M. A. (2006). Doing Discourse Analysis: Coalitions, Practices, Meaning. In M. van den Brink & T. Metze (Eds.), *Words matter in policy and Planning—Discourse Theory and Method in the*

- Social Sciences* (pp. 65–74). Koninklijk Nederlands Aardrijkskundig Genootschap.
- Hartwig, M., Emori, S., & Asayama, S. (2023). Normalized injustices in the national energy discourse: A critical analysis of the energy policy framework in Japan through the three tenets of energy justice. *Energy Policy*, *174*, 113431.  
<https://doi.org/10.1016/j.enpol.2023.113431>
- Heering, J., & Gustafson, T. (2021). Germany's Energiewende at a Crossroads: *German Politics and Society*, *39*(2), 47–69. <https://doi.org/10.3167/gps.2021.390203>
- Heffron, R. J., McCauley, D., & de Rubens, G. Z. (2018). Balancing the energy trilemma through the Energy Justice Metric. *Applied Energy*, *229*, 1191–1201.  
<https://doi.org/10.1016/j.apenergy.2018.08.073>
- Hesseling, C., & Lerch, I. (2023). *LNG: Wie viel Flüssigerdgas kommt derzeit in Deutschland an?*  
<https://www.ndr.de/nachrichten/info/LNG-Wie-viel-Fluessigerdgas-kommt-derzeit-in-Deutschland-an,Ing632.html>
- Heynen, M. (2022, May 6). Fracking: Warum Fracking in Deutschland keine Option ist. *Die Zeit*.  
[https://www.zeit.de/wissen/umwelt/2022-05/fracking-erdgasfoerderung-klimaschutz-klimaziele?utm\\_referrer=https%3A%2F%2Fwww.google.com%2F](https://www.zeit.de/wissen/umwelt/2022-05/fracking-erdgasfoerderung-klimaschutz-klimaziele?utm_referrer=https%3A%2F%2Fwww.google.com%2F)
- Jara, E. C., & Bruns, A. (2022). Contested notions of energy justice and energy futures in struggles over tar sands development in British Columbia, Canada. *Futures*, *138*, 102921.  
<https://doi.org/10.1016/j.futures.2022.102921>
- Jørgensen, M., & Phillips, L. (2002). *Discourse Analysis as Theory and Method*. SAGE Publications Ltd. <https://doi.org/10.4135/9781849208871>
- Kalt, T. (2021). Jobs vs. climate justice? Contentious narratives of labor and climate movements in the coal transition in Germany. *Environmental Politics*, *30*(7), 1135–1154.



<https://doi.org/10.1080/09644016.2021.1892979>

Kates, R., Clark, W., Corell, R., & Michael Hall, J. (2001). Sustainability Science. *Science*, Vol. 292(No. 5517), 641–642.

Keller, R. (2011). *Diskursforschung: Eine Einführung für SozialwissenschaftlerInnen* (4th ed.). VS, Verl. für Sozialwiss.

Kemfert, C., Präger, F., Braunger, I., Hoffart, F. M., & Brauers, H. (2022). The expansion of natural gas infrastructure puts energy transitions at risk. *Nature Energy*, 7(7), 582–587.

<https://doi.org/10.1038/s41560-022-01060-3>

Krzywda, J., Krzywda, D., & Androniceanu, A. (2021). Managing the Energy Transition through Discourse. The Case of Poland. *Energies*, 14(20), 6471.

<https://doi.org/10.3390/en14206471>

Kuzemko, C., Blondeel, M., Dupont, C., & Brisbois, M. C. (2022a). Russia's war on Ukraine, European energy policy responses & implications for sustainable transformations. *Energy Research & Social Science*, 93, 102842. <https://doi.org/10.1016/j.erss.2022.102842>

Kuzemko, C., Blondeel, M., Dupont, C., & Brisbois, M. C. (2022b). Russia's war on Ukraine, European energy policy responses & implications for sustainable transformations. *Energy Research & Social Science*, 93, 102842. <https://doi.org/10.1016/j.erss.2022.102842>

Leach, M., Scoones, I., & Stirling, A. (2010). *Dynamic Sustainabilities: Technology, Environment, Social Justice* (1st ed.). Routledge. <https://doi.org/10.4324/9781849775069>

Leipprand, A., Flachsland, C., & Pahle, M. (2017). Energy transition on the rise: Discourses on energy future in the German parliament. *Innovation: The European Journal of Social Science Research*, 30(3), 283–305. <https://doi.org/10.1080/13511610.2016.1215241>

Mayer, S. (2023, February 1). Diese Auswirkungen haben deutsche LNG-Import für arme Länder.

- ZDF. <https://www.zdf.de/uri/e395a06c-6a7f-4776-acd7-17570c7a0e3b>
- McCauley, D., Ramasar, V., Heffron, R. J., Sovacool, B. K., Mebratu, D., & Mundaca, L. (2019). Energy justice in the transition to low carbon energy systems: Exploring key themes in interdisciplinary research. *Applied Energy*, 233–234, 916–921.  
<https://doi.org/10.1016/j.apenergy.2018.10.005>
- McElwee, P. D. (2016). *Forests are gold: Trees, people, and environmental rule in Vietnam*. University of Washington Press.
- Müller, C. (2022, September 2). Weltmarkt im Ungleichgewicht: Europas Gaskäufe und Asiens Problem. *Die Tageszeitung: taz*. <https://taz.de/!5875189/>
- NDR. (2023, March 23). *LNG: Fakten zu Flüssigerdgas und Projekten in Norddeutschland*. <https://www.ndr.de/nachrichten/info/LNG-Fakten-zu-Fluessigerdgas-und-Projekten-in-Norddeutschland,Inghintergrund100.html>
- Oltermann, P. (2022). *How reliant is Germany – and the rest of Europe – on Russian gas?* <https://www.theguardian.com/world/2022/jul/21/how-reliant-is-germany-and-europe-russian-gas-nord-stream>
- O’Shaughnessy, E. (2021). Toward a more productive discourse on rooftop solar and energy justice. *Joule*, 5(10), 2535–2539. <https://doi.org/10.1016/j.joule.2021.08.006>
- Osička, J., & Černoč, F. (2022). European energy politics after Ukraine: The road ahead. *Energy Research & Social Science*, 91, 102757. <https://doi.org/10.1016/j.erss.2022.102757>
- Plehwe, D. (2022). Reluctant transformers or reconsidering opposition to climate change mitigation? German think tanks between environmentalism and neoliberalism. *Globalizations*, 1–19. <https://doi.org/10.1080/14747731.2022.2038358>
- Reich, H. (2022, August 5). *LNG-Tanker: Die weltweite Jagd nach Flüssigerdgas*.

<https://www.manager-magazin.de/politik/weltwirtschaft/lng-tanker-die-weltweite-jagd-na-ch-fluessigerdgas-a-e61e726e-6732-4c3b-8094-f801fda1029b>

Riemer, M., Schreiner, F., & Wachsmuth, J. (2022). *Conversion of LNG Terminals for Liquid Hydrogen or Ammonia. Analysis of Technical Feasibility and Economic Considerations*. Fraunhofer Institute for Systems and Innovation Research ISI.

Schaffner, B. F., & Sellers, P. J. (Eds.). (2009). *Winning with Words* (1st ed.). Routledge.

<https://doi.org/10.4324/9780203883112>

Schmidt, T. S., Schmid, N., & Sewerin, S. (2019). Policy goals, partisanship and paradigmatic change in energy policy – analyzing parliamentary discourse in Germany over 30 years. *Climate Policy, 19*(6), 771–786. <https://doi.org/10.1080/14693062.2019.1594667>

Shukla, R., & Swarnakar, P. (2022). Energy justice in post-Paris India: Unpacking consensus and conflict through storylines and discourse coalitions. *Energy Research & Social Science, 91*, 102687. <https://doi.org/10.1016/j.erss.2022.102687>

Sovacool, B. K., Burke, M., Baker, L., Kotikalapudi, C. K., & Wlokas, H. (2017). New frontiers and conceptual frameworks for energy justice. *Energy Policy, 105*, 677–691. <https://doi.org/10.1016/j.enpol.2017.03.005>

Sovacool, B. K., & Dworkin, M. H. (2015). Energy justice: Conceptual insights and practical applications. *Applied Energy, 142*, 435–444. <https://doi.org/10.1016/j.apenergy.2015.01.002>

Stapczynski, S., & Mangi, F. (2022, June 14). Europe's Plan to Quit Russian Fuel Plunges Pakistan Into Darkness. *Bloomberg*. <https://www.bloomberg.com/news/articles/2022-06-13/energy-prices-in-europe-are-creating-power-outages-in-pakistan#xj4y7vzkg>

- Steffen, B., & Patt, A. (2022). A historical turning point? Early evidence on how the Russia-Ukraine war changes public support for clean energy policies. *Energy Research & Social Science*, 91, 102758. <https://doi.org/10.1016/j.erss.2022.102758>
- Sturm, C. (2022). Between a rock and a hard place: European energy policy and complexity in the wake of the Ukraine war. *Journal of Industrial and Business Economics*, 49(4), 835–878. <https://doi.org/10.1007/s40812-022-00233-1>
- Tagesschau. (2022). *Katar verkündet Einigung mit Deutschland auf Gasliefervertrag*. tagesschau.de. <https://www.tagesschau.de/wirtschaft/weltwirtschaft/katar-Ing-101.html>
- UN. (2022). *Causes and Effects of Climate Change*. <https://www.un.org/en/climatechange/science/causes-effects-climate-change>
- UNHCR. (2023). *Ukraine situation Flash Update #45*. UNHCR Operational Data Portal (ODP). <https://data.unhcr.org/en/documents/details/100224>
- Wachsmuth, J., & Oberle, S. (2019). *Wie klimafreundlich ist LNG? Kurzstudie zur Bewertung der Vorkettenemissionen bei Nutzung von verflüssigtem Erdgas (LNG)* (CLIMATE CHANGE 21/2019). Fraunhofer-Institut für System- und Innovationsforschung ISI. [https://www.isi.fraunhofer.de/content/dam/isi/dokumente/ccx/2019/2019-05-15\\_cc\\_21-2019\\_roadmap-gas\\_Ing.pdf](https://www.isi.fraunhofer.de/content/dam/isi/dokumente/ccx/2019/2019-05-15_cc_21-2019_roadmap-gas_Ing.pdf)
- Walker, C., Alexander, A., Doucette, M. B., Lewis, D., Neufeld, H. T., Martin, D., Masuda, J., Stefanelli, R., & Castleden, H. (2019). Are the pens working for justice? News media coverage of renewable energy involving Indigenous Peoples in Canada. *Energy Research & Social Science*, 57, 101230. <https://doi.org/10.1016/j.erss.2019.101230>
- Wettengel, J. (2022, May 23). *German-Senegalese gas plans under fire for violating pledge to end fossil fuel support*. Clean Energy Wire.

<https://www.cleanenergywire.org/news/german-senegalese-gas-plans-under-fire-violating-pledge-end-fossil-fuel-support>

Wiertz, T., Kuhn, L., & Mattisek, A. (2023). A turn to geopolitics: Shifts in the German energy transition discourse in light of Russia's war against Ukraine. *Energy Research & Social Science*, 98, 103036. <https://doi.org/10.1016/j.erss.2023.103036>

Wille, J. (2022). LNG aus Senegal: Der Widerstand wächst. *Frankfurter Rundschau*.  
<https://www.fr.de/politik/lng-aus-senegal-der-widerstand-waechst-91943969.html>

Wintour, P. (2022). 'We were all wrong': How Germany got hooked on Russian energy. *The Guardian*.  
<https://www.theguardian.com/world/2022/jun/02/germany-dependence-russian-energy-gas-oil-nord-stream>

Yasin, A., Fatima, R., Wen, L., Afzal, W., Azhar, M., & Torkar, R. (2020). On Using Grey Literature and Google Scholar in Systematic Literature Reviews in Software Engineering. *IEEE Access*, 8, 36226–36243. <https://doi.org/10.1109/ACCESS.2020.2971712>

Žuk, P., & Žuk, P. (2022). National energy security or acceleration of transition? Energy policy after the war in Ukraine. *Joule*, 6(4), 709–712. <https://doi.org/10.1016/j.joule.2022.03.009>

## Appendix

### 1. Analyzed documents

Document Name	Code for quotes
<a href="#">220305_BMWK_Kreditanstalt für Wiederaufbau (KfW), Gasunie und RWE unterzeichnen MoU zur Errichtung eines LNG-Terminals in Brunsbüttel.pdf</a>	1
<a href="#">220306_BMWK_FAQ-Liste LNG-Terminal in Deutschland.pdf</a>	2
<a href="#">220311_BMWK_Habeck heute zu Gesprächen in Schleswig-Holstein.pdf</a>	3
<a href="#">220316_BMWK_Vizekanzler Habeck besucht Energiepartnerland Norwegen.pdf</a>	4
<a href="#">220317_BR_Videoschaltkonferenz des Bundeskanzlers mit den Regierungschefinnen und Regierungschefs der Länder am 17. März 2022.pdf</a>	5
<a href="#">220318_BR_Regierungspressekonferenz vom 18. März 2022.pdf</a>	6
<a href="#">220325_BMWK_Habeck_„Deutschland reduziert Energie-Abhängigkeit von Russland mit hohem Tempo. Müssen aber weiter besonnen agieren“.pdf</a>	7
<a href="#">220504_OS_RH_CL_Pressekonferenz von Bundeskanzler Scholz, Bundeswirtschaftsminister Habeck und Bundesfinanzminister Christian Lindner zur Klausurtagung des Bundeskabinetts am 4. Mai 2022.pdf</a>	8
<a href="#">220510_BMWK_Bundeskabinett beschließt Formulierungshilfe zum LNG-Beschleunigungsgesetz.pdf</a>	9
<a href="#">220510_BT_Gesetzesentwurf LNG Beschleunigung.pdf</a>	10
<a href="#">220511_BR_Regierungspressekonferenz vom 11. Mai 2022.pdf</a>	11
<a href="#">220519_BT_Beschleunigung des Einsatzes von Flüssiggas beschlossen</a>	12
<a href="#">220520_BMWK_Bundesrat billigt wichtige Energiegesetze – Abschaffung EEG-Umlage und Stärkung der Vorsorge im Fokus.pdf</a>	13
<a href="#">220520_BMWK_Deutschland und Katar unterzeichnen Energiepartnerschaft.pdf</a>	14
<a href="#">220601_OS_Rede von Bundeskanzler Scholz anlässlich des BDEW-Kongresses am 1. Juni in Berlin.pdf</a>	15
<a href="#">220622_BR_Regierungspressekonferenz vom 22. Juni 2022.pdf</a>	16
<a href="#">220718_OS_Rede von Bundeskanzler Scholz bei dem 13. Petersberger Klimadialog.pdf</a>	17

<a href="#">220720_BR_LNG_Nationale_Energieversorgung_sichern.pdf</a>	18
<a href="#">220811_OS_Pressekonferenz_von_Bundeskanzler_Scholz_zu_aktuellen_Themen_der_Innen-_und_Außenpolitik.pdf</a>	19
<a href="#">220816_OS_Pressekonferenz_von_Bundeskanzler_Scholz_und_Ministerpräsidentin_Andersson_zum_Besuch_des_Bundeskanzlers_im_Königreich_Schweden_am_16._August_2022.pdf</a>	20
<a href="#">220823_BR_Pressekonferenz_von_Bundeskanzler_Scholz_und_Premierminister_Trudeau_zum_Besuch_des_Bundeskanzlers_in_Kanada_am_23._August_2022.pdf</a>	21
<a href="#">221025_BMWK_Unterzeichnung_des_Chartervertrags_für_das_fünfte_schwimmende_LNG-Terminal_(FSRU).pdf</a>	22
<a href="#">221126_OS_Kanzler_Scholz_im_Focus-Interview__Bundesregierung.pdf</a>	23
<a href="#">221209_BR_Regierungspressekonferenz_vom_9._Dezember_2022.pdf</a>	24
<a href="#">221217_BMWK_Erstes_deutsches_Flüssigerdgas-Terminal_eröffnet_am_Standort_Wilhelmshaven.pdf</a>	25
<a href="#">221217_BR_Erster_Anleger_für_LNG_fertiggestellt.pdf</a>	26
<a href="#">221217_OS_Pressestatement_von_Bundeskanzler_Scholz_anlässlich_der_Eröffnung_des_LNG-Terminals_in_Wilhelmshaven_am_17._Dezember_2022.pdf</a>	27
<a href="#">230111_BR_Regierungspressekonferenz_vom_11._Januar_2023.pdf</a>	28
<a href="#">230114_BR_Nächstes_LNG-Terminal_in_Lubmin_eröffnet.pdf</a>	29
<a href="#">230114_OS_Interview_des_Bundeskanzlers_mit_der_taz.pdf</a>	30
<a href="#">230114_OS_Pressestatement_von_Bundeskanzler_Scholz_bei_der_offiziellen_Inbetriebnahme_des_LNG-Terminals_am_14._Januar_2023_in_Lubmin.pdf</a>	31
<a href="#">230116_BMWK_Deutsche_Energy_Terminal_GmbH_nimmt_den_Geschäftsbetrieb_auf.pdf</a>	32
<a href="#">230120_BMWK&gt;Weiteres_schwimmendes_LNG-Terminal_für_Deutschland_geht_in_Brunsbüttel_an_den_Start.pdf</a>	33
<a href="#">230215_BR_Regierungspressekonferenz_vom_15._Februar_2023.pdf</a>	34
<a href="#">230301_BR_Regierungspressekonferenz_vom_1._März_2023.pdf</a>	35
<a href="#">230303_BMWK_Bundeswirtschafts-_und_Klimaschutzministerium legt Bericht zu Planungen und Kapazitäten der schwimmenden und festen Flüssigerdgasterminals vor.pdf</a>	36

## 2. Coding Manuals

The following two tables include the codes we used to answer RQ1 and RQ2. Codes with a \* were excluded from the analysis, since they were only minimally present in the documents.

### 2.1. Data-based codes for RQ1

Theme created	Codes used
Secure energy supply	(Reducing) dependence to Russia Diversification Resilient energy infrastructure
LNG as a bridge technology	Hydrogen Transition
Time pressure	Pressure to act
Economic aspects	Economy
Less mentioned themes	No better alternative European Solidarity Prevention of lock-in / new dependencies Energy price Lack of Renewable Energy* Deutschlandtempo* "Win"* Permits*



**2.2. Concept-based codes for RQ2**

Main Codes	Additional Sub-Codes
Availability	Diversification Energy consumption Energy supply security Independence Resilient energy infrastructure
Affordability	Energy price
Good governance	(Lack of) Transparency
Due Process	
Intergenerational Justice	
Intragenerational Justice	
Responsibility	
Sustainability	Climate goals Emissions Harmful to climate