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Master Thesis

**Does war accelerate green energy transitions?
Examining the impacts of the Ukraine war in 2022
on the German energy transition**

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Abstract

The EU's dependence on Russian fossil fuels had been widely accepted throughout the last century. Associated collaterals such as relying the energy supplies of domestic industries and households on a foreign regime were disregarded. Only the Russian war on Ukraine from 24 June 2022 represents a paradigm shift in existing energy dependencies. Germany particularly excelled in its paradigm shift from being the largest importer of Russian gas and the second-largest importer of oil toward a complete import ban on Russian fuels. At the same time, the biggest European pipeline with Russia, Nordstream 2, was intended to support Germany's ability to cease coal-burning and nuclear energy. Therefore, it represented a decisive step in Germany's ambitious green energy transition. This raises the question of how the war in Ukraine impacted German public policies on energy. Supported by underlying theories on paradigm shifts in political decisions as a reaction to exogenous shocks, the content analysis examines press releases of the German Federal Minister for Climate and Energy and evaluates Germany's approach in dealing with supply shortages from Russia. Thereby, it focuses on the consequences for its green energy transition. In doing so, the underlying thesis substantially contributes to further developing Hall's theory on paradigm shifts in public policies by focusing on the impacts of crises on green energy transitions.

Keywords: *Green Energy Transition, Energy Policy, Paradigm Shift, Exogenous Shock, Ukraine War, Energy Dependency, Germany*

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Declaration

I, the undersigned, Karolina Horajno, candidate for the Erasmus Mundus Joint Master's Degree in European Politics and Society, declare herewith that the present thesis is exclusively my own work, based on my research and only such external information as properly credited in notes and bibliography. I declare that no unidentified and illegitimate use was made of works of others, and no part of the thesis infringes on any person's or institution's copyright. I also declare that no part of this thesis has been submitted in this form to any other institution of higher education for an academic degree.

Barcelona, 1 July 2022

Karolina Adriana Horajno

List of Abbreviations

APERC - Asia Pacific Energy Research Centre

BETD - Berlin Energy Transition Dialogue

BECCS - Bioenergy with Carbon Capture and Storage

BMUV - Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection

BMWK - Federal Ministry for Economic Affairs and Climate Action

BNetzA - Federal Network Agency

C - Celsius

CCS - Carbon Capture and Storage

EEG - Renewable Energy Sources Act

EU - European Union

FF - Fossil Fuel

GDP - Gross Domestic Product

GtCO₂ - Gigatons of Carbon Dioxide

GW - Giga Watt

IEA - International Energy Agency

IRENA - International Renewable Energy Agency

ISE - Fraunhofer Institute for Solar Energy Systems

LNG - Liquefied Natural Gas

M³ - Cubic Meter

RE - Renewable Energy

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1. Introduction

Recent crises shed light on pitfalls associated with depending on imported fossil fuels. They lead to instability in energy supplies throughout industries and private households. The Russian war in Ukraine with its outbreak on 24 February 2022¹ motivates the EU countries overwhelmingly to distance themselves from Russia's acts of aggression and limit their dependence on Russian gas and oil. During the Russian invasion on Ukraine, policymakers sought answers on how "to immediately mitigate reliance on fossil fuels for vulnerable importers." (Hosseini 2022: 2) Securing the domestic energy supply was associated with efforts to decrease the dependence on foreign energy sources. (Robinson 2008) Means of becoming independent from imported fossil fuels thereby included the expansion of domestic clean energy infrastructure.

The strategies pursued by countries in reacting to crises are often path-dependent. In some cases, they can be described by disruptions through prior events and are therefore not explained unilaterally by one event. The fundamental streams in the studies on policy paradigms diverge in two fundamentally different directions: Charles Lindblom's (1959) contributions on incrementalism and Peter Hall's (1989) study on paradigm shifts. Whereas Lindblom understood policy changes as consequences of marginal increments from the status quo (Hayes 1992, Howlett and Ramesh 2003), Hall broke with the long-term predominance of Lindblom-inspired incrementalism in policy change and identified a second pattern of policy change, which is consistent with a more severe "paradigm shift." Germany's approach to the domestic energy supply during the Ukraine war can be seen as a paradigm shift in its energy policy. Germany committed to the construction of the biggest Russian LNG pipeline, Nordstream 2, up until the war, but then strived from being the largest importer of Russian gas and the second-largest importer of oil toward a complete ban on these fuels. At the same time, Nordstream 2 was intended to support Germany in its ability to cease coal-burning and nuclear energy. Therefore, it represented a decisive step in Germany's green energy transition. While being concerned over its energy supply, Germany intends to contribute to a positive balance in the global climate through an ambitious energy policy.

The underlying thesis is structured as follows: The next chapter develops the ground theory. It comprises the driving forces of policy change in general and elaborates the interconnections between energy security and green energy transitions. The chapter finishes by evaluating the existing literature on whether war can be an accelerator of green energy transitions. The subsequent chapter explains the methodology, which is a qualitative content analysis. It explains the approach behind collecting and categorizing information (Bowen 2009) and the insights gained from the case of Germany. The next chapter summarizes the results and divides them categorically in A) efforts of the German government which favor the green energy transition and B) efforts which do not favor the green energy transition since the outbreak of the war. Followingly, a discussion assesses the findings' significance for the contemporary debate.

¹ The Russian war on Ukraine is still ongoing on the submission date of this thesis (1 July 2022).

1.1 Explaining clean energy transitions

A green energy transition describes the path in transforming the energy sector from fossil-fuels based to carbon-free. The Paris Agreement from 2015, one of the founding multilateral agreements on contemporary climate change and green energy transitions, commits all signatory states to stimulate the joint goal in limiting the rise of global temperatures to 1.5°C above the pre-industrial level. Among the means to accelerate the green energy transition are: renewables, enhanced energy conservation, increased energy efficiency, electrification of end uses, hydrogen and its derivatives, Carbon Capture and Storage (CCS) in industries, Bioenergy with Carbon Capture and Storage (BECCS), as well as removal measures. (IRENA 2022) Studies indicate that the introduction of these resources and technologies would contribute to saving about one-third of emissions by 2030. (Figure 1, IRENA 2022)

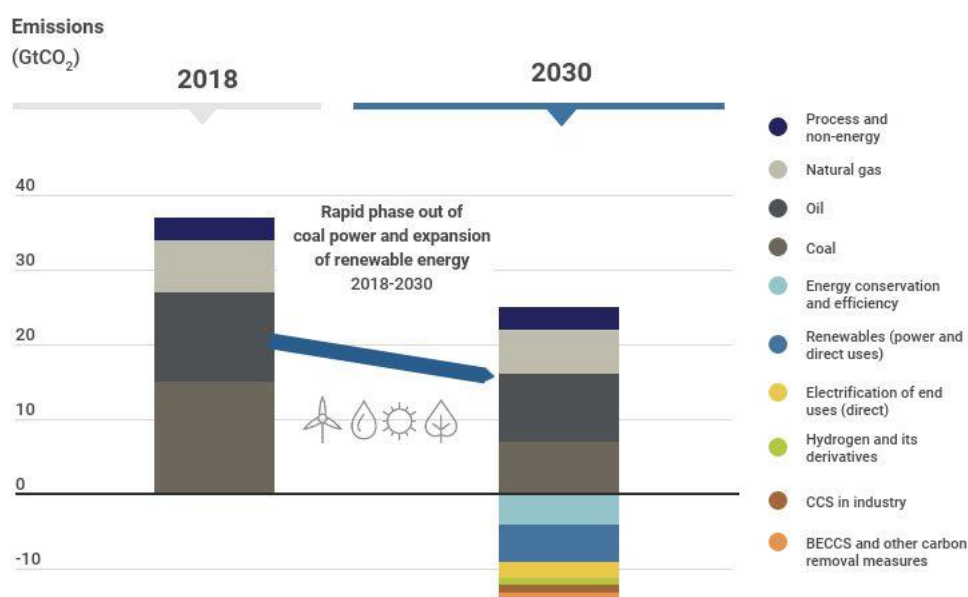


Figure 1: The impact on emissions of replacing fossil fuels with renewables and increasing energy efficiency through 2030 | Source: IRENA (2022)

Whether an energy type is renewable or non-renewable is decided by its characteristics: If it is inexhaustible and available in unlimited quantities. (Erneuerbare Energien und Grüne 2022) Renewable sources are mainly derived from the water, wind, sun, biomass and earth. They are the “fastest-growing energy sources globally” with 11.2 percent being consumed in 2019. (Selectra Climate 2022, Center for Climate and Energy Solutions 2022) The most significant barriers to faster renewable energy development are their costliness and logistical concerns. Conventional non-renewable energy sources, on the other hand, are fossil fuels-based and include coal, oil, and natural gas. These fossil fuels are harmful to the environment in varying degrees. Coal is the dirtiest and responsible for 0.3C of the 1C increase in the global average temperature. (ClientEarth 2022) Oil, when burned, is responsible for one-third of the world’s carbon emissions. Natural gas accounts for one-fifth of the world’s carbon emissions. It is often promoted as cleaner energy than coal and oil. Liquefied Natural Gas (LNG) is also becoming increasingly popular. LNG, cooled to less than minus 160 degrees Celsius, turns

into a liquid state and is compressed by a factor of 60. Therefore, it requires less storage capacity than gas-fired natural gas, making it suitable for transport in special tankers. (GEO 2022)

Nuclear energy is a decarbonized and low-polluting energy which barely emits greenhouse gases into the atmosphere. Even though it could be classified as green energy, it is not renewable, because uranium, the fuel used in nuclear reactors, is a limited resource. (Selectra Climate 2022) It is still attractive for countries striving to meet their net-zero targets, as it does not depend on weather conditions like solar energy. The fact that nuclear energy produces nuclear waste, causing irreversible environmental harm and needing to be stowed, can make countries reluctant to use it.

2. Literature Review

2.1 Do crises lead to policy change?

It tends to be challenging for scholars to grasp how and why public policies change. Many political processes and events seem to be “difficult to discern, describe, and explain.” (Capano and Howlett 2009) The contemporary study of policy dynamics is based on two streams of public policy decision-making: Charles Lindblom’s (1959) contributions on incrementalism and Peter Hall’s (1989) study on policy paradigms. Lindblom understood policy changes as consequences of marginal increments from the status quo (Hayes 1992, Howlett and Ramesh 2003). For more than 40 years, incrementalism was accepted as the dominant model of policy change from Lindblom’s and Dahl’s contributions in 1953. (Howlett and Migone 2011) Incrementalism claims that policies result from a “process of interaction and mutual adaptation among a multiplicity of actors advocating different values, representing different interests, and possessing different information.” (Britannica 2013) Consequently, public systems tend to not be flexible. Hall contributed to breaking with the long-term predominance of Lindblom-inspired incrementalism in policy change and identified a second pattern of policy change, which is consistent with a more severe “paradigm shift” of policy.

The studies on incremental and paradigmatic patterns of policy change unfolded in different directions: First, the efforts were directed towards understanding how longstanding policies, which tended to develop incrementally, punctuate and shift towards a new equilibrium. (Baumgartner and Jones 1991, 1993, 2002) At the same time, policy content, which is not impacted by the punctuation, settles back to the known patterns. Second, the manners in which institutions structure themselves give insights into the “musts, may, and must nots” of policy developments. (Clemens and Cook 1999, Steinmo et al. 1992) Third, policy subsystems (Hall 1993 and Sabatier 1988) become inevitable for understanding the whole picture of how institutional characteristics serve to constrain and facilitate overall patterns of policy development. According to prior observations, the institutionalization of policy-making can lead to a self-reinforcing “path-dependence.” (Hacker 2004, Howlett and Rayner 2006, Kay 2006, Mahoney 2000, Pierson 1993, 2000) Only a kind of exogenous “shock” has the potential to destabilize these patterns. Thereby, the efforts in researching policy changes produced an understanding of explaining factors such as “policy windows” and legislative “attention spans”, creating doubts in persistent policy agendas. (Baumgartner and Jones 1993, 2002, Hall 1989, Kingdon 1995, Leach and Sabatier 2005)

National energy systems with persistent structures in labor and capital tend to not favor movements in their energy infrastructures and are thus justifying reasons for path-dependency. Thereby, “exogeneous shocks” reduce the legitimacy and supremacy of previously highly valued interests. These open the “window” for radical change. (Mahoney and Thelen 2010) Systems are usually limited to moving within their institutional legacies and thus predominantly promote the status quo. (Knox-Hayes 2012, Steinhilber et al. 2013) Several instruments are applied to control these (energy) systems including political regulations, tax codes, and even banks and educational institutions. (Goldthau and Sovacool 2012) To overcome the status quo and

break through embedded systems, long-term transformations are initiated, even with the potential of becoming “messy, conflictual and highly disjointed” to the prevalent system. (Meadowcroft 2009) Motivations behind not initiating such a transformation can be found in concerns about cost-effectiveness and risks associated with potential setbacks from operating within new systems and machines. (Smil 2010) The support of national policymakers can be regarded as essential for shaping and driving clean energy transitions.

2.2 Energy security and its relevance for national energy systems

The concept of energy security is considered ‘as old as fire.’ (Valentine 2011) The chronological evolution of ‘energy security’ shows that the term only emerged in 1975, even though the relevance of securing energy for daily life has been elementary ever since the discovery of fire. The perceived importance of energy security gradually increased throughout the 21st century. (Augutis et al. 2011, Azzuni and Breyer 2018, Yergin 2006), driven by numerous reasons including rising energy prices (Vivoda 2010), growing dependence of industrialized economies on energy (Kaare, Koppel et al. 2013), and the importance of energy for economic growth (Bielecki 2002, Kunz 2012). The concept of energy security became the subject of many studies within the fields of policymaking (Turton and Barreto 2006, Winzer 2012), politics (Jonsson et al. 2015), international relations (Kirchner and Berk 2010), national security (Dyer and Trombetta 2013), and national energy policies (Franki and Viškovic 2015). Energy security was approached through a regional focus (i.e. Hossain et al. 2016), single-country case studies (i.e. Davidson et al. 2016, Rennkamp and Bhuyan 2016), or comparative case studies (i.e. Hager and Stefes 2016, Isoaho et al. 2016).

Numerous indicators have been compiled over the years to measure energy security. Thereby, the Asia Pacific Energy Research Centre (APEREC) (2007) defined the four dimensions, known as the dimensions expressing the desirable conditions of energy security: Accessibility, Affordability, Availability and Acceptability. Kruyt et al. (2009) established 19 indicators within the existing dimensions while equating energy security and the energy supply. Additionally, Sovacool and Mukherjee (2011) presented modified dimensions for energy security: Affordability, Availability, Technical Development, Environmental and Social sustainability, Regulation and Governance. These dimensions were mainly defined for the comparison of national performances on energy security. However, the problem identified with these indicators is their complexity (Axon and Darton 2021), leaving open if the multitude of indicators can lead to concrete conclusions. In the field of energy security, two research directions emerged: 1) those focusing on statistics and variables on market dynamics and those focusing on measuring abstract notions. (Axon and Darton 2021) Ultimately, both streams are needed to derive all-encompassing results.

Energy is desired to cover basic human needs. It is seen as a mean to achieve freedom of choice for individuals and nations (Maslow 1943). Thereby, experiencing security in energy supplies becomes a central goal of the society. (Franki and Viškovic 2015) At the same time, national energy supplies tend to

be dependent on foreign fuels and materials. Consequently, it remains open why some countries allowed national energy security to reach a dangerous tipping point, where energy cannot be sufficiently guaranteed by domestic resources. The concept of energy security is one driver of energy transition and other factors such as environmental concerns need to be acknowledged as well (Narula and Reddy 2016). It highlights the necessity for a holistic, linking approach, which examines the interplay between those driving forces.

2.3 Linking crises and green energy transitions

Developing domestic clean energy infrastructures can be considered a tool for becoming independent from imported fossil fuels for energy coverage. Crises associated with the importing or exporting countries shed light on the problems of dependence on imported fossil fuels. Kuzemko, et al. (2020) assert that the COVID-19 pandemic similarly changed the circumstances for sustainable energy transitions. Due to decreasing gas prices and the increasing share in renewables, the coal demand fell by approx. 8% from 2019 to 2020. (IEA 2020). The demand for renewable energy increased, though only by 1% in the crisis year 2020. (IEA 2020) The Covid-19 pandemic has thus promoted green energy instead of fossil fuels, even if only marginally.

Energy security and sustainability have a multifaceted relationship, depending on the aspect of sustainability that is paid particular attention to. According to Axon and Darton 2021, energy security and sustainability have much in common. Thereby ‘sustainability’ is usually defined by its three principles: environmental, social, and economic sustainability. In the interplay between environmental quality and energy security, energy security has been considered a priority for a long time. (Axon and Darton 2021) Following these considerations, short-term security motivations were seemingly given priority over long-term benefits of the green energy expansion. Valdés (2018) identified various studies on energy security from the perspective of sustainability. According to Narula and Reddy (2015), energy security and energy sustainability are linked conceptually but follow deviant trajectories. Thereby, Keppler (2007) found that sustainability was insufficiently defined by having an economics-oriented view of sustainability. Ivanovski and Marinucci (2021) identified a nexus between policy uncertainty and renewable energy. By utilizing parametric panel data methods, they discovered a negative relationship between renewable energy consumption and economic policy uncertainty in the long run. On the one hand, it leads to the conclusion that higher country risks hinder or delay the increase in renewable use. On the other hand, renewable systems do not rely on imported fossil fuels; they remain mostly dependent on the market for acquiring other resources and materials. (Krane and Idel 2021) However, recent events point in the direction of energy uncertainty and become favorable for the expansion of renewables in the long run.

2.4 Will war fast-track the green energy transition due to the Russian war in Ukraine?

Potential solutions to the European dependency on Russia have been identified in the decentralization of global energy systems and speeding up the expansion of renewable energy. Therefore, the academic interest in the potential acceleration of green energy systems due to wars increased. (i.e. Hosseini 2022, Pardo De

Santayana 2022) In line with this, scientific journals and reports increasingly questioned whether war fast-tracks the clean energy transition. (Deutsche Welle 2022a, Financial Times 2022, Foreign Policy 2022, Scientific American 2022) The literature is not primarily centered around the impacts of the war on the energy supply in crisis regions. Instead, it covers the energy supply in third countries, which are dependent on Russian fossil fuels. Predominantly, positive impacts of the crisis were suggested on green energy transitions in the long run. However, in the short term, prices of energy grow significantly and the supplier for fossil fuels Russia is replaced by other supply countries. (Tollefson 2022)

Whereas one rationale for accelerating the green energy transition lies in the political motivation to become independent from Russian supplies and ensure long-term energy security (IRENA 2022), the economic argument considers the price developments of oil and gas. Oil and gas prices increased as a reaction to supply shortages during the war in Ukraine. Renewables became more profitable in turn and an alternative to fossil fuels, incentivizing to make further investments into green infrastructure. In fact, green energies became the cheapest alternative to fossil fuels (Naturstrom AG 2022) unfolding further benefits for the green infrastructure in Germany:

“Such a profound shift would make countries less dependent on energy imports through diversified supply options and help decouple economies from wide swings in the prices of fossil fuels. This path would also create jobs, reduce poverty, and advance the cause of an inclusive and climate-safe global economy.” (IRENA 2022)

Renewable energy consumption and economic growth tend to have a causal relationship in the short and long run. (Ben-Salha et al. 2018) In Thorarinsdottir’s et al. study (2017), a positive influence of renewables on the development of the Gross Domestic Product (GDP) per capita for the (then) 28 EU countries was identified between 2003 and 2014. More concretely, an increase in renewables by 1% was associated with an increase of 0.05%-0.06% GDP per capita. Therefore, an expansion in green energy creates a direct economic incentive. Supported by this observation, Ghalayini Latife (2011) demonstrates that the economic growth of countries importing oil decreases according to increasing oil prices. Since the prices of Russian oil and gas increased during the war, it can be assumed that the importing countries of Russian oil and gas intend to exploit their economic incentives in expanding renewables.

3. Research Design and Methodology

This study is compiled as a qualitative single-case study, which examines “a contemporary phenomenon (the ‘case’) within its real-life context” (Yin 2014: 16). It is designed as a deductive contribution testing pre-defined hypotheses. (Stebbins 2011) Guided by the theoretical framework on paradigm shifts as a reaction to crises (Chapter 2), this approach allows the examination of an entity’s trajectory in-depth. Small-N designs tend to be particularly suited for this approach. (Gerring 2007) Single country studies can even unfold the capacity of drawing “generalizable implications.” (Culpepper 2005) Therefore, this study can become a baseline for future research in similar cases.

3.1 Case Selection

A purposeful and careful case selection is essential for single-case studies, as the investigation is limited to only one specific unit (Ritchie et al. 2013): In recent history, several events challenged energy dependencies in the western world, such as the Russian involvements in Georgia 2008 and Crimea 2014. (Deutsche Welle 2022a) Only during the war in Ukraine did many European countries show an extraordinary motivation to counteract their dependence on Russian gas and oil. (Hosseini 2022) Up until 2022, Russia was the second-largest oil supplier worldwide after the USA. (Husseini 2022: 2) Within the European market, Russia provided 40% of the supply of Natural Gas (NG). This dependence on Russian fossil fuels took different trajectories throughout Europe, depending on the alternatives available and domestic energy resources.

Several countries’ energy grids are closely linked to Russia and Ukraine. Thereby, Russian gas reaches its final destinations through numerous pipelines. As depicted in Figure 2, Nord Stream 1 and 2 are the most significant pipeline connections between Russia and the EU with a capacity of 55 billion cubic meters. (Bocksch 2022) These pipelines were considered essential for Germany’s green energy transition as they substitute the energy derived from domestic nuclear and coal-fired power plants. At the same time, Germany has the highest gas import and second-highest oil import from Russia in total numbers. (Horton et al. 2022) Even though Germany condemned the Russian annexation of Crimea in 2014, it still allowed German fossil fuel imports to increase between



Figure 2: Capacities of the largest gas pipelines between Russia and Europe | Source: Bocksch (2022)

2014 and 2022. This decision was then counteracted during Russia’s war in Ukraine in 2022, followed by sanctions which addressed almost all Russian economic sectors except fossil fuels.

For years until the war, Germany, the biggest industrial country in the European Union, defended its newly built gas pipeline Nordstream 2 with Russia. It did so despite the other EU countries' backlash. During the Russian war in Ukraine, it finally withdrew its approval. (Deutsche Welle 2022a) As a consequence to the reduced gas supplies from Russia to Germany, the German Federal Minister for Economic Affairs and Climate Action, Robert Habeck announced these disruptions can be considered an "external shock" to the German energy system. (Cicero 2022) This evaluation meets the theoretical assumptions. Supported by the theoretical considerations, the following hypotheses were developed:

H1: The war in Ukraine triggered a paradigm shift in German energy politics.

H2: The green energy transition in Germany was not accelerated for the short run as a reaction to the war in Ukraine.

H3: The green energy transition was accelerated for the long run as a reaction to the war in Ukraine.

In line with similar studies on the impacts of the Covid-19 pandemic on renewable energy (Gillingham et al. 2020), the current German efforts in expanding renewables can be expected to show short and long term effects. Short term effects describe results by 2035 and long term effects results by 2100. (Gillingham et al. 2020) These timeframes can only be estimations. Nevertheless, they set boundaries for the evaluation. Supportive assumptions of Marques et al. (2019) indicate that a short run expansion of renewables is not feasible by solely market-based instruments. A diffusion of renewable technologies into the market is conceivable in the long run if these are well-integrated into the electricity market and receive support from other actors than the market. Political actors can be supportive on multiple levels: the international, supranational, national, subnational and the local level. (Bekirsky 2022) Civil society can accelerate the pressure for green energy transitions in different ways, from protesting to building civil networks.

While managing the increasingly uncertain German-Russian relations and becoming independent from Russian fossil fuels, Germany continues its ambitious mission in fighting climate change. Driving its green energy transition became essential, with the expansion of renewable energies as a central pillar. A large-scale instrument for the promotion of electricity from renewable energies is the German Renewable Energy Sources Act. (EEG) Since 2000, it was repeatedly amended and equipped with more ambitious targets. The most recent EEG amendment from 2020 defined the goal of 65 percent renewable energies by 2030 and greenhouse gas neutrality in the German electricity sector before 2050. (BMWK 2022) The current renewable energy architecture in Germany is well developed and mainly based on biomass, wind, solar and hydro. The total wind power capacity of 64 GW in 2021 qualified Germany as the world's third country for installed wind power capacity. (ISE 2022)

Despite significant achievements in the green energy infrastructure in Germany, the public constantly advocates for greater political attention to environmental protection. Seventy percent of Germans claim that

most attention should be paid to energy policy throughout the available environmental protection measures. (Umwelt Bundesamt 2022) Thus, the urgency for accelerating the energy transition is constantly present in the public eye and policymaking. In line with the public sensitivity to environmental concerns, the environment-friendly political party ‘Alliance 90/The Greens’ gained popularity since its establishment in the 1990s. The current national government (2021-2025) includes a ‘green’ Vice-Chancellor and Federal Minister for Economic Affairs and Climate Action (BMWK), Robert Habeck. For the first time in German history, a government integrated ‘climate’ into the top priorities of a German ministry. It lies outside the scope of this paper to examine the reasons for differing reactions to the Crimea crisis in 2014 and the Ukraine war in 2022. Nevertheless, it seems plausible that influential factors for the change in reactions can be partly traced back to the change in German government in 2021 and the internationally more condemning response to the Russian attacks in 2022 than in 2014.

3.2 Data Collection

The collected data consists of press releases by the German Federal Ministry for Economic Affairs and Climate Action (BMWK). These press releases represent most likely from the best informed platform for collecting the most recent information available. All press releases with explicit or implicit reference to both, “Energy/Environment” and “Ukraine/Russia” are included in the analysis. The data collection covers the time period between 24 February 2022 (invasion of the Russian army into Ukraine) and 24 May 2022. A comparative analysis to statements from a prior period was not considered, as the changes to prior periods are already highlighted in the collected data.

A crucial step of the content analysis is organizing the data. Based on the empirics, the information is coded and organized into categories. (Bowen 2009) This approach extensively grasps the measures taken by the German government in response to the Russian war into A) efforts of the German government which favor the green energy transition and B) efforts of the German government which do not favor the green energy transition. Figure 3 presents an overview of the first-row subcategories and invites to look at the complete table of categories and coded press releases in the end of this thesis.

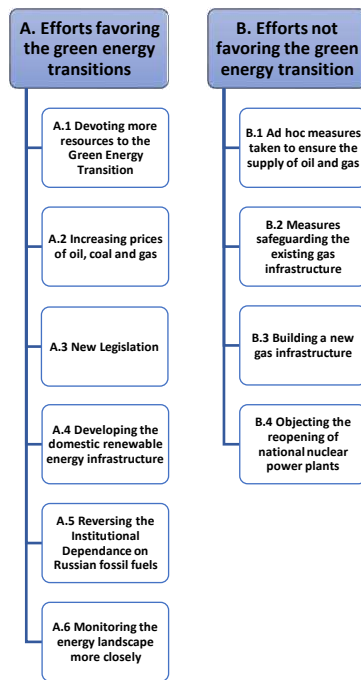


Figure 3: Coding Categories (Own Illustration)

With policies that were only recently introduced and not under post-evaluation yet, additional attention can be devoted to the intentions and framing behind public policies. The five main strategies how leaders usually justify their political decisions according to McGraw are: 1) they highlight the decision’s future benefits, 2) point out unnoticed benefits the public failed to notice, 3) present it as the better alternative to past negative consequences, 4) make “social comparisons” to groups suffering more, or 5) present “worst-case-scenarios” if those policies would not have been introduced. (McGraw 1990: 122) Keeping these insights in mind when evaluating political statements helps to realistically assess them. It is especially relevant when policy-makers can guide the output through their own ministry’s media.

4. Results

4.1 Efforts favoring the green energy transition

The German reactions to the Ukraine war in 2022 are multifaced, most of them having a reactionary short-term character to the current state of supply insecurity. Other measures have long-term effects instead. Measures favoring the green energy transition majorly include devoting more financial resources to building and extending the green energy infrastructure in Germany. (A.1) Once established, it would be also beneficial for self-sustenance through national energy supplies, thereby improving the current state of energy security. These resources, however, do not contribute to solving the energy supply crisis in the short-term. 203 billion Euros were allocated until 2026 in climate protection both nationally and internationally, 86 billion more than planned. These additional resources were devoted to issues of climate protection, energy security and coping with the corona crisis. (BMWK 16.03.2022) The Federal Minister Habeck justified this by claiming:

“The Russian war of aggression against Ukraine has made it abundantly clear that we must become independent of Russian energy imports. That is why we need an accelerated energy transition, an increased expansion of renewable energies and significantly more energy efficiency. This is the be-all and end-all for a cheap, independent and secure energy supply of the future.” (BMWK 16.03.2022)

The attempt to link the necessity of accelerating the green energy transition and the impacts of the Ukraine war implies that the Ukraine war is presented as a ‘paradigm shift,’ fundamentally permuting the German energy infrastructure.

In line with additional resources for climate protection and the energy transition, new public policy packages were introduced supporting and guiding the long-term expansion of renewable energy. (A.3) These policy packages were called “the largest energy policy amendment in decades.” (BMWK 06.04.2022) (A.3) They were introduced despite the urgency of securing the current energy supply first. Increasing prices of oil, coal and gas (A.2) were overwhelmingly unaddressed by public policies. The inflation rate was expected to reach 6.1% in Spring 2022, increasing prices for daily expenses by an effective amount. (BMWK 27.04.2022b) (A.2) These increases posed a significant financial burden on consumers, likely provoking dwindling public support for governmental decisions and public investments in green energy. It can be already observed that the approval of Germans to pay more dwells as soon as a crisis ends. This was portrayed with the phase-out of nuclear power after the nuclear accident in Fukushima in 2011. First, german citizens agreed to pay more. As soon as the exceptional situation progressed, they were no longer willing to spend more on the energy transition. (Clean Energy Project 2012) Similarly, citizens were irritated why they need to pay more for regional renewables during the Ukraine war even though those types of energy were claimed to not be affected by increasing energy prices. (Energieagentur 2022)

In order to dissolve the energy dependency on the Russian regime, the German government initiated and supported concrete domestic green energy projects. (A.4) (A.4.2.) The far front concerned the expansion of wind energy in geographically predestined regions. (A.4.1.) These long-term projects were initiated in times of war even though they would not solve the supply issues directly. The war in Ukraine seems more likely to be treated as a “window opening” opportunity (Hall 1989, Baumgartner and Jones 1993, 2002, Kingdon 1995, Leach and Sabatier 2005), legitimizing more expenses for green energy infrastructure by the momentum of the war. To give weight to its efforts and highlight its genuity, the German government joined forces with its international partners, bringing attention to the need for fast action:

“This is intended to develop the North Sea region as a “Green Power Plant of Europe” and to supply the EU with green electricity. (...) Cooperation for offshore wind energy and green hydrogen (...) thus further reduces dependence on gas imports.” (BMWK 18.05.2022)

Gazprom Germania, a subsidiary of the Russian gas supplier Gazprom in Germany, operates gas storage facilities and gas trading, among other places, in Germany. Gazprom Germania is also the co-owner of German gas pipelines. Entrusting parts of the critical infrastructure to foreign operators certainly became problematic. (A.5) Throughout Europe, Germany led the way in this dependency. In 2020, it purchased 56.3% of Russian gas, far ahead of all other EU states, Italy coming second with only 19.7%. (Deutsche Welle 2022b) During the war, Gazprom Germania was placed under the trust of the Federal Network Agency (BNetzA) as the company was sold by its Russian parent company and threatened to be liquidated without prior approval from German authorities. In addition, Russia announced sanctions against parts of Gazprom Germania. These announcements spread insecurity about the stability of energy supplies:

“We are monitoring the current situation with high concentration. The affected volumes at Gazprom Germania are in the order of 10 million cubic metres per day. This corresponds to around three percent of Germany's total annual consumption.” (BMWK 12.05.2022)

Breaking out of such entrenched structures with foreign regimes exploiting their advantage in fossil fuels highlights the importance of a self-sufficient and reliable energy supply of the future.

4.2 Efforts not favoring the green energy transition

Even though numerous efforts of the German government were oriented towards contributing to the expansion of green energy sources, the majority of efforts were directed towards strengthening energy types considered transitional solutions, like LNG. As those energy types do not reach climate neutrality, they cannot be authentically categorized favoring green transitions.

As a reaction to the first weeks of the Ukraine war, ad hoc measures were introduced. These measures dedicated their priority to securing the continuous gas and oil supply. (B.1) They included the partial release of petroleum, liquid oil from national oil stocks. (B.1.1) By doing so, the German government voluntarily contributed to the efforts of the international network in stabilizing the global petroleum prices. (B1.1). A

national call asking the public to save energy was announced as a supporting measure. (B.1.2) This call was explicitly dedicated to the urgent situation. Nevertheless, saving energy can be considered a continuous measure for omitting emissions. The importance of this drastic measure was emphasized during the Ukraine war:

“Saving energy is a common task that affects us all. Becoming less dependent on Russian energy imports is currently the top priority.” (BMWK 25.03.2022a)

Existing gas and oil infrastructures are generously safeguarded during the Ukraine war. (B.2) Maintaining those systems with rigid structures for fossil fuels does clearly not support the development of green energies. Nevertheless, these measures were notoriously initiated to counteract a potential shortage. For example, obligations were issued for all German operators to fill their gas storage facilities gradually. (B.2.1) This measure was mainly oriented to accumulate stocks for the coming winter. In line with these precautions, the Emergency Gas Plan (B.2.2) was introduced on 30 March 2022, followed by a declaration of the early warning level in present gas supplies. Even though it was only presented as a “precautionary measure” (BMWK 30.03.2022a), it highlighted the fragility of the dependence on foreign fuel imports in general. Thereby, this war exposed the political character of energy trade.

In response to the Ukraine war, the German government amended numerous laws as they turned out to be inadequate, such as the Energy Security Act. (B.2.4) Its amendment intends to provide far-reaching possibilities for crisis management limiting its vulnerability to external threats:

“In the event of a threat or disruption to the energy supply, the law provides far-reaching possibilities for crisis management. These possibilities include trust management of companies belonging to the critical energy infrastructure and strengthening of European solidarity and a digital platform that allows companies to better manage gas reduction.” (BMWK 25.04.2022)

The current governmental support for LNG Terminals is likely the most significant obstacle to the expansion of renewable energies (B.3.1), as public spending flows into the urgent provision of oil and gas instead of investments in green energies. Besides the release and purchase of gas reserves, floating LNG terminals were chartered and the construction of an own LNG terminal in Brunsbüttel was initiated. (BMWK 27.04.2022a) (B.3.1) The German government pledged to finance these efforts. (BMWK 27.04.2022a) In Wilhelmshaven, Lower Saxony region, an additional project was initiated to expand the LNG and “GreenGas import infrastructure.” (BMWK 05.05.2022) Thereby, it includes chartering a total of four floating liquefied natural gas terminals, so-called “Floating Storage and Regasification Units (FSRU)” (BMWK 05.05.2022):

“These floating liquefied natural gas terminals offer the opportunity to start importing LNG at very short notice in order to further promote independence from Russian imports for gas.” (BMWK 05.05.2022)

Even though LNG is environmentally harmful, it also bears potentially positive, future-oriented aspects. It features the potential to rebuild LNG structures for the transport of green hydrogen derivatives such as

ammonia in the future. Until then, the terminals' function is primarily to "obtain natural gas for the German market from regions that cannot be reached by gas pipelines" with a capacity of 8 billion m³. (BMWK 05.03.2022) Potentially using these terminal for green hydrogen seems like an asset to the future green energy transitions. Until then, the transport and usage of LNG still represent environmentally harmful practice. However, the German government adopted a written circulation procedure in order to assist the legislative process in accelerating the use of LNG. (BMWK 05.05.2022). Among other things, this was justified by the one-sided and stand-alone character of gas, which cannot simply be replaced by renewable energy:

"Due to the low substitutability of gas by other energy sources, gas from other sources must be procured to ensure supply. One of Germany's few ways to procure additional gas volumes on the world market at short notice is to purchase liquefied natural gas (LNG)." (BMWK 10.05.2022)

A measure that could have helped to improve energy security in the long term would be the reopening of nuclear power plants. Even though nuclear energy is not popular in Germany, it is potentially a tool for becoming more environmentally friendly, as the CO₂ emissions emitted from nuclear energy power plants are lower than the emission from fossil fuels (gas and oil). It should not be disregarded that nuclear waste causes irreversible environmental harm. Still, the reopening and reconstruction of decommissioned nuclear power plants would support fast independence from foreign fossil fuels and produce fewer emissions. The pressure on the German government to formulate an opinion on the potential reopening of nuclear power plants increased. Then, the German government rejected this option, claiming (B.4):

"Both ministries (BMWK and BMUV) come to the conclusion that an extension of the terms could only make a very limited contribution to solving the problem, and this at very high economic costs, constitutional and security risks. As a result of a balancing of benefits and risks, an extension of the lifetime of the three remaining nuclear power plants is not recommended, even in view of the current gas crisis." (BMWK 08.03.2022)

A positive occurrence for Germany's green energy transition is the increased public awareness of how energy supply chains are structured and the fragility of fossil fuel imports. This has been demonstrated by monitoring the energy landscape publicly more closely and publicizing progress reports:

"Germany is in the process of rapidly reducing its energy dependence on Russia and putting its energy supply on a broader footing. Through intensive efforts with all relevant stakeholders, it has been possible to make significant progress, diversify supply chains and thus significantly reduce dependency." (BMWK 01.05.2022)

The public was specifically involved and conveyed the seriousness of the situation:

"However, independence from Russian gas can only be achieved through a national show of strength. Many simultaneous steps by many actors are needed – federal, state, local, corporate and private households." (BMWK 01.05.2022)

The Russian actions led other countries to unite in their efforts, helping each other, but also mutually gaining from new trade partnerships. Germany built bi- and multilateral energy partnerships and strengthened existing ones (B.5). Thereby, the trade in energy increased with countries that were previously not

considered desirable trade partners due to many factors, but primarily because of human rights violations in Qatar. The Memorandum of Understanding signed between the Highness Sheikh Tamim Al Thani, Emir of Qatar and Federal Minister of Economic Affairs and Climate Protection Robert Habeck during a state visit intended to further strengthen bilateral cooperation in the field of energy:

“The energy partnership between Germany and Qatar builds on the successful existing dialogue and is intended to be of mutual benefit, both in terms of establishing trade relations in the field of liquefied natural gas and achieving the climate protection goals of both countries.” (BMWK 20.05.2022)

Bilateral relationships were built based on mutual interest in energy trade. (B.5.1) Nevertheless, the energy types this partnership was built on is mainly LNG. It is seemingly acknowledged as transitional energy by the German government, as it emits less than gas and oil but more as renewables. Followingly, receiving cheap energy should not be prioritized over building own domestic renewables in the future. At the same time, it can be already observed that the German government tries to build an intersectional network with foreign regimes sharing knowledge on the future of energy. It cultivates exchange in international conferences such as the 8th Berlin Energy Transition Dialogue (BETD) under the motto “From Ambition to Action.” The momentum of insecurity thereby offers to provide new solutions with renewables clearing the way towards safety and sustainability:

“Renewable energies combine safety and climate protection. It is about strategies for the intelligent transformation of energy systems worldwide and about greater independence from fossil fuels. (...) The global energy transition will increase trade and the networking of states. One example of this are the energy partnerships that Germany maintains around the globe.” (BMWK 29.03.2022)

Finally, it could turn out as an advantage that Germany was not a lonely survivor in its energy dependency on Russia. The German reaction to the cessation of Russian gas supplies to Poland and Bulgaria (B.5.2) supports the impression that the EU countries intend to approach their problems together:

“Europe will stand together in solidarity and further diversify its gas supply. The goal in the European Union is to become independent of Russian energy imports as quickly as possible.” (BMWK 27.04.2022c)

While diversifying gas supplies, more relevance would be attributed to renewable energies once again. By cooperating, the EU countries could make use of the EU institutions’ resources and expertise to enhance their own capabilities and unite in their efforts to build permanent infrastructure for green energy.

5. Discussion

Case studies, such as the underlying, aim to conduct an in-depth analysis. Consequently, these projects suffer from limited generalizability. This case study's findings might not convincingly explain the policy patterns of other countries than Germany. Also, the German national energy policies are complemented by policies on the European level. This work did not intend to pursue a multilevel debate but developed an analysis on the grounds of the national debate as the scope of this thesis is a national energy transition. Bilateral and multilateral energy partnerships were still part of this debate and included in the analysis. Similar national debates likely took place in other countries in the European Union. However, these should be considered individually and be tailored to prior domestic developments. The national reactions to the potential shortage in gas and oil varied throughout the European Union (Jewkes and Wacket 2022), as well as the national approaches to green energy transitions. Finally, the framework formulated in this thesis sets incentives to apply the presented approach on additional EU countries.

The research of this thesis focuses primarily on exploring a paradigm change in public policies instead of evaluating the effectiveness of those policies in retrospect. Therefore, the analyzed statements cannot be categorized as actions. Instead, they are seen as 'efforts,' since some have not been fulfilled yet. Nevertheless, the reliability of German politicians and authorities in implementing public policies is relatively high. Therefore, these statements can be carefully taken seriously.

The field of energy politics is, as the concept of 'energy' itself is quite technical. The political decision-making in this field is particularly based on expertise from physics, chemistry, math, and environmental sciences. As explaining technical advancements and engineering in a successful energy transition demands confident proficiency in energy engineering or a similar, this thesis does not claim to having produced an advanced work in these fields. Therefore, this study, like other public policy studies in technical fields, focus on analyzing political developments. Recent developments such as the globally decreasing energy demand, improvements in energy efficiency measures and advanced energy conservation capabilities (OECD 2022) leave room for further studies in the future.

6. Conclusion

The underlying thesis explored the effects of an external crisis event in redirecting public policy patterns. The case of the Russian war in Ukraine in 2022 directly led to crucial developments in Germany. Retrospectively, the war can be considered an exogenous shock to German energy politics, as it was theoretically suggested by Hall (1989). The consequences of this exogenous shock were mainly expressed by supply insecurity and were followed by German efforts to reverse the energy dependence on Russia. Throughout most governmental efforts, the reactional decision to cease Nordstream 2, the recently built pipeline between Germany and Russia, represented a fundamental cast away from previously overriding interests in cheap gas and fewer domestically produced CO₂ emissions. In doing so, the German government inevitably accepted the resulting urgency to resort domestic coal and nuclear energy, significantly increasing domestic CO₂ emissions. Lindblom's (1959) theory on incrementalism suggests that the structures of coal and nuclear energy were incrementally destructed until their final shut-down. The other way around, they can be expected to be rebuilt again to cover the short-term supply during the Ukraine war. Followingly, the space to potentially develop renewable energy systems is currently occupied, harming the evolvement of the green energy transition.

The content analysis revealed that the German efforts that favor the green energy transition are directed toward the long-term development of green energy infrastructure. The efforts that were classified as not favoring the green energy transition have a reactionary and interventional character. Efforts in building LNG terminals were only intended to last for the transition time toward renewables. Overall, the first and prioritized efforts the German government undertook were directed towards securing the energy supply of gas and oil, which were threatened to be absent. The expansion of green energies has not been part of the crisis resolution kit within this first period reacting to the crisis. Subsequently, the construction of new energy infrastructure, LNG terminals, was supported, even though LNG was not intended to be built in Germany because of its high emissions. Above all, such reactionary decisions and the serious considerations to reopen nuclear and coal-fired power represent the true "paradigm shift" (Peter Hall 1989) in German energy politics.

Despite the urgency of acute gas supply shortage immediately after the outbreak of the war on 24 February 2022, a great deal of attention was paid to the expansion of green energy, with more financial resources and the introduction of concrete renewables projects. This would probably not have happened in this speed without the fears resulting from the Ukraine war. It becomes increasingly clear that a "window-opening" moment (Mahoney and Thelen 2010) was exploited to accelerate green energy decisively. Thereby, the minister Habeck repetitively emphasized the importance of green energy for emancipation from Russian energy independence. Still, he did not acknowledge that building the envisioned infrastructure will take years. In doing so, the minister underpinned his policy decisions with a number of justifications by 1)

highlighting the decisions' future benefits, 2) pointing out unnoticed benefits the public failed to notice, 3) present them as the better alternatives to past negative consequences. (McGraw 1990)

Concludingly, the Russian war in Ukraine has complicated the terms on which Russia and the European Union interact. Germany will likely continue contributing to the European efforts in gaining independence from Russian energy supplies while striving to prioritize the growth of renewables. Nevertheless, to this day, the German government's priority lies in securing the energy supply, regardless of whether by renewables or fossil fuels.

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8. Coding Tables

8.1. Coding Table: Efforts favoring the green energy transition

Category	Subcategory	Relevance	Quote ²
A.1 Devoting more resources to the Green Energy Transition		More money for green energy is also beneficial for security. Devoting more money to the green energy transition does not effectively lead to more effectivity.	<p>“Today the Federal Cabinet adopted the 2nd government draft of the federal budget 2022 as well as the basic parameters for 2023 with the financial planning until 2026, including the BMWK budget. Also subject of the decision was the Economic Plan 2022 for the Energy and Climate Fund.” (BMWK 16.03.2022)</p> <p>“Federal Minister Habeck said: "Today's cabinet decisions set the financial framework for rapid progress in climate protection, energy security and coping with the corona crisis. The Russian war of aggression against Ukraine has made it abundantly clear that we must become independent of Russian energy imports. That is why we need an accelerated energy transition, an increased expansion of renewable energies and significantly more energy efficiency. This is the be-all and end-all for a cheap, independent and secure energy supply of the future. The German government will therefore invest more than 200 billion euros in climate protection by 2026 – both nationally and internationally.” (BMWK 16.03.2022)</p>
A.2 Increasing prices of oil, coal and gas		No final burden package for end consumers. Could provoke a less supportive public.	<p>“The sharp rise in the prices of oil, coal and gas in the course of the war is also driving consumer prices in Germany. The German government expects an inflation rate of 6.1% in 2022. Vice-Chancellor and Federal Minister for Economic Affairs and Climate Protection Habeck today presented the Spring Projection to the Federal Government.” (BMWK 27.04.2022b)</p>
A.3 New Legislation		New policies packages aiming at the long-term expansion of renewable energy despite	<p>“(..) This is the largest energy policy amendment in decades. With the Easter package, various energy laws will be comprehensively amended in order to accelerate and consistently advance the expansion of renewable energies.” (BMWK 06.04.2022)</p>

² The quotes were translated from German into English independently and verified by online translation machines.

		the urgency to secure the current energy supply first.	
A.4 Developing domestic renewable energy infrastructure	A.4.1 Expansion of Wind energy	Legitimization through the War of Ukraine; War is instrumentalized as an accelerator for the necessity to transform	“Today, at the invitation and chaired by Lower Saxony's Minister for the Environment, Energy, Building and Climate Protection, Olaf Lies, a meeting of the energy ministers of the federal and state governments took place. At the meeting, the federal and state governments reaffirmed their determination to consistently advance the energy transition and reduce dependence on Russian imports. Further measures planned for the summer to make land available for wind and to speed up planning and approval procedures are to be introduced into the legislative procedures as early as May.” (BMWK 30.03.2022b)
			“Federal Chancellor Olaf Scholz and Vice-Chancellor Robert Habeck are today jointly attending the meeting to strengthen energy policy cooperation in the North Sea region to Esberg in Denmark. The North Sea Summit brings together the heads of state and government and energy ministers of Germany, Denmark, the Netherlands and Belgium. Commission President Ursula von der Leyen and EU Energy Commissioner Kadri Simson as well as company representatives from all participating countries are also present at today's meeting in Esberg. At today's meeting, the energy ministers of the four North Sea countries sign a cooperation for offshore wind energy and green hydrogen. The declaration agrees to jointly develop "hybrid" offshore cooperation projects in the future, combining wind farms and electricity grids and connecting several Member States. This is intended to develop the North Sea region as a "Green Power Plant of Europe" and to supply the EU with green electricity.” „Cooperation for offshore wind energy and green hydrogen (...) thus further reduces dependence on gas imports.“ (BMWK 18.05.2022)
	A.4.2 Initiating	Legitimization through the War	“With today's visit to Thuringia, Vice-Chancellor and Federal Minister of Economics and Climate Protection

	and Supporting Various renewable energy projects	of Ukraine; War is instrumentalized as an accelerator for the necessity to transform	Robert Habeck continues his travels to the federal states. This will be the eighth stop on the Minister's state tours, which focus on the energy transition, the expansion of renewable energies and the transformation of the economy. (...) Minister Robert Habeck: "We are currently in the process of gradually breaking free from the grip of Russian energy imports. The expansion of renewable energies is the key to climate protection, security of supply and independence from imports in equal measure. We are working at full speed to ensure that our electricity supply is based almost entirely on renewable energies by 2035." (BMWK 17.05.2022)
			"With his visit to Saxony-Anhalt today, Vice-Chancellor and Federal Minister for Economic Affairs and Climate Protection Robert Habeck continues his travels to the federal states. Saxony-Anhalt will be the seventh stop on the Minister's state tours (...) An accelerated energy transition is the be-all and end-all for an affordable, independent and secure energy supply. Unfortunately, Russia's terrible war of aggression in Ukraine makes this clear to us every day. The expansion of renewable energies is not only an important driver of structural change." (BMWK 16.05.2022)
A.5 Reversing the Institutional Dependence on Russian fossil fuels		Indicating Institutional and structural dependence on Russian fossil fuels (Gazprom)	<p>"Gazprom Germania and its subsidiaries operate gas storage facilities and gas trading in Germany, among other places, and are co-owners of gas pipelines. The company was placed under the trust of the Federal Network Agency on April 4 after Gazprom Germania was sold by its Russian parent company to opaque owners without the prior necessary approval of the BMWK and then ordered the liquidation of the company. In order to ensure security of supply, the BMWK had ordered the trusteeship by the BNetzA." (BMWK 11.05.2022)</p> <p>"We are monitoring the current situation with high concentration. The affected volumes at Gazprom Germania are in the order of 10 million cubic metres per day. This corresponds to around three percent of Germany's total annual consumption." (BMWK 12.05.2022)</p>

<p>A.6 Monitoring the energy landscape more closely</p>		<p>Devoting more attention to concerns of energy supply and security.</p>	<p>“Germany is in the process of rapidly reducing its energy dependence on Russia and putting its energy supply on a broader footing. Through intensive efforts with all relevant stakeholders, it has been possible to make significant progress, diversify supply chains and thus significantly reduce dependency. Habeck: Since the first energy security progress report on 25.03.2022, further stages have been taken. The dependence on oil drops to twelve percent; we are at about eight percent for hard coal and about 35 percent for gas.”</p> <p>“To this end, natural gas purchases from Norway and the Netherlands were increased and LNG imports were significantly increased. However, independence from Russian gas can only be achieved through a national show of strength. Many simultaneous steps by many actors are needed – federal, state, local, corporate and private households.”</p> <p>“In close cooperation with the affected federal states, the Federal Government is working hard to put several floating LNG terminals (Floating Storage and Regasification Units, FSRU) into operation in Germany as early as 2022 and 2023. This requires an enormous commitment of all parties involved – also to create the technical prerequisites, e.B. in the construction of the connection pipelines.” (BMWK 01.05.2022)</p>
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8.2. Coding Table: Efforts not favoring the green energy transition

Category	Subcategory	Relevance	Quotes
B.1 Ad hoc measures taken to ensure the supply of oil and gas	B1.1 Releasing the National Oil Stocks	Measures are not climate friendly.	“In order to calm the oil market, the Federal Government is releasing part of the reserves from the holdings of the Petroleum Stockpiling Association. This was decided today by the Federal Minister of Economics Robert Habeck. In this way, Germany is making its voluntary contribution to the international network. Yesterday, the member states of the International Energy Agency (IEA) decided in a special meeting that a total of 60 million barrels of oil reserves should be released internationally.” (BMWK 02.03.2022)

	B.1.2 National call for energy saving	Drastic measures taken. Seeking for the public support.	“Saving energy is a common task that affects us all. Becoming less dependent on Russian energy imports is currently the top priority.” (BMWK 25.03.2022a)
B.2 Measures safeguarding the existing gas infrastructure	B.2.1 Obligations to gradually fill the storage facilities	Amendment to the Gas Storage Act	<p>“After the 2nd and 3rd readings, the Bundestag today approved the Act amending the Energy Industry Act on the introduction of level requirements for gas storage facilities (Gas Storage Act). This is intended to oblige all operators in Germany to gradually fill their storage facilities. Especially with a view to the coming winter, the energy supply is to be ensured and violent price fluctuations to be contained.” (BMWK 25.03.2022b)</p> <p>“After confirmation in the parliamentary procedure, the Act amending the Energy Industry Act on the Introduction of Level Requirements for Gas Storage Facilities (Gas Storage Act) was published today in the Federal Gazette and will enter into force tomorrow, 30.04.2022, on time. This is intended to oblige all operators in Germany to gradually fill their storage facilities. Especially looking at the coming winter, the</p>

			<p>aim is to further strengthen precautionary measures and also to curb sharp price fluctuations.” (BMWK 29.04.2022)</p>
	<p>B.2.2 Announcement of the Emergency Gas Plan</p>	<p>Declaration of the early warning level of the gas emergency plan</p>	<p>“The Federal Ministry of Economics and Climate Protection (BMWK) today declared the early warning level of the gas emergency plan. This serves as a precautionary measure. (..) the Federal Government has declared the first stage of the gas emergency plan, the so-called early warning level. (..) Russia announced last week that it would only accept the payment of gas imports in rubles. This constitutes a breach of private supply contracts. In a joint declaration on 28.03.2022, the G7 states rejected payment in rubles on grounds of adherence to the treaty. (..) The gas emergency plan has three escalation levels – the early warning level, the alert level and the emergency level.” (BMWK 30.03.2022a)</p>

	<p>B.2.3 Fulfilling international responsibilities</p>	<p>Exceptional release of oil reserves</p>	<p>“In the special meeting of the IEA Board of Directors at the ministerial level on 01.04.2022, all IEA member states supported the decision initiated and introduced by the USA on the release of oil reserves amounting to 120 million barrels. Germany is once again making its contribution in line with its share of 5.4 percent of the IEA countries' mineral oil consumption.” (BMWK 08.04.2022)</p>
	<p>B.2.4 Amendment to the Energy Security Act</p>	<p>Providing far-reaching possibilities for crisis management</p>	<p>“Today the Governments Cabinet adopted the amendment to the Energy Security Act in a written circulation procedure. In the event of a threat or disruption to the energy supply, the law provides far-reaching possibilities for crisis management. These possibilities include trust management of companies belonging to the critical energy infrastructure and strengthening of European solidarity and a digital platform that allows companies to better manage gas reduction.” (BMWK 25.04.2022)</p>

<p>B.3 Building a new energy Infrastructure</p>	<p>B.3.1 Building of new LNG infrastructure</p>	<p>Wide-ranging measures: Purchase of gas reserves, chartering of floating LNG terminals with regas financing facilities and the construction of the LNG terminal</p>	<p>“The ongoing measures to secure the energy supply in Germany, such as the purchase of gas reserves, the chartering of floating LNG terminals with regas financing facilities and the construction of the LNG terminal in Brunsbüttel do not have to be financed from the €5.2 billion share of the BMWK in the supplementary budget. The financing of these measures will be additionally ensured.”(BMWK 27.04.2022a)</p>
		<p>Measures are not climate neutral, but still have the opportunity to rebuild it for hydrogen transport in the future.</p>	<p>“With an annual regasification capacity of 8 billion m3, the terminal creates a direct opportunity to obtain natural gas for the German market from regions that cannot be reached by gas pipelines. The terminal thus increases security of supply and contributes to greater independence from pipelined natural gas imports in northwestern Europe. In the future, it is planned to convert the terminal for the import of green hydrogen derivatives such as ammonia.” (BMWK 05.03.2022)</p>

		<p>“Letter of Intent signed today in Wilhelmshaven to expand the LNG and GreenGas import infrastructure in Lower Saxony” “At the same time, Vice-Chancellor and Federal Minister of Economics and Federal Minister Robert Habeck signed contracts for the charter of a total of four floating liquefied natural gas terminals - so-called Floating Storage and Regasification Units (FSRU). These floating liquefied natural gas terminals offer the opportunity to start importing LNG at very short notice in order to further promote independence from Russian imports for gas.” (BMWK 05.05.2022)</p> <p>“The Federal Government has taken another important step on the way to independence from Russian energy imports: The Federal Cabinet today adopted a written circulation procedure to help formulate the draft law on accelerating the use of liquefied natural gas (LNGG).” (BMWK 05.05.2022)</p> <p>“Due to the low substitutability of gas by other energy sources, gas from other sources must be procured to ensure supply. One of Germany's few ways to procure additional gas volumes on the world market at short notice is to purchase liquefied natural gas. (LNG).“ (BMWK 10.05.2022)</p>
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<p>B.4 Objecting the reopening of national nuclear energy plants</p>		<p>The evaluation of nuclear energy takes place in the political arena. Although the CO2 emissions from nuclear energy power plants are low, the nuclear waste causes irreversible environmental harm. The reopening and reconstruction of decommissioned nuclear power plants would support fast independence from foreign fossil fuels.</p>	<p>“The Federal Ministry for Economic Affairs and Climate Protection (BMWK) and the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) have submitted an audit note on the debate on the operating times of nuclear power plants. Both ministries come to the conclusion that an extension of the terms could only make a very limited contribution to solving the problem, and this at very high economic costs, constitutional and security risks. As a result of a balancing of benefits and risks, an extension of the lifetime of the three remaining nuclear power plants is not recommended, even in view of the current gas crisis. Rather, it must now be a matter of putting the energy supply on more robust pillars and consistently reducing import dependence on Russia and pushing ahead with the expansion of renewable energies.” (BMWK 08.03.2022)</p>
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<p>B.5 Building and strengthening bi- and multilateral energy partnerships</p>	<p>B.5.1 Increasing trade between states and establishing energy relations</p>	<p>Creating mutual benefit, both in terms of establishing trade relations in the field of liquefied natural gas and achieving the climate protection goals of both countries</p>	<p>“During a state visit, His Highness Sheikh Tamim Al Thani, Emir of Qatar, and Federal Minister of Economic Affairs and Climate Protection Robert Habeck signed a Memorandum of Understanding to further strengthen bilateral cooperation in the field of energy. The energy partnership between Germany and Qatar builds on the successful existing dialogue and is intended to be of mutual benefit, both in terms of establishing trade relations in the field of liquefied natural gas and achieving the climate protection goals of both countries.” (BMWK 20.05.2022)</p> <p>“Renewable energies combine safety and climate protection (..) Foreign Minister Annalena Baerbock and Economics Minister Robert Habeck open the 8th Berlin Energy Transition Dialogue (BETD) today. Under the motto "From Ambition to Action", ministers and high-ranking delegations from over 50 countries will discuss with representatives from business, science and civil society. It is about strategies for the intelligent transformation of energy systems worldwide and about greater independence from fossil fuels.” “The global energy transition will increase trade and the networking of states. One example of this are the energy partnerships that Germany maintains around the globe.” (BMWK 29.03.2022)</p>
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	<p>B.5.2 Reaction to cessation of Russian gas supplies to Poland and Bulgaria</p>	<p>Attempts to further diversify the gas supply</p>	<p>“The cessation of Russian gas supplies to Poland and Bulgaria has no impact on the security of supply in Germany so far. Currently, the security of supply is guaranteed, the Federal Ministry of Economics and Climate Protection announced today. All in all, gas flows are currently at a stable level. The storage facilities have also been slowly filling up again since 18 March.” “Our supply situation is stable and we are doing everything we can to keep it that way. Europe will stand together in solidarity and further diversify its gas supply. The goal in the European Union is to become independent of Russian energy imports as quickly as possible,” said Federal Economics Minister Robert Habeck.” (BMWK 27.04.2022c)</p>
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