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How Greens turn gray: Green Party politics and the depoliticization of energy and climate change

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Decarbonization efforts and sustainability transformations represent highly contested socio-political projects. Yet, they often encounter various forms of depoliticization. This article illuminates how a grand socio-ecological challenge like the energy transition gets depoliticized by an unusual suspect, namely Germany's Green Party. Based on a qualitative content analysis of Green Party programs, party conventions, and additional documents published between 1980 and 2021, this article traces how the Green Party has depoliticized the energy transition over time, emphasizing a shift from radical societal change to ecological modernization. The changing stance of the German Greens on the country's energy transition reflects more profound changes of a future society the party collectively envisions through their energy and climate change agenda. These changes result from a struggle between moderates advocating incremental political reforms and radicals aiming for more fundamental and systemic societal change. By merging sustainability transition research with science and technology studies, this article makes a twofold contribution: First, it proposes a conceptual framework to investigate social and political futures envisioned through energy and climate politics. Second, the article empirically demonstrates the long process of depoliticization for an unusual but critical case. Germany's Green Party has embraced a technocentric vision of the energy transition, thereby suppressing earlier notions of broader societal change, such as anti-capitalism and energy democracy. This article spells out implications for the wider field of energy and climate politics and concludes with suggestions for future research.

KEYWORDS

climate change, conflicts, energy transition, Green Party, politicization, sociotechnical imaginaries, transformation

1 Introduction

“...wir müssen unser Leben grundlegend ändern, wir müssen die Zivilisation neu entwerfen.”

[“...we need to fundamentally change our lives; we need to redesign civilization.”]
Green Party election campaign (Die Grünen, 1983).

In January 2023, climate activists fought their last battle for Lützerath, a small village in Germany's North Rhine-Westphalia. The police removed activists from the area, and bulldozers quickly demolished the remaining buildings to make way for open-pit coal mining operations by the energy company RWE. The state government and RWE agreed on a deal to allow the extraction of 280 million tons of lignite while at the same time phase-out coal in North Rhine-Westphalia by 2030, 8 years earlier than planned (Nolting, 2023). Climate activists from various groups, such as *Fridays for Future* and *Ende Gelände*, vocally opposed RWE's coal mining operations, and their protests created an internationally visible

“symbol of resistance” (Aggarwal and Kumar, 2023; Conrad, 2023) against coal extraction and the foundations of a fossil fuel-dependent economy.

While the story of Lützerath resembles a classic fight between climate activists and the fossil fuel industry, this article focuses on the tensions between environmentalists and Germany’s Green Party, whose leaders openly supported and were actively involved in the compromise between RWE and the state government of North Rhine-Westphalia. Climate activists expressed their disappointment, felt “betrayed” by the Green Party leadership (Thurau, 2023), and described a deepened “rift between the Green Party and the climate movement” (Kyllmann and Wettengel, 2023). In contrast, party representatives expressed confusion over the climate movement’s anger toward them (Feldenkirchen and Schaible, 2023). The dissent over Lützerath illustrates the tensions that emerge when a Green Party decides to govern. This article, therefore, also relates to the conflicts and issues that arise when green parties gain power and transform from a protest movement to a part of the government (Poguntke, 2002; Rootes, 2002; Meaker, 2023).

To better understand these tensions, I trace how the Green Party has treated the energy transition as a political project over time. I argue that the energy transition got depoliticized, social conflicts were marginalized, and radical alternatives to the status quo disappeared over the years. The Greens narrowed their vision of an energy transition from an attempt to foster broader societal change to modes of ecological modernization and techno-optimistic solutions. While the Greens managed to gain power and form coalition governments at various levels, radical positions faded away, and compromises overshadowed the deeper contestation of a livable society at large. To substantiate these claims, I make two contributions: (1) Empirically, I show how the process of depoliticization for the German Green Party’s position on the energy transition materializes in party programs and manifestos. (2) Conceptually, I enrich sustainability transitions research with sociotechnical imaginaries. The analytical approach allows us to engage with the political foundations of broader societal projects like the energy transition, their (de)politicization, and the societal conflicts attached to technological choices. The energy transition represents a site of contestation and (de)politicization within Germany’s Green Party. Politicization refers to how an issue gets exposed to social and political conflicts. Put differently, politicization shifts the center of attention from seemingly apolitical innovations in science and technology to their social and political implications. In contrast, avoiding controversies and closing down political debates characterize depoliticization (Marquardt and Lederer, 2022).

The Green Party’s history reflects a constant struggle between moderates who aimed for political reforms and incremental change within established social, political, and economic institutions on the one hand and more radical representatives who called for fundamental and systemic society-wide changes. While the Green Party’s shift toward institutional reforms, pragmatism, and political compromises can be criticized as a conservative turn, it helped develop the party from the fringes of the German party system to its center (Schulte, 2015). Election results fluctuated over the years but grew from 1.5% in 1980 to 8.1–10.7% in the 2000s and

14.8% in 2021. This makes the German Greens one of the most influential green parties in the world but also creates internal tensions. With less radical positions, the Greens have attracted broader voter support and become a major party in Germany. They have shaped the *Zeitgeist* of sustainability and environmental consciousness but also adapted to an economic and political system they once wanted to overhaul more fundamentally. Political party scholars and historians have identified modes of “strategic repositioning” when tracing the Green Party’s development from a grassroots-based radical opposition to an established moderate party with increasing government responsibilities (Blühdorn, 2009; Frankland, 2019; Kwidziński, 2020). Yet, the multiple links between changing political positions, shifting ideological foundations, and the competing visions of a “green” future attached to a subject like the energy transition have been less clear.

This study shows how the Green Party’s shifting position on Germany’s energy transition reflects more fundamental changes in how the party collectively envisions a desirable future of society at large. Bringing together scholarly debates in transitions studies (Patwardhan, 2012; Jasanoff, 2018; Leipprand and Flachland, 2018; Köhler et al., 2019; Sovacool et al., 2020) with insights from sociotechnical imaginaries (Jasanoff, 2015a; Marquardt and Delina, 2019; Jasanoff and Simmet, 2021), I illustrate how ideas of social and political change attached to the energy transition get tamed over time as proponents highlight some aspects of the energy transition while leaving out others. I emphasize how envisioned radical alternatives fade and fundamental arguments about social and political order get lost through depoliticization and rationalization (especially when the Green Party holds political power), expanding earlier research on energy transition imaginaries (e.g., Jasanoff and Simmet, 2021).

Empirically, this analysis shows that the energy transition as a political project is not static but travels and changes meaning over time, even for a single, seemingly progressive actor like the Green Party. While this article focuses on the output rather than the process of (de)politicization, I challenge the assumption that the environmental movement’s success over the last decades translates into society’s comprehensive “ecologization” (Huber, 2011) to which the Greens have contributed. Instead, ecologization embodies substantially different meanings and has seen competing interpretations – also from Green Party representatives. Despite scholarly debates about the “post-ecologist turn” and an “end of environmentalism,” the Greens’ discursive struggle over the German energy transition illustrates the “exhaustion of the Green project” (Blühdorn, 2009) and the limitations of the party’s pragmatic societal vision.

Focusing on the Greens has two advantages: First, I can analyze contestation within a critical case regarding what the energy transition is and ought to be. Second, I can trace developments within the Greens over time in more detail. After introducing Germany’s energy transition as a site of contestation and political conflicts (section 2), I propose a conceptual framework to analyze energy transition-related imaginaries (section 3). I then present the methodology (section 4) and findings from the analysis (section 5) before discussing critical implications for the field of energy transitions more broadly (section 6). I conclude with avenues for future research (section 7).

2 Germany's energy transition and the Green Party

After the Greens have long fought for a transition from a fossil-fuel-dependent to a renewable, decentralized, and democratized energy system, the idea has been taken up, reframed, and re-interpreted by other political parties and societal actors, particularly after the nuclear disaster in Fukushima in 2011 (Leipprand et al., 2017). However, the term is highly contested as its meaning ranges from technocentric advancements to broader societal change. These struggles about the radical and disruptive nature of the energy transition also characterize the Greens' development more broadly, given the tensions between pragmatic *Realos* and radical *Fundis* since its establishment.

2.1 Multiple perspectives on the energy transition

The energy transition – or *Energiewende*¹ – has been a significant policy goal for Germany for several decades, shaped by various political and economic factors (Haas, 2017). It is often reduced to a government policy to transform Germany's energy system from one primarily based on fossil fuels to one that relies entirely on renewable energy sources. Yet, the energy transition touches upon broader societal issues, including democratic participation, justice, and power (Holstenkamp and Radtke, 2018; Kühne and Weber, 2018; Radtke and Kersting, 2018). At its core, it involves a shift toward renewable sources such as wind, solar, and biomass, as well as energy efficiency measures and a reduction of greenhouse gas emissions. The *Energiewende* can be traced back to the 1980s, and the Greens took significant steps in promoting renewables and phasing out nuclear during their legislative period together with the Social Democratic Party (SPD) between 1998 and 2005. The following coalition government between the conservative Christian Democratic Union (CDU) and the Social Democrats then used the term for their decision to phase out nuclear power again and promote renewables in the wake of the 2011 Fukushima disaster (BMU, 2012).

The German government has set various targets for expanding renewables, aiming to generate 80–85% of electricity from renewable energy by 2050. Interpreting the *Energiewende* has been the subject of much debate and disagreement, with different concepts and ideas of the country's transformed energy system. We can distinguish between relatively narrow and broader perspectives.

A narrow perspective of the energy transition focuses primarily on technical aspects, such as the advancement of renewable energy technologies, energy storage, and smart grids. Proponents of a narrow conceptualization of the energy transition believe that the focus should be on improving the efficiency and reliability of these technologies as much as possible (Smil, 2016). They see the *Energiewende* as primarily a technical challenge, which can be addressed by developing new technologies and improving

existing ones. The narrow perspective prioritizes the development of renewable energy sources, such as wind and solar power, over other aspects of the energy system (Chang et al., 2021). Along these lines, the primary goal of the transition should be to reduce greenhouse gas emissions through modernization and technological innovations, which can be achieved through the rapid expansion of renewable energy sources (Markard, 2018).

In contrast, broader perspectives of the *Energiewende* take a more transformative and societal approach. They go beyond the technology-related aspects of the transition to focus on the social, economic, and political implications (Marquardt and Nasiritousi, 2022). Broad perspectives consider the *Energiewende* not only as an opportunity to develop a more sustainable energy system but also to trigger social change and justice for larger parts of society, including the poorest and most marginalized communities (Miller et al., 2013). Broad perspectives emphasize developing a more democratic and participatory energy system, empowering communities to take control of their energy needs, and creating local, decentralized energy systems (Wahlund and Palm, 2022). They also highlight the importance of ensuring that the benefits of the energy transition are shared fairly and equitably, thereby addressing social and environmental injustices.

The energy transition is not a single coherent project but a site of political debates, contested solutions, and competing visions of the future. For example, Longhurst and Chilvers (2019) identify at least 12 visions of energy transitions in the United Kingdom. However, according to Amri-Henkel (2021), the German *Energiewende* has been narrowed down to ecological modernization, technological advancement, and management orientation over time, leaving little room for its society-wide transformative potential. These tensions between narrow and broader perspectives are not limited to the energy transition but characterize academic debates about ecological modernization and sustainability transformations more broadly. Transformations can trigger societal conflicts as they challenge incumbent beneficiaries of the existing system, vested interests, and power relations (Dörre et al., 2019; Kalt, 2021). Thus, a project like the energy transition and the multiple visions of a future society attached to it are highly contested and political (Zilles et al., 2022).

2.2 Transformative conflicts within the Green Party

Founded in 1980 as one of the world's first green parties, the German Greens emerged from the social, environmental, and peace movements of the 1960s and 1970s. During that time, the Green Party experienced an open conflict between left-leaning, conservationist, and right-wing tendencies over its programmatic orientation, basic principles, and transformative goals (Mende, 2011; Weingarten, 2020). Given the Greens' radical agenda and intention to disrupt the established party system, Petra Kelly, the party's founding leader, described the Greens as an "anti-party party" (Goldenberg, 2017). Environmental issues have always been central to the party's program but are strongly linked to other topics such as social justice, international relations, economic development, and democracy. In its early years, the Greens

1 The term *Energiewende* was first coined by Krause (1981) in their comprehensive study about scenarios for a nuclear-free and efficient future of the energy system.

struggled to gain traction and were seen by many as a fringe movement. However, by 1983, the party had gained enough support to enter the federal parliament. For the Greens, this marked the beginning of a period of growth and institutionalization (Probst, 2013).

In 1998, the German Green Party entered a coalition government with the SPD, marking the first time an ecologically oriented party had ever taken part in Germany's national government. This coalition was significant as it provided a unique opportunity for the Greens to put their environmental and social demands and beliefs into practice (Probst, 2021). During that time, the party pushed through several critical pieces of legislation, including the *Renewable Energy Sources Act*, which paved the way for the growth of renewable energy in Germany (Klein and Falter, 2003). After the end of the coalition government in 2005, the Green Party went through a period of decline, losing support in the federal elections. After the general elections in 2021, the Greens entered a coalition government with the SPD again, this time also with the Free Democratic Party (FDP). During this coalition, climate and environmental activists confronted the Greens with their political agenda, highlighting the party's long-term struggle "between protest and parliament" (Grützmaier, 2019). While the Green Party's early success has often been explained by its ability to "reconcile innovative with established organizational forms, radical goals with reformist political practice" (Papadakis, 1988, p. 432), recent years have seen increasing tensions between the party's political leadership and new environmental movements, compromises concerning ecological goals and principles, and the party's positioning in transformative conflicts.

The German Green Party has come a long way since its formation in the 1970s – from "a revolutionary societal movement" to an established party "comfortably settled in the heart of society" (Bukow, 2016, p. 112). From a marginal, fringe movement, the party has grown to become one of the most influential political forces in Germany, pushing for environmental and social policies at the subnational, national, and European levels – initially through protests and action outside the parliament and later through institutional reforms and government policies (Klein and Falter, 2003). Such a development came at a price: The Greens became less radical but more reform-oriented with an increasingly less fundamental critique of the existing socio-political system (Mende, 2011).²

3 Analyzing transitions through sociotechnical imaginaries

Sustainability transitions involve multiple social, institutional, economic, cultural, and technological systems (Patterson et al., 2017). Yet, it often remains unclear how fundamental these changes are, where transformative ideas emerge, and how they translate

into political programs. Setting the scene for the analysis below, this section brings the concept of sociotechnical imaginaries into conversation with the broad field of sustainability transitions. Two arguments are central: (1) A broad perspective on the energy transition goes beyond techno-optimism and seemingly apolitical approaches but tackles questions of social and political change. (2) I operationalize the concept of sociotechnical imaginaries by outlining five broad categories of societal change.

Sustainability transition research has expanded and diversified over the last decades (Köhler et al., 2019; Truffer et al., 2022). Debates face a constant struggle between incremental reforms and gradual transitions toward more sustainable systems on the one hand and more disruptive, large-scale sectoral, and societal transformations on the other hand (Adloff and Neckel, 2019). Linnér and Wibeck (2019, p. 25) differentiate between 'transition' as an incremental and reformist passage from one state to another and 'transformation' as a more fundamental systemwide change. Path dependencies and different lock-ins, including technological, institutional, and discursive ones (Seto et al., 2016; Buschmann and Oels, 2019; Stoddard et al., 2021), constrain the structural changes required to put societies on more sustainable paths. Terms like "sustainability transitions" (Avelino, 2017), "socio-ecological transformations" (Blühdorn, 2009), or "socio-technical transitions" (Geels, 2010) aim to capture the societal challenges attached to transformative processes.

Over the last decades, scholars have proposed myriad perspectives on the energy transition. These range from a relatively narrow perspective focused on technological innovations, over sectoral approaches, too much broader discussions about societal changes. Narrow perspectives investigate advancements in science and technology, e.g., through new energy technologies and electric vehicles. These green technologies are believed to foster change. Sectoral or "bounded" perspectives focus on developments and reforms in the energy sector, e.g., in terms of policies. Changing the conditions of the energy sector would pave the way to an energy transition. Finally, broad perspectives investigate an energy transition's complex socio-political implications and recognize the context in which transitions are embedded. They explore systemwide alternatives and ideas of social order attached to the energy transition. However, Jasanoff and Simmet (2021) note that the global energy transition discourse has privileged renewable energy technologies over political innovations, thus prioritizing the transition's material dimensions over social, political, and cultural aspects. Table 1 summarizes the three ideal-type perspectives on energy transitions.

The energy transition – in Germany and elsewhere – is an illustrative example of the struggle between technological fixes and systemwide transformation. The scope of change envisioned through an energy transition ranges from technological advancement and ecological modernization to broader systemic socio-political changes and "revolutionary" alternatives to the status quo beyond the energy system.

A closer look at what forms of social and political order are imagined through the energy transition reveals competing political beliefs, norms, values, and ideological foundations. Consequently, the *Energiewende* is more than a technical term but represents an essentially contested concept (Gallie, 2011) with different

² The success of the German Greens has inspired the formation of green parties around the world. At the European level, several green parties collaborate in the European Parliament and aim for more robust environmental policies in the EU. There, they face similar strategical dilemmas like in Germany (O'Neill, 1997).

TABLE 1 Three academic perspectives on the energy transition (ideal-type categories).

Perspective	Scope of interest	Mode of change	Example
Narrow <i>Technological innovations</i>	Advancements in science and technology	Techno-optimism, energy-related innovations, and green technologies	Renewable energy technologies and electric vehicles
Bounded <i>Energy sector</i>	Sectoral development and reforms	Conditions of the energy sector, market environment, implementation, and compatibility	Changing ownership structures in energy infrastructure and community-organized energy supply
Broad <i>Socio-political context</i>	Systemwide alternatives	Systemic change and cultural context, ideas of social, and political order	Energy democracy, climate justice, and degrowth

visions of the future attached to it. What we define as an energy transition today predefines our ability to imagine how it shapes the future. Thus, who claims authority over today's discourse and gives meaning to the energy transition also shapes perceptions of the future. Talking about visions of the future linked to the *Energiewende* thus goes beyond transforming the energy system.

While transition scholars raise future-related questions related to “transition pathways, including exploring future transition trajectories..., scenario development and assessment of historical policies or analysis of future policy options” (Zolfagharian et al., 2019, p. 5), they often lack insights into the socio-political struggles around desirable visions of the future. Engaging with the politics of the future and asking which future of a decarbonized society is envisioned marks a promising avenue to deepen our understanding of systemic transformations (Sovacool et al., 2020). Imagination encapsulates competing norms, worldviews, and beliefs motivating for and legitimizing transformative action (Marquardt and Nasiritousi, 2022). Building on previous work that emphasizes the role of future visions of social and political order (Buechler, 2000; Jasanoff and Kim, 2015; Kim, 2015; Trott, 2016), this study contributes to an increased interest in future-making in environmental politics (Davies and Selin, 2012; Boyd et al., 2015), articulated by research communities like the Earth System Governance network (Burch et al., 2019).

In energy-related social science research, scholarly work has investigated not only stable sociotechnical imaginaries promoted by national governments but also critical discontent and forms of contestation. The emergence and decline of these visions of a sustainable future represents a highly political endeavor (Knappe et al., 2019). Imagination is a constitutive element in social, cultural, and political life with the power to “enable new forms of life” (Jasanoff et al., 2006, p. 5) that are not individually held but constructed more widely in society. They help to interpret social life through a multitude of social practices. These constructed visions of possible or “contested futures” (Brown et al., 2000) are not only an integral part of research and innovation systems but also shape the trajectories in science and technology development (Hedgecoe and Martin, 2003). Imaginaries shape “the development of narratives, policy, and institutions” (White, 2015), construct collective identities, and “serve as a key ingredient in making social order” (Jasanoff and Kim, 2009, p. 122). Imaginaries are not neutral but political constructs – highlighting certain aspects while leaving out or erasing others. They hold the potential to coordinate action across techno-epistemic networks, foster development pathways, and include or exclude certain actors in the decision-making process (Jasanoff et al., 2006). Any emissions reduction measures

TABLE 2 Five dimensions to analyze imaginaries.

Analytical dimension	Core questions
Future vision and planning	What kind of desirable future society is imagined, and how should it be reached?
Risks, threats and societal needs	What are the dominant risks and existential threats for society? What are the pressing societal needs and issues that should be prioritized?
People, citizens and the role of the state	What is the role of the people and civic involvement in a desired future? What role of the state is imagined?
The market, economy and development	What is the role of the market and development priorities in achieving a desirable future? What should the economy look like in the future?
Science and technology	What role has science and technology to play in an imagined, desirable future?

and targets are inseparable linked to, and co-produced with, broader ideas of social and political order. Such a perspective illuminates how moments of conflict, change, and stabilization are tied to debates over what kind of world we want to live in Jasanoff (2004).

Resting on the idiom of co-production and the politics of imagination, the concept of sociotechnical imaginaries (Jasanoff, 2015b; Jasanoff and Kim, 2015) allows elaborating on norms and visions of the future and their underlying epistemic understandings of the world. Sociotechnical imaginaries shed light on the visions, ideals, expectations and hopes attached to the energy transitions (Tidwell and Tidwell, 2018). They help challenge often “taken-for-granted assumptions that necessarily shut down alternative imaginations” (Beck et al., 2021, p. 145). Solving the climate crisis requires an honest conversation about competing decarbonization imaginaries (Hulme, 2009; Machin, 2020). Yet, a dominant ecomodernist imaginary based on growth and technological progress suppresses more transformative ones. Table 2 summarizes five dimensions relevant to analyzing and evaluating imaginaries, with related core questions to ask (based on Kim, 2015; Marquardt, 2020).

Focusing on imaginaries as desirable visions of a future social and political order broadens the normative dimension of what is attainable when dealing with the energy transition. Questions shift from how broadly the energy transition is defined to what changes are imaginable and which alternatives are articulated.

Imaginaries can range from maintaining established ideas of social and political order and protecting the status quo to radical and disruptive alternatives that challenge the underlying foundations of the energy system and society. While visions of decarbonization and sustainability transitions are often depoliticized and narrowed down to technological innovations, they comprise multiple competing perspectives (Longhurst and Chilvers, 2019). They are socially constructed, unpredictable, contested, and co-produced with broader developments in society.

4 Methodology

To conduct a detailed analysis of how the Green Party collectively imagines an energy transition, what becomes attached to and gets detached from the *Energiewende*, I take an interpretative approach and conduct a qualitative content analysis (Gläser and Laudel, 2009; Mayring, 2010). Following the methods suggested by Jasanoff (2015b), I systematically scanned the qualitative material for insights into different future visions linked to the energy field. The use of language and the choice of spoken and published words are essential mediums in constructing imaginaries. I thereby draw on the epistemological understanding found in poststructuralist approaches. Moreover, Critical Future Studies “make the universal particular” and highlight the fragility of imagined social realities (Inayatullah, 2013).

This analysis builds on party documents from four critical periods for the German Greens. For each period, a party manifesto of principles stands at the center of analysis. These manifestos summarize what the Green Party collectively envisions – at least what has majority appeal. They often stand at the end of a longer debate (e.g., it took three years of discussions before the 2020 manifesto was accepted) and are approved at a national party convention. Party manifestos guide political action and are a critical “foundation of values” (John, 2020). Besides, I include the Greens’ key party programs and election programs (as consolidated forms of collective imaginaries) to illustrate positions, broaden the perspective, diversify the scope of analysis, and include critical discontent to gain a nuanced picture of what the collective imaginary consists of – and what it lacks. The four phases capture all federal elections since the Greens’ foundation in 1980. The first phase ranges from the party’s inception in 1980 through its second election to the German parliament in 1987 (in opposition), until 1989. The second phase covers Germany’s reunification, with elections in 1990 and 1994 (in opposition). The third phase ranges from the election campaign in 1998 to the end of the Greens’ government participation in 2005 (in government). Finally, the fourth phase covers the Greens’ factional disputes and opposition work between 2006 and 2021 (in opposition). Table 3 summarizes the four phases and the material used for the analysis.

Adopting a deductive approach, I examined the empirical data for energy-related references and classified it into the three dimensions of an energy transition, as shown in Table 1. Although some overlap between categories was possible, the categorization was generally clear based on the context. I then further structured the codes guided by the analytical categories of imaginaries provided in Table 2. Despite the limitations of this single case study, the findings shed light on the challenges of envisioning an energy

transition and the tensions a Green Party experiences when gaining power. Contributing to a rich literature about competing discourses and narratives of the energy transition more generally, this analysis is limited to the imaginary struggles within the Green Party.

Concerning the research process, I first identified all energy-related references to analyze the core elements of the energy transition in each period based on party manifestos, election programs and additional documents (inductive coding). I then linked the resulting codes to the different dimensions of sociotechnical imaginaries outlined above, translating them into coding categories. Finally, I juxtapose the Greens’ modern energy transition imaginary with critical discontent from earlier programs. I systematize what gets attached to the energy transition, how it is framed, what is highlighted, and what is obscured.

5 Different shades of green: Reimagine the energy transition over time

Envisioned in the late 1970s as “a fundamental alternative” to established political parties, the Greens brought together various social movements, anti-nuclear activists, and environmental concerns. The party’s founding was not undisputed and remained controversial due to many activists’ ideal of a non-parliamentary grassroots movement. Members of that movement aimed for a fundamentally different society instead of being part of the existing system (Huber, 2011). In its early years, the Green Party embodied resistance against state power, a call for direct and radical democracy, the importance of transparency, and civil rights – all linked to ecological norms and values. Despite these united goals, open conflicts on achieving these goals have characterized the party since its foundation. Some advocated for the party to be a part of the existing institutional arrangement, while others believed it should exist as an alternative to the system. This led to a split between the reform-oriented, pragmatic *Realos* and the more radical, confrontational *Fundis*. Over time, the various party and election programs document these internal struggles and discursive shifts within the Green Party.

5.1 1980–1989: (Extra-)parliamentary opposition

The 1970s were characterized by a growing concern over the environmental threats of industrialization and increased economic growth. The foundation of non-governmental organizations like Greenpeace (1971), studies like “Limits to Growth” (Meadows, 1972), and the United Nations Conference on the Human Environment in Stockholm (1972) paved the way to an increased environmental consciousness. By the end of the 1970s, tens of thousands of people worldwide “actively worked on the realization of alternative forms of life, work, and solidarity” (Huber, 2011) in contrast to the capitalist liberal democracies established in the Global North. They linked energy-related mega-projects and nuclear power to environmental degradation and unpredictable risks, political

TABLE 3 Material analyzed for this study, divided into four core phases (based on federal elections).

Period	Context	Party manifesto	Electoral program	Additional material
1980–1989	<i>Foundation of the Greens and first entry to parliament in 1984 (opposition)</i>	<ul style="list-style-type: none"> • 1980 (Die Grünen, 1980a) 	<ul style="list-style-type: none"> • 1980 (Die Grünen, 1980b) • 1983 (Die Grünen, 1983) • 1987 (Die Grünen, 1987) 	<ul style="list-style-type: none"> • Immediate action program (Die Grünen, 1986)
1990–1994	<i>German reunification and coalition between Bündnis 90 and the Greens (opposition)</i>	<ul style="list-style-type: none"> • 1993 (Bündnis 90/Die Grünen, 1993) 	<ul style="list-style-type: none"> • 1990 (Die Grünen, 1990) • 1994 (Bündnis 90/Die Grünen, 1994b) 	<ul style="list-style-type: none"> • Reform projects (Bündnis 90/Die Grünen, 1994a)
1998–2005	<i>Part of a coalition led by the Social Democrats (government)</i>	<ul style="list-style-type: none"> • 2002 (Bündnis 90/Die Grünen, 2002a) 	<ul style="list-style-type: none"> • 1998 (Bündnis 90/Die Grünen, 1998) • 2002 (Bündnis 90/Die Grünen, 2002b) • 2005 (Bündnis 90/Die Grünen, 2005) 	<ul style="list-style-type: none"> • Coalition agreement 1998 (SPD Bündnis 90/Die Grünen, 1998) • Coalition agreement 2002 (SPD Bündnis 90/Die Grünen, 2002)
2006–2021	<i>Long opposition phase despite growing climate and environmental concerns (opposition)</i>	<ul style="list-style-type: none"> • 2020 (Bündnis 90/Die Grünen, 2020) 	<ul style="list-style-type: none"> • 2009 (Bündnis 90/Die Grünen, 2009) • 2013 (Bündnis 90/Die Grünen, 2013) • 2017 (Bündnis 90/Die Grünen, 2017) • 2021 (Bündnis 90/Die Grünen, 2021) 	

¹The four phases cover all federal elections since 1980. The division was made due to the focus on party manifestos and electoral campaign programs.

oppression, authoritarianism, and surveillance. Large-scale infrastructures and monopolies were associated with state control and anti-democratic tendencies, leading to dystopian visions of the atomic future ([Jungk, 1979](#)). New social movements promoted small-scale solutions, envisioned decentralized systems, and enacted local alternatives of life and society ([Schumacher, 1973](#)).

Originated in such a time, the German Greens described themselves in their first party manifesto as an “alternative to conventional parties” ([Die Grünen, 1980a](#)). The program’s technological focus rested on energy efficiency and decentralized energy supply. The reuse of agricultural waste illustrates the party’s emphasis on recycling and conscious resource use ([Die Grünen, 1980a](#), p. 12). Efficiency measures and energy savings were also formulated as priorities for the energy sector. Saving energy would make nuclear power stations unnecessary. Finally, broader socio-political goals were envisioned through a changing energy system. For example, demilitarization can be achieved by dismantling the German arms industry and shifting their production to new energy systems and environmental protection ([Die Grünen, 1980a](#), p. 19).

The Greens’ party program described an ecological, social, direct democratic, and non-violent vision of the future as an alternative to a growth- and production-centered vision that disrespects natural limits to growth. Thus, continuing unlimited growth and energy demand was considered a key societal risk. It would deplete all natural resources and inevitably lead to the collapse of the ecological system. Energy should not only be used more efficiently but also consumption should be reduced as much as possible ([Die Grünen, 1980a](#), p. 10). Protecting this system against threats like nuclear disasters and contamination with radioactive waste was considered existential for the survival of humanity. Nuclear energy, the Greens argued, follows not only an “outdated” unlimited growth paradigm but also threatens livelihoods, democracy, and fundamental human rights ([Die Grünen, 1980b](#), p. 6). Instead, the Greens called for social justice and “qualitative” growth instead of quantifiable indicators ([Die Grünen, 1980a](#), p. 7). Energy should no longer be treated as an economic good delivered by profit-oriented companies but as a fundamental service to the people ([Die Grünen, 1987](#), p. 37).

The Greens in the 1980s called for more decentralized and direct democracy ([Die Grünen, 1983](#), p. 11) within the boundaries of a strong regulatory and interventionist state that has to approve all energy-related activities, thereby preventing monopolies in the electricity sector. These are seen as a threat to democracy and democratic participation (“dictatorship from the power socket”). To uphold democratic freedoms and human rights of the people, centralized energy monopolies and a “totalitarian nuclear state” need to be prevented. The Greens furthermore refused global energy dependencies as a new form of postcolonial imperialism and a continuation of global inequality ([Die Grünen, 1980a](#), p. 7). In terms of science and technology, all technological innovations should be assessed regarding their environmental friendliness, energy efficiency, and social implications – all contributing to a societal “cost-benefit analysis.” The existing technical and scientific potential must be used for the development of a “gentle” energy system ([Die Grünen, 1986](#), p. 35). Ecological energy policy should stabilize energy consumption within the framework of environmental compatibility.

Overall, the Greens’ 1980 party manifesto envisioned a people-centered, democratic energy transition based on efficiency gains, decentralized solutions, and alternatives to economic growth. This idea is embedded within an ecological and socially oriented circular economy and peace policy with a clear distinction from the capitalist production system. Only months after the nuclear accident in Chernobyl, the Greens increased their share in the German parliament from 5.6 to 8.3%.

5.2 1990–1997: German reunification

The early 1990s were shaped by numerous political events related to the end of the Cold War. While communist regimes in Eastern Europe collapsed and the Soviet Union officially ended in 1991, the signing of the Maastricht Treaty in 1992 spurred European integration and laid the foundation for the European Union (EU). With Germany’s reunification and the later merging between the (West German) Green Party and the (East German) Bündnis 90, the Greens entered their second phase centered around

debates about the party's role in Germany's party landscape and unifying political priorities. Following the collapse of the Soviet Union, thousands of ecological socialists left the party, and the anti-nuclear sentiment decreased. The Greens had to adapt their foreign policy and reconsider socialist policy positions. As the party was struggling to find its new role, it failed to reach the 5 percent election threshold in West Germany. Still, representatives from alternative lists in the Eastern part (Bündnis 90/Grüne) made it to the parliament. It was not until 1993 that the Greens and Bündnis 90 merged into a joint party.

During that time, the Greens' references to the energy system were consistent with the party's earlier priorities. For the 1990 elections, the Greens prominently formulated their call for a German "Energiewende" (Die Grünen, 1990). Regarding technologies and innovations, nuclear power was seen as a dangerous, insecure, and oppressive form of energy supply. In contrast, renewable energy sources – and particularly solar energy – were described as promising alternatives to the centralized energy market. Therefore, public spending should be shifted to renewables (Die Grünen, 1990, p. 9). The Greens proposed raising energy prices for the entire energy sector to reduce energy consumption (Die Grünen, 1990, p. 10). Concerning broader socio-political change, the Greens demanded a "radical democracy" to democratize state institutions and the economy (Die Grünen, 1990, p. 36). Energy efficiency measures should become mandatory, and municipalities should become independent energy suppliers again to avoid profit-oriented energy monopolies.

In 1993, the Greens formulated their "Grundkonsens" (basic consensus) to outline common norms and goals based on earlier demands from the alternative party from the West and the Eastern citizens' movement. While the topic of energy was less prominent than before, the core norms on democracy, human rights, and social justice mirrored earlier debates on what kind of desirable future society is imagined. Translated to election programs, key risks remained nuclear energy disasters, waste of energy and resources, and social injustices (Bündnis 90/Die Grünen, 1994b). To overcome these concerns, the Greens envisioned a strong regulatory state that guides through ecological policies, tax incentives, and restrictions of unsustainable measures (Bündnis 90/Die Grünen, 1994a). The people played a dual role in such a system: On the one hand, the Greens promoted solidarity between the rich and the poor; on the other hand, they described rooms for democratic interventions.

Following the collapse of the Soviet Union, the Greens struggled to redefine their economic visions and priorities. While the party's former socialist and anti-capitalist positions became under pressure, the room for imagining alternatives became smaller. However, the economy should be based on ecological principles and solidarity as an alternative to both socialism and capitalism – to secure wealth without threatening ecological resources (Bündnis 90/Die Grünen, 1994b, p. 10). Technological innovations were considered necessary, but broader societal changes were deemed necessary to implement these innovations properly. These positions reflect a gradual reorientation toward greening capitalism instead of overthrowing it. The development encapsulates what Mark (2009) later described as "Capitalist Realism" – or the

inability to imagine fundamental alternatives to the capitalist status quo.

Overall, the Green Party's second phase was shaped by the end of the Cold War and the reunification process that brought issues like democratic freedom and basic human rights to the fore. Although energy as a topic became less prominent, the fundamental criticism toward the industrial growth paradigm remained consistent with earlier programs.

5.3 1998–2005: Government responsibility

The late 1990s and early 2000s were characterized by a surge in globalization and economic prosperity, particularly in the Global North, driven by technological advancements and cross-border trade. The European Union deepened its integration during that period, culminating in adopting the Euro in 1999. International awareness of environmental issues increased with the signing of the Kyoto Protocol in 1997, setting binding targets for reducing greenhouse gas emissions. However, this era was also marked by regional conflicts, notably in the Balkans, and the 9/11 terrorist attacks in 2001, which reshaped global security dynamics and was followed by U.S.-led military interventions in Afghanistan and Iraq.

During that time, the Greens for the first time became part of the national government. In 1998, the Greens managed to gain enough votes at the federal election to form a coalition headed by the Social Democrats. The coalition lasted until 2005 and was characterized by growing tensions between the party's pragmatic government approach (seeking political compromises with the Social Democrats and fostering gradual reforms) and more critical voices in the Green Party apparatus (with a preference for more radical positions when it comes to peace and environmental issues). The energy transition became gradually institutionalized as the Greens implemented the country's nuclear phase-out and incentivized renewable energy sources.

The Greens' 2002 party program ("The Future is Green") reflected the party's development to an established part of the Germany party system (Bündnis 90/Die Grünen, 2002a). Ecological values should guide *technological innovations* and the use of renewable raw materials for energy supply. The future of the energy system was described as "solar and decentralized" since energy from the sun, wind, biomass, and other natural sources is abundantly available worldwide. In the medium turn, fossil fuels like coal, oil, and gas were seen to play a decreasing but still important role in the energy system. Concerning the electricity sector, decentralized energy production based on renewable energy sources was framed as an opportunity to secure more qualified jobs than extremely costly nuclear energy; liberalizing energy markets was believed to support decentralized energy supply systems. Broader *societal changes* remained relatively vaguely defined, including a call for lifestyles and consumption patterns compatible with the finite nature of natural resources and their fair distribution among all people. A transition from an industrial to a service-oriented society would furthermore facilitate the reduction of energy demand.

With the dawn of the "solar age," the Green Party offered a green energy policy to respond to ecological challenges. Energy

was also linked to questions of intergenerational justice, which justifies the expansion of “modern” and “environmentally friendly” technologies (Bündnis 90/Die Grünen, 2002a). Solar energy enjoyed high acceptance in Germany, where multipliers should help secure popular support for implementing a global solar program. In addition, Germany must live up to its international responsibility and support other countries in the sustainable conversion of their energy systems. The shutdown of nuclear plants and the decentralization of energy supply significantly contribute to increasing public safety. Nuclear power was not considered a solution to the energy problem; it only creates incalculable new ones. For this reason, the phase-out of nuclear power must be completed more quickly following the legal regulations.

In 2002, the Greens formulated their aim of an ecological circular economy that uses raw materials and energy sparingly and efficiently (Bündnis 90/Die Grünen, 2002a). Ecological modernization also meant more effective and sustainable energy and material consumption. Besides, the Greens wanted to promote solar power research and increase their presence in schools and universities. Above all, the Greens demanded market-based solutions for renewable energy technologies and their competitiveness, i.e., further develop technical standards for the energy consumption of buildings, products, and services, continue the ecological tax and financial reform, and support energy efficiency measures (Bündnis 90/Die Grünen, 1998). The energy transition creates jobs and builds on sustainable development as an economic success model. Technological advancement, its market launch, and constant cost reduction were seen as an opportunity for Germany as a location for innovation. Given the growing global demand for energy, this also offers chances for an export nation to occupy this innovative market as a pioneer.

In 2002, ecological modernization guided the Green Party's election campaign, focusing on creating jobs and securing wealth (Bündnis 90/Die Grünen, 2002b). Solar power was highlighted and prioritized as a deciding technology to decouple (desirable) economic growth from resource use and environmental destruction. The Greens were committed to the social market economy, calling for an “ecological modernization” to create new jobs and a healthier environment. Capitalism needed to be reformed, but not necessarily abandoned, and sustainable development became the guiding principle in the coalition government with the Social Democrats (SPD Bündnis 90/Die Grünen, 1998, 2002). In 2005, the Greens reframed their principles guiding the energy transition in terms of “resource-light” economic activities, an even stronger emphasis on technological innovations, and a projection of “hundreds of thousands” of jobs in the renewable energy sector (Bündnis 90/Die Grünen, 2005, p. 24).

5.4 2006–2021: Climate mainstreaming

In 2020, the Greens adopted their latest party program after a three-year-long participatory process and various rounds of consultation among party members and delegates (Bündnis 90/Die Grünen, 2020). At that time, the Paris Agreement had become a global reference point for climate action, the international climate

movement had gained significant attention around the world, and climate politics had become one of the most significant political concerns among voters. Not surprisingly, the party program subsumed energy-related politics under the heading “climate and energy.” Besides, intensified debates about migration erupted across Europe and elsewhere; and populist movements gained traction worldwide. The COVID-19 pandemic triggered a global health crisis with far-reaching social, economic, and political consequences.

During that time, the Greens described renewable energy technologies as a prerequisite to meeting ambitious climate targets (Bündnis 90/Die Grünen, 2020). Using more renewable energy sources was considered not only cheaper and more sustainable, according to the party program, but also helpful to achieve European climate neutrality faster – which must be realized well before the middle of the century. This transition to 100 percent renewable energy and the phase-out from fossil gas, oil, and coal were described as key tasks to mitigate climate change. Rapid and consistent decarbonization would modernize the energy sector and industrial production and help secure social prosperity and jobs. Renewables must be massively expanded and linked efficiently and economically between the electricity, heat, transport, industry, and agriculture sectors via grids, storage, and renewable energy sources. Regarding broader societal changes, the livable city of the future is a zero-emission city. This succeeds when combined with renewable energy, clean mobility, and climate-neutral heating. These include energy-plus houses, buildings that harvest solar energy, green facades and roofs, and buildings that are constructed, modernized, and insulated with recyclable, ecological building materials and use diverse renewable heat sources together.

In 2020, the vision of a future society was shaped even more by technological developments, such as digitization, which can significantly contribute to climate protection. Modern technology and price signals enable fluctuating renewable production to be closely linked to consumption. The potential of digital tools for resource efficiency and economical energy consumption should be promoted as much as possible. Climate change was identified as a key risk for the future of humanity. Therefore, action should be aligned with the 1.5°C target to prevent the catastrophe “as far as possible.” Economic growth was not *per se* the problem for the Greens. However, the overuse of natural resources and the exploitation of human labor associated with growth constraints are problematic. A decentralized energy supply with renewables in a diverse ownership structure was described as more crisis-proof than an energy system based on large central power plants. At the same time, the local and regional supply of renewable energy can be optimized utilizing a Europe-wide network.

For the Greens in 2020, the state is an important role model and standard-setter. The public sector and financial institutions must lead the way and completely withdraw from investments in companies that rely on fossil fuels, the destruction of ecosystems, or violations of human rights. The public sector has a special responsibility when it comes to infrastructure, such as electricity and gas lines, which are natural monopolies. Accordingly, their share in future investments is to be increased. It is the task of politics to promote people's ingenuity to develop suitable technologies for transforming the energy sector and to use them

cleverly. Scientific knowledge and an orientation toward the planetary boundaries are crucial for sustainable development in the ecological age. Accordingly, natural resources may only be used to the extent that they can be renewed. The use of modern technologies enables climate neutrality. The Greens' programs for Germany's federal elections mirror the party's less radical approach, aimed to attract broader voter groups. Already in 2009, the Greens' framing of an economic restructuring followed the idea of a "Green New Deal" to create jobs and wealth by promoting green technologies such as "100% renewable energy" sources (Bündnis 90/Die Grünen, 2009).

Overall, the Green Party's 2020 party program followed the paradigm of a social market economy with strong ecological incentives. It thereby remained largely technocentric, e.g., when it comes to rebuilding climate-neutral cities. The "social-ecological transformation" narrowly focused on opportunities for new jobs, further education, and price mechanisms. "It is the task of politics to create better rules, not better people." Sensible environmental policy should not limit itself to appeals but set and implement clear rules. It promotes new technologies and invests in new infrastructure.

6 Discussion: Depoliticizing the energy transition

Studying how the Green Party reimagines and thereby depoliticizes the energy transition over time reveals both continuities and discontinuities. Continuities include the call for renewable energy sources as alternatives to fossil fuels and nuclear energy, an emphasis on global injustices, imperialism, limits to growth, and solidarity with the Global South, the demand for the re-municipalization of electricity providers and grid operators, and the support for bicycles and public transport as environmentally friendly modes of transportation in contrast to "gigantic" (Die Grünen, 1980b, p. 5) car-centric mobility. However, the ideas of social and political order attached to the energy transition have significantly changed since the 1980s. One can observe a gradual "taming" and fading of more radical imaginaries that demand systemic societal change.

The Greens collectively envisioned different forms of social and political order through the *Energiewende*. The focus and scope thereby shifted from broader, systemwide alternatives to the status quo, to technocentrism and incremental reforms within existing social and political order. The general tone shifted from disruptive attempts that challenge the status quo to incremental reforms aligned with established societal institutions, norms and values. Mobilizing the concept of sociotechnical imaginaries enables us to draw the lines between these competing visions of the future. Scientific advancements and technological progress get co-produced with multiple desirable visions of a future society. Unpacking competing imaginaries attached to the energy transition problematizes the path-dependent historical accounts of the *Energiewende* by expanding the level of inquiry to broader questions of systemic change and the redistribution of resources and power. Table 4 juxtaposes the modern Green Party's energy transition imaginary (2006–2021) with previous alternatives and critical discontents from earlier phases.

Comparing energy transition imaginaries over time reveals a marginalization of thinkable alternatives to the status quo due to various internal and external factors. The Green Party exemplifies the conflicts and competing visions of the energy transition. At its foundation, the party aimed for an alternative society at large instead of being a part of the existing system. Over time, the party became embedded in a social market economy that embraces technological innovations. The different party programs document the tensions and discursive moves within the Green Party from a highly confrontational to a more cooperative approach. Through mechanisms such as simplification, marginalization, or rendering radical elements of social change invisible, the energy transition got depoliticized over time. While the development of the party, its internal structure, increased government responsibilities, and the socio-political environment have contributed to the depoliticization process, future research should elaborate on the internal and external conditions under which these changes occur. Figure 1 illustrates how the Green Party's energy transition imaginary got depoliticized and tamed over time.

Overall, the contested concept of the *Energiewende* absorbs fundamentally different visions of the future. Interestingly, technology-related demands have become partly even more ambitious (in 1990, the Greens called for phasing out fossil fuels by 2100), while issues of social and political change have become more obscured over time. Depoliticizing the energy transition thus illustrates how a techno-centric and market-oriented perspective within the logic of the current political economy gains authority over more disruptive alternatives. This also means that the energy transition has no fixed meaning – even for a progressive and once radical actor like the Greens. Instead, the term can be – at least in theory – reframed and re-interpreted by actors such as new climate movements.

7 Conclusion

While low-carbon development, decarbonization, and projects like the energy transition have gained momentum worldwide, these terms get reframed and re-interpreted in different contexts by a broad range of actors from environmental activists to conservative think tanks, from civil society organizations to businesses, and from parties of a broad political spectrum. The term encapsulates competing norms, values, and world views. It absorbs fundamentally different and even incompatible desirable visions of social and political order. Mobilizing sociotechnical imaginaries enables us to scrutinize techno-centric, depoliticized accounts of the energy transition. The concept helps us tracing what gets lost, marginalized and excluded when defining the energy transition. Sociotechnical imaginaries expand the level of inquiry to broader questions of social order and power.

This study revealed how even a progressive actor like the Green Party has tamed its energy transition imaginary over time through modes of depoliticization – from a radical, democratic, decentralized, people-centered alternative to the status quo to a state-led, market-oriented, technology-guided project. The same party that once fought for radical alternatives, direct democracy, and a new economic system has narrowed down the

TABLE 4 Modern Green Party imaginary vs. critical discontents from the past.

Dimension	Modern Green Party imaginary	Critical discontents (1980–2005)
Future vision and planning	Promoting renewable energy technologies and energy efficiency measures will lead to a decarbonized energy system and society at large. The future is very much plannable through policies, decarbonization pathways, and long-term scenarios.	A democratized, decentralized, and self-regulated energy system incorporates justice and solidarity. Radical and disruptive systemwide changes cannot be planned in a top-down manner.
Risks and societal needs	Power shortages, resistance to grid expansion, and limited storage capacities are vital risks for a transition. Affordable and reliable energy, jobs, and wealth creation are defined as critical societal needs.	A nuclear catastrophe and energy sector monopolies are central risks of a centralized energy system. A redistribution of wealth, environmental consciousness, and ownership in a decentralized energy system are vital needs.
People, citizens, and the role of the state	The state provides an enabling regulatory framework to foster innovations as well as competition. People are encouraged to participate but within the government-defined rules of the game (regulation).	The state strongly intervenes to safeguard environmental protection and human rights. People participate actively in the transition through emancipation, self-administration, and democratization modes.
The market, economy, and development	The Greens are highly confident in market forces and open competition. Focus on green growth and ecological modernization to sustain a market-based economy.	The market needs to be controlled as it naturally threatens public interests. Ecology and green values incompatible with a growth-oriented market economy; need for alternative models.
Science and technology	Advancements in science and technology are the cornerstone of societal progress and offer appropriate solutions to current societal problems.	New technologies are seen as a means to an end, with the ultimate goal to transform society at large.

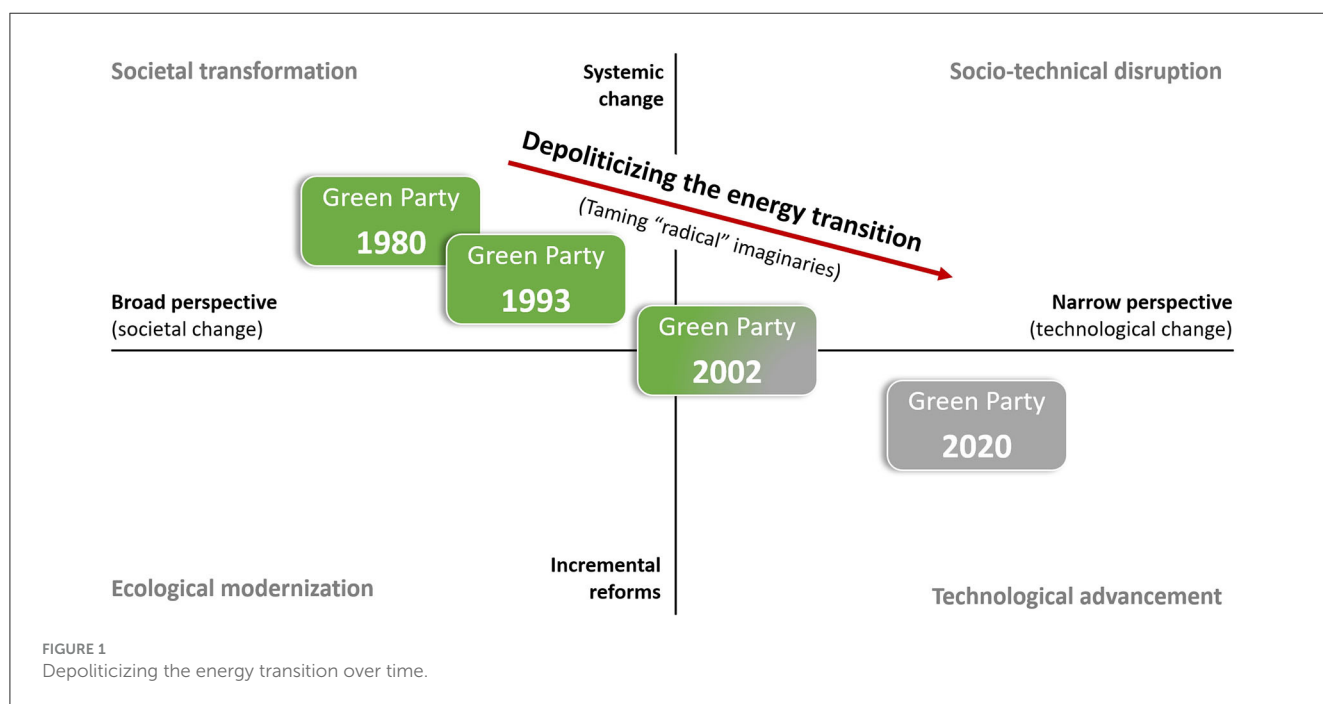


FIGURE 1 Depoliticizing the energy transition over time.

Energiewende to clean technologies, jobs, and wealth creation. The Greens’ narrow understanding limits not only the party’s ability to reimagine the future of the energy system but also fails to problematize the broader socio-political arrangement in which environmental threats like climate change have emerged. The Green Party serves as a microcosm of the conflicting visions and struggles surrounding key societal projects like the energy transition. The limitations of their techno-centric and market-oriented perspectives became evident in Lützerath when more radical climate and environmental activists opposed the Greens’ position.

This also relates to what happens when green parties become part of the government when they originate from a radical

social protest movement. Scholars have investigated the emerging tensions between protest and power (Poguntke, 2002; Rootes, 2002; Meaker, 2023), which we can also see for the Green Party. While most party representatives align with environmental NGOs and climate groups, they express criticism toward more disruptive climate protests such as *Letzte Generation*. The group became famous for gluing themselves on streets to block car traffic. So, while the Greens have successfully translated the anti-nuclear movement’s key demand (to phase out nuclear power), they struggle to align with new radical (climate) movements that use civil disobedience tactics. In that sense, the party has become more supportive of the state and critical of disruptive tactics.

Three avenues for future research emerge from shedding light on the Green Party's changing energy transition imaginary. First, shifting imaginaries need to be contextualized. While transition research often deals with innovative technological arrangements, market incentives and policy designs, sociotechnical imaginaries problematize the broader socio-political context in which these policies and technologies are embedded. This can and should be further linked to the role of the “green state” (Meadowcroft, 2012; Bäckstrand and Kronsell, 2015; Eckersley, 2021), the way we deal with power in transitions research (Avelino, 2017; Marquardt, 2017), and justice concerns (Sovacool et al., 2019). Imaginaries can help build bridges between these different perspectives on the energy transition.

Second, we should diversify the level of empirical inquiry. The Greens as a single actor are obviously not enough to understand how collectively held and institutionalized energy transition imaginaries change over time. We must expand our scope to other parties, non-party actors, and country contexts to identify patterns, differences, and commonalities. The differences between the Green Party and climate activists are an exciting starting point for that debate. Still, these conflicts are embedded in broader societal developments shaped by domestic and international factors. Research on what happens when Green parties gain power is particularly eminent internationally. Not only have we seen Green parties in Europe struggling to position themselves between radical environmental demands and political compromises (O'Neill, 1997), but also in Asia (Jackson, 2022) and Latin America (Betim, 2022), the green political agenda is heavily contested.

Finally, sociotechnical imaginaries illuminate the conflicts and forms of contestation when dealing with transformative processes – particularly when consensus-seeking politics and silencing of critical actors overshadow these. Sociotechnical imaginaries can add insights to critical social science research on transformative conflicts (Dörre et al., 2019; Kalt, 2021) and the processes of (de)politicization. Research should delve into the processes through which marginalization occurs, the critical voices that end up marginalized and gradually fade away, and the ways in which imaginaries are de- or re-politicized.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

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Author contributions

JM: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing—original draft, Writing—review & editing.

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Conflict of interest

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