

Brunnengräber, Achim; Neujeffski, Moritz; Plehwe, Dieter

Book Part — Published Version

Climate Obstruction in Germany: Hidden in Plain Sight?

Provided in Cooperation with:

WZB Berlin Social Science Center

Suggested Citation: Brunnengräber, Achim; Neujeffski, Moritz; Plehwe, Dieter (2024) : Climate Obstruction in Germany: Hidden in Plain Sight?, In: Brulle, Robert J. Roberts, J. Timmons Spencer, Miranda C. (Ed.): Climate Obstruction across Europe, ISBN 978-0-19-776204-2, Oxford University Press, New York, NY, pp. 136-161,
<https://doi.org/10.1093/oso/9780197762042.003.0006>

This Version is available at:

<https://hdl.handle.net/10419/312592>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by-nc-nd/4.0/>

Climate Obstruction in Germany

Hidden in Plain Sight?

ACHIM BRUNNENGRÄBER, MORITZ NEUJEFFSKI,
AND DIETER PLEHWE

INTRODUCTION: GREEN GROWTH AND THE LIMITED MITIGATION COALITION

Germany is unique in the realm of climate change in Europe as it has been on a self-imposed path of energy transition, or *Energiewende*, for about fifty years. Yet, in 2020, while 65% of Germans said they regarded climate change as a very important issue,¹ environmental protection and climate policy in particular remain highly contested issues. Battles have centred on the implementation of prominent pieces of legislation—particularly the Renewable Energy Sources Act (RESA)—that attempt to redirect not just the energy system but all economic sectors to meet national and international climate goals. To better understand the energy status quo, we need to more thoroughly examine the efforts of both environmental social movements and obstructionist forces. As we will show, these tensions reveal an ambivalence (and sometimes hostility) toward the transition that is hindering progress, fed by powerful incumbents and reactionary forces that are mostly ‘hiding in plain sight’.

A short history of the energy transition

The energy transition in Germany has had an eventful history. The country's journey from a centralized, 'hard' energy path dependent on large fossil and nuclear power plants toward a decentralized, 'soft' path relying on various renewable energy sources was first influenced by the work of Americans Amory and Hunter Lovins in the 1970s.² The first reference to an energy transition (*Energiewende*) appeared in a 1981 publication by the Institute for Applied Ecology (Öko-Institut)³ partly in response to Europe's dependence on oil imports, which became problematic during the 1970s oil crises, and the ongoing debate about 'limits to growth'.⁴ With anti-nuclear futurologist Robert Jungk's mid-1980s plea for a German soft path,⁵ the energy debate had officially arrived in Germany.

The international development of alternative energy perspectives strengthened the German environmental and peace movements, from which strong anti-fossil/nuclear nongovernmental organizations (NGOs) and, ultimately, the Green Party (established as a national party in 1993) emerged. Germany's Federal Environmental Agency (UBA) had been created in 1974, following the 1972 United Nations environment conference in Stockholm. After the Chernobyl disaster in 1986, environmental policy responsibilities once distributed across various ministries were concentrated in the Federal Ministry of the Environment (BMU). The new ministry was largely responsible for the growing importance of climate change in government policy that followed the country's reunification in 1990. However, the BMU frequently had to fight an uphill battle within the government against other ministries, notably economics, transport, and finance.

Opponents and supporters of the energy transition had been openly confronting each other in various political arenas since the early 1980s. The Greens and the Social Democrats (SPD) were first to form left-leaning coalition governments. It took longer for the centre-right-leaning Christian Democratic Union (CDU) and its sister party the Christian Social Union (CSU) to embrace environmental policymaking. The party of Konrad Adenauer, Germany's first chancellor after World War II, the CDU had ruled most of the time since then and worked closely with Germany's industrial business sector. However, in the wake of the severe ecological crises of the 1980s and 1990s (e.g., rapid forest decline due to acid rain) the party's conservative wing joined avantgarde business leaders and the green-leaning political parties in integrating ecological considerations into Germany's social market economy model. It was now to be redesigned to enhance

environmental responsibility in the production process and along supply chains.

The point of departure for the many climate policy debates that eventually emerged in Germany began with the multilateral United Nations climate conference, COP 1, in 1995, in Berlin. Since then, Germany has prided itself as a climate policy leader. Before Angela Merkel, a CDU member, became chancellor (2005–2021), she served as federal minister of the environment under Helmut Kohl from 1994 to 1998. Merkel contributed to the increasing attention to climate change in Germany and supported the establishment of climate research facilities, including the Potsdam Institute for Climate Impact Research (PIK) and, much later, the Institute for Advanced Sustainability Studies (IASS; since 2023 Research Institute for Sustainability, or RIFS). Indeed, although many other centre-right parties have demonstrated more ambivalent attitudes, Germany's majority conservatives have supported high-level climate science and demonstrated support for climate action.

Backed by a cross-party coalition behind the think tank Green Budget Germany and the SPD-Green coalition, since the late 1990s, Germany has embraced a new paradigm, the 'ecological social market economy'.⁶ This model seeks to integrate environmental and social concerns into the principles of a market-based economy, aiming to achieve sustainable development by promoting the efficient allocation of resources, social welfare, and ecological balance. Following the implementation of some of these principles during the Social Democrat and Green coalition governments (1998–2005), the climate and energy political landscape changed drastically. Measures such as the ecological tax reform (a tradeoff of higher taxes on fossil energy for a reduction in social wage contributions) in 1999 aimed at a larger social and ecological transformation of the economy. The RESA of 2000 provided financial stability for the influx of electricity from renewable sources into the public grid to promote energy conversion from fossil fuels to renewables. The act spurred the rapid growth of renewables by providing a secure investment via a guaranteed feed-in tariff for twenty years. Amended several times, the most recent version of the RESA, as of 1 January 2023, set a goal of 80% of electricity supply from renewable energy sources by 2030.

In parallel, the share of nuclear energy in the electricity mix had been falling steadily. The German government had already moved to phase out nuclear power in 2001. This commitment was amended by the Merkel government, which extended the deadline for reactor phaseout in 2010. However, these extensions were revoked again in 2011 following the Fukushima power plant disaster in Japan. Nuclear production peaked in

1997 at around 31% of the energy mix and fell to zero after the last plants were shut down in April 2023. Against this, renewables increased continuously and, by 2022, accounted for 48.3% of Germany's gross electricity generation.

Germany's climate policy at a crossroads

Since the approval of the first draft of the RESA in 2000,⁷ the landscape of actors has changed considerably. Germany's government since 2021—the 'traffic light coalition' of Social Democrats (red), Free Democrats (yellow), and Greens—has further elevated climate protection as a guiding principle in national and international politics. New groups of civil society actors have emerged since 2018, with a vocal climate movement now including Fridays for Future (FfF), Extinction Rebellion (XR), and Last Generation. This activism in Germany has intensified significantly and has once again led to a stronger public debate in the climate policy field.

These trends, however, have not meant that decarbonization is already well on its way across all relevant sectors, not least due to persistent opposition to ambitious climate action. Although Germany has experienced growing conflicts around climate policy, outright denialism has played a subordinate role.⁸ Rather, the 'traffic light' coalition has repeatedly failed to turn ambition into reality. Within the government, the right-leaning liberal Free Democratic Party (FDP) has been the most vocal opponent of ambitious climate policymaking. Key climate protection measures, including the phasing out of coal and nuclear production, the 'mobility transition' toward widespread sustainable transportation, and the replacement of fossil heating devices, have been subject to numerous delay strategies to accommodate the preferences of fossil interest groups and individuals with close ties to the major German political parties (e.g. the Wirtschaftsunion lobby group in the CDU, the SPD's business-friendly subgroup Seeheimer Kreis, and the fundamentalist neoliberal wing of the FDP's Member of German Parliament, Frank Schäffler).

The rise of a new right-wing populist party, Alternative für Deutschland (AfD), Germany's only party that openly features climate denial positions, has added additional weight to obstructionist efforts against the more ambitious climate policies promoted by the Green Party or the left-wing opposition party Die Linke (The Left). The country's official climate goal is to achieve climate neutrality ('net zero') no later than 2045, but political backsliding and 'horse trading' to meet the demands of the FDP in the traffic light coalition have continued to undermine the implementation

of necessary measures. Thus, the time frame for a slated phaseout of the combustion engine in road transport and fossil gas-dependent heating in buildings has been continuously postponed, most recently in 2023.

Germany at a crossroads

Due to efforts to undermine ambitious mitigation efforts, Germany is expected to fall short of its pledges (nationally determined contributions [NDCs]) under the Paris Agreement, which are designed to keep global warming below a threshold of 1.5°C. Although the country has decreased greenhouse gas (GHG) emissions continuously between the 1990s and the present, it remains the largest GHG emitter of the European Union (Figure 6.1).

Substantial efforts will be needed to turn the tide in the coming years. As the German Environment Agency (*Umweltbundesamt*) stated in 2022, after Germany managed to cut its emissions by 1.6%, ‘We need a rate of six percent reduction per year from now until 2030’.⁹

As Figure 6.2 shows, most emission cuts in Germany so far were made within the electricity production sector. In contrast, emissions in the transport sector have remained almost unchanged since 2010, as have those of most other sectors.

Thus, the industry has failed to reach the sector-specific climate goals stipulated under the RESA in 2021 and 2022. Rather than increasing political pressure, in 2023, the German government abandoned the concept of mandatory, sector-specific goals and now focusses solely on the overall reduction of emissions nationwide. In a recent ministerial report, experts concluded that Germany will most likely not meet its national climate goal of reducing GHG emissions by 65% compared with 1990 levels as planned¹⁰ and would actually need to reduce GHG emissions by 70%.¹¹

How can this situation be explained in this alleged ‘climate pioneer’ country? First, we must distinguish between primary and secondary obstruction. Primary obstruction, according to scholars Ekberg and colleagues, refers to the denial of climate science and the very existence or relevance of global warming. Secondary obstruction ‘includes all those calls which do not deny the human-induced nature of the climate crisis (science), but nevertheless delay or forestall meaningful climate action’.¹² Such efforts to delay (1) question the measures required to tackle climate change in general, (2) emphasize the downside of climate policies, and/or (3) present allegedly better, alternative, and market-oriented solutions for transition.¹³

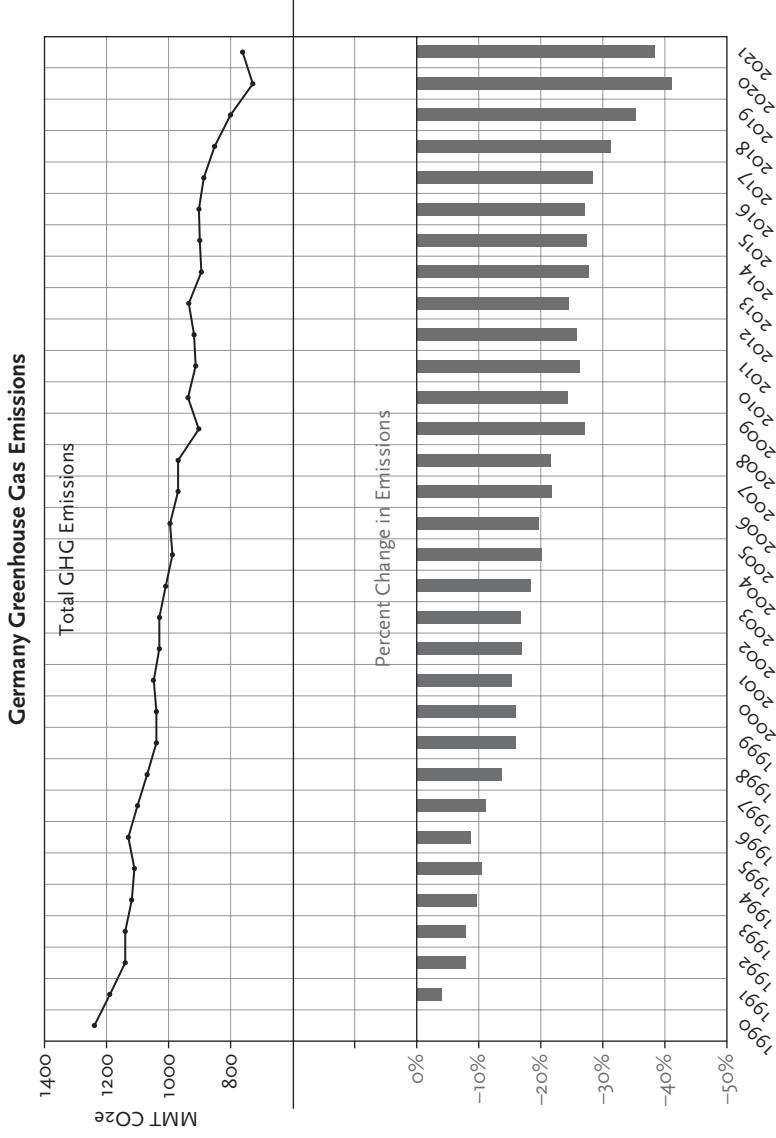


Figure 6.1 Total greenhouse gas (GHG) emissions (in MMT CO₂e) and percentage change in emissions in Germany between 1990 and 2021, inclusive.

Source: Total GHG emissions based on data provided by Gutschow and Pfüger (2023) for Kyoto Six Greenhouse Gas Totals.

Development and achievement of greenhouse gas emissions in Germany
by the sectors of the Federal Climate Protection Act.

Million tons of carbon dioxide equivalents

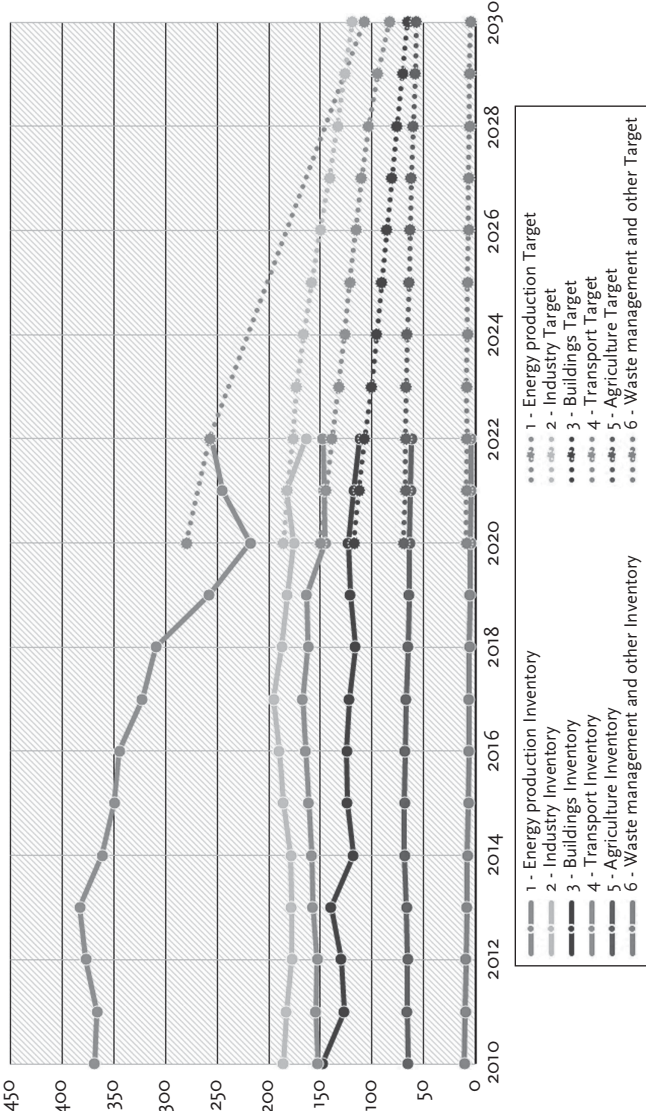


Figure 6.2 The development and achievement of greenhouse gas (GHG) emissions (in MMT CO₂e) under the Federal Climate Protection Act, by sector.

Source: Umweltbundesamt (German Environment Agency) press office.

In Germany, both types of obstructionism have played a role in maintaining the status quo, especially the latter. When the ‘traffic light coalition’ took leadership of the government in 2021, climate protection was transferred to the Ministry of Economic Affairs and Climate Action (BMWK) under the leadership of Green Party Vice Chancellor Robert Habeck. The merger of two traditionally hostile ministries under the Greens represented a new strategy to align economic and climate policy goals. This trend was also seen at the state level (the *Länder*), where earlier antagonism between the pro-business parties of the centre-right and the Greens had progressively given way to ‘conservative-green’ coalition governments.

Against this background, and unlike in the United States or United Kingdom, the voices of climate deniers—the first form of obstructionism—had been marginalized in Germany. But they had become institutionalized in the second decade of the new millennium with the rise of AfD in 2013 (noted earlier) and emerging networks of climate-sceptic civil society actors.¹⁴ In opposition to the mainstream parties, AfD—much like other right-wing populist parties in neighbouring European countries—has recently gained strong support in public polls. Despite the fringe character of German denialism, there remains other significant opposition to ambitious climate policy, particularly command-and-control regulatory instruments, from fossil interest groups and in neoliberal policy expert circles.¹⁵ Indeed, between 2010 and the Russian invasion of Ukraine, the earlier push for energy transition instead encountered significant resistance, culminating in the 2014 amendments to the RESA, which replaced the successful feed-in tariff incentive for the expansion of renewable energy capacity with an auction system.

Thus, in terms of political strategies and policy instruments for climate action, Germany can hardly be called progressive or pioneering. Instead, the country stands at the crossroads between energy regimes: one based on conventional fossil fuels and the other on more sustainable renewables.

THE OPPONENTS OF CLIMATE ACTION

One useful way to obtain an overview of the relevant actor landscape with regard to climate policy is to focus on the major sources of CO₂ emissions in Germany, which in 2016 were energy generation (37.8%), industrial production (20.7%), transport (18.2%), and households (10.2%).¹⁶ Agriculture (7.8%) also played a role, but large, energy-consuming and emissions-intensive animal farming partly benefits from the transition to renewable

energy (the use of, e.g. biogas and biomass; for sectoral drivers of CO₂ emissions, see Note 21).

Once the RESA went into force in 2000, interest groups representing these GHG sources went on the defensive. Due to the rapid expansion of the share of renewable energy used in electricity production, various fossil interest groups interested in the preservation of the traditional production system mobilized. Germany's car industry, with 800,000 employees, its influential lobby association, the Association of the German Automotive Industry (VDA), and allies in industry and politics, was quite successful in slowing the transition to renewable energy in private (road) transport. The speed of transformation in heating has also been slow.¹⁷ For example, a law passed in 2023 to push for a fast replacement of fossil fuel-based heating was first diluted by the smallest party of the government coalition, the market liberal FDP, and then blocked by a legal challenge. Finally, it was adopted in September 2023.

The pressure on utilities and customers in energy-intensive industries due to the renewable policy was high, which set the stage for sometimes furious campaigns against the feed-in tariff (noted above) and the energy transition in general.¹⁸ The resilience of the fossil interest groups also became evident through their efforts to maintain Russian gas supplies in spite of Russia's annexation of Crimea in 2014, and the growing Russian pressure on the Ukraine, 'weaponizing' fossil fuel dependency in Europe.¹⁹

However, the full range of supporters (green alliance) and opponents (grey alliance) of ambitious climate policy in Germany is more diverse.²⁰ The two groups comprise a variety of actors including companies, business associations, academic and partisan think tanks, and civil society actors with various ties to the progressive and conservative political party spectrum. Following is a summary of the most powerful actors in these groups, emphasizing the obstructionist (grey) camp, comprising mainly those who want to preserve Germany's centralized fossil fuel energy infrastructure and the traditional industrial production system, along with a less influential cluster of climate deniers.

Major German grey companies

Companies from the energy production sector, including Germany's four major utilities (E.ON, RWE, Vattenfall, and EnBW), belong to the traditional, structural conservative grey coalition. They account for the bulk of nuclear, fossil, and some renewable energy production and distribution, although local grids are often wholly or jointly owned by municipal

governments. Whereas E.ON and EnBW were directly involved in slowing down the energy transition (discussed later), many smaller firms supplying the car manufacturing or chemical industries have also been players, sharing a vested interest in the fossil fuels sector (e.g. reliance on plastic parts). Despite the phaseout of nuclear power in Germany, nuclear energy producers (typically owned by major energy companies and competitors with renewables for energy market share) can also be considered part of the grey coalition. Following the 2022 Russian invasion and in line with the opposition parties AfD and CDU, the FDP have called for a renaissance of nuclear energy in Germany, emphasizing the need to maintain energy security and to protect the climate.²¹ Evidently, German producers of nuclear technology have not given up on their home market.

Large customers of electricity and heating fuels, including the German car manufacturers (VW, Mercedes Benz, and BMW) and foreign car producers in Germany represent another key industry group in the grey coalition. Airbus and many suppliers of auto and aircraft products (especially traditional motor part producers) also still depend on the fossil fuel regime, as do gas station chains, which usually belong to the oil majors; airports; and most tourism-related services.

Most major industrial corporations in energy-intensive industries such as aluminum, steel, and processed chemicals are also part of the grey group. For example, Aurubis AG elected a leading German climate science denier, Fritz Vahrenholt (discussed later), as chair of its supervisory board in 2018.²²

The major firms and business associations of the grey energy coalition, with their vested interests in fossil industries, have mobilized against the recent advance of renewables. In spite of the companies' official endorsement of the Paris treaty goals, they have made numerous attempts to slow or dilute ambitious climate policies, maintaining close relationships with both the German centre-right and centre-left political parties. Of Germany's largest CO₂-emitting firms, only the utilities have taken climate policy positions substantially aligned with the Paris targets in several policy areas, according to an analysis of official company documents by the NGO InfluenceMap (see Table 6.1).

Financial firms also need to be considered part of the grey coalition. For example, Germany's largest investment fund, DWS, a subsidiary of Deutsche Bank, has been accused of 'greenwashing' for making advertising promises that are untenable given its continuing investments in coal, natural gas, and oil.²³ Both the Deutsche Bank and Commerzbank belong to the Net Zero Banking Alliance.²⁴ Germany's GLS Bank, a founding member of the alliance, recently dropped out due to continued investment

<p>Table 6.1 MAJOR GERMAN GREY (NUCLEAR/FOSSIL) FIRMS</p> <p>THE RANKING RATES LOBBYING TRANSPARENCY AND POSITIONS TAKEN ON THE PARIS AGREEMENT GOALS ON A SCALE FROM A TO F.</p>			
Sector	Firm	Employment	Paris treaty ranking
Utility	E.ON	72,169	B–
Utility	EnBW	26,064	B–
Industrials	Siemens	311,000	C+
Utility	RWE	18,246	C
Energy	Siemens Energy	88,000	C
Automobiles	VW Group	672,800	C
Industrials	Airbus Group	143,358	C–
Automobiles	Mercedes Benz	172,425	C–
Metals & Mining	Thyssenkrupp	103,598	D+
Automobiles	BMW	118,909	D+
Chemicals	BASF	111,047	D+
Transportation	Lufthansa	107,643	D–

Source: InfluenceMap (<https://europe/influencemap.org>), the ranking takes lobbying transparency and positions taken with regard to the Paris goals into account on a scale of A-F; on methodology see: <https://lobbymap.org/page/Our-Methodology>

in fossil industries by its members.²⁵ The Nuclear Waste Management Fund (KENFO), the first sovereign state fund in Germany, has the political task of ensuring that its investments in the financial markets meet sustainability criteria and the Paris climate targets. Nevertheless, in 2020, the fund invested €757.9 million (3.2% of its assets) in oil and gas companies²⁶ and has also been criticized for its investments in Russian financial and energy companies such as Sberbank and the oil company Lukoil.

German business associations

Looking at the major business associations (Table 6.2) we can also see that individual firms seem to be somewhat better aligned with the Paris treaty goals than the associations to which they belong, revealing inconsistencies in their public affairs strategies. While certain auto manufacturers have moved to embrace the transition to electric cars, for example, the VDA has continued to oppose car sector-related climate regulations.²⁷ Possibly the biggest success of the VDA and the German car producers was recorded in 2013, when, following aggressive interventions and policy-drafting activities by the German industry lobby, German luxury car producers saw their

Table 6.2 MAJOR GERMANY GREY (NUCLEAR/FOSSIL)
BUSINESS ASSOCIATIONS
THE RANKING RATES LOBBYING TRANSPARENCY AND POSITIONS TAKEN
ON THE PARIS AGREEMENT GOALS ON A SCALE FROM A TO F.

Sector	Business association	Paris treaty ranking
All sector	Federation of German Industries (BDI)	D
Chemicals	German Chemical Industry Association (VCI)	D
Automobiles	German Association of the Automotive Industry (VDA)	D–

Source: InfluenceMap (<https://europe/influencemap.org>), the ranking takes lobbying transparency and positions taken with regard to the Paris goals into account on a scale of A-F; on methodology see: <https://lobbymap.org/page/Our-Methodology>

interests accommodated through changes to the European fuel efficiency label and a related EU directive relating ‘efficiency standards’ to the weight of cars.²⁸

The complexity of association lobbying can be further illustrated with a case from the gas industry. While the Bundesverband der Energie und Wasserwirtschaft (BDEW) is the largest energy business association, a PR-lobby alliance, Zukunft Gas (Future Gas), was founded in 2013 to support product marketing. One hundred thirty-five firms across the gas production and distribution chain (including former Gazprom gas station subsidiaries NGV and Wingas) backed this effort to promote narratives of gas as an allegedly efficient and cheap energy source that is also climate friendly. A study by the German NGO LobbyControl identified additional lobby groups working for specific segments of the fossil gas business and noted the role of cross-sectoral and consumer business organizations,²⁹ which allow the gas industry to work across multiple channels. LobbyControl has shown how these and other associations from the gas industry played a key role in vilifying and weakening the law mandating decarbonization of heating devices in 2023, which aimed at gradually replacing oil and gas heating systems in Germany.³⁰ In another study, LobbyControl revealed the multiple connections between promoters from foreign gas-producing states, such as Russia and Azerbaijan, and German politicians and businessmen close to the SPD and CDU. Politicians from both parties held key positions on supervisory boards of companies and forums such as the Deutsch-Russisches Rohstoffforum (Michael Kretschmer, CDU), the Nord Stream 2 pipeline (Gerhard Schröder, SPD), gas company VNG (Edmund Stoiber, CSU), and the Germany–Azerbaijan Forum (Thomas Bareiss, CDU). According to the

study, these close ties have increased Germany's dependence on Russian gas markets and prevented the timely switch to renewable forms of energy.

Similarly, in 2020, a cross-sectoral coalition of 180 (as of May 2023) companies and groups from seventeen countries formed the eFuel Alliance; members include big oil and gas firms, car and truck manufacturers including Porsche, and technology companies such as Siemens and Bosch.³¹ Although e-fuels are nominally carbon-neutral because electricity generated from renewables is used in their production and only as much CO₂ is emitted during use as was bound during production, e-fuels release other forms of exhaust, similar to fossil fuels. They also enable the continuing production of cars that can also run on traditional fuels. Another major cross-sectoral player is the family business association Die Familienunternehmer e.V. While voicing support for climate protection, the lobby group wants to reach climate policy goals without state support for renewable energy or a single price for CO₂, advocating stronger competition in the energy sector rather than taxes on certain fuels or prices set through emissions trading.

The political influence of companies and business associations is sustained through frequent use of 'revolving doors' through which former politicians and government officials find employment in the business sector after their political careers have ended. The hiring of former Chancellor Gerhard Schröder by the Russian oil company Rosneft and the Nord Stream 2 AG consortium marks the most prominent example. In 2021, State Secretary for Energy and Digital Andreas Feicht, under Minister Altmaier (CDU), became chairman of the board of RheinEnergy. Thorsten Herdan, from 2014 until 2022 head of Department II Energy Policy – Heat and Efficiency in the Federal Ministry of Economics, later became CEO of the global eFuels company HIF EMEA. The revolving door can also swing the other way, as when the economics minister of the first Social Democrat–Green coalition government, Werner Müller (no party affiliation), entered government after a career working for German energy firms RWE and VEBA.

Academic and partisan think tanks

Numerous academic research institutes in Germany have supported the continuation of the fossil energy system. Partly funded or supported (via research contracts) by major utilities like RWE and E.ON, the Energiewirtschaftliche Institut at the University of Köln (EWI) and the Leibniz-Institut für Wirtschaftsforschung (RWI) in Essen are prominent

examples. Both organizations attacked the funding of Germany's energy transition through feed-in tariffs from the beginning. They also supported the extension of nuclear energy production when the Social Democrat-Green coalition government negotiated the phasing out of nuclear power. Their pro-fossil fuel positions have been widely publicized in the conservative media and business press (e.g. *Frankfurter Allgemeine Zeitung*, *Die Welt*, and *Handelsblatt*).

Several prominent think tanks and campaign organizations are also part of the grey alliance. The main think tank of the top German employer organization BDI is the Institut der Wirtschaft (IW), with offices in Köln and Berlin. IW oversees the Initiative for a New Social Market Economy (INSM), a lobby organization funded in 2000 by the German metal industry association (*Gesammetall*), an organization dominated by the major car and steel manufacturing firms. INSM led several campaigns against the RESA and the broader energy transition, all of which emphasized economic efficiency, energy efficiency, and security and prioritized market principles and technological openness. The Centre for European Policy in Freiburg is the latest addition to an already large number of German neoliberal think tanks (e.g. Eucken Institut, Stiftung Marktwirtschaft, and the Röpke Institut) opposed to the state-led energy transition and 'non-market instruments' such as price regulation and subsidies favouring renewable forms of energy.³²

The realm of climate change policy denial

The only political party in Germany officially opposed to climate action is the right-wing AfD. This singular position offers the party a unique selling point in the German political landscape, catering to a significant minority of the electorate. The main focus of the party and the AfD-aligned Desiderius Erasmus Foundation is resisting the energy transition, which allegedly threatens the prosperity of German society. The AfD seeks to end the decarbonization project *Energiewende* at large and to repeal the German government's Climate Protection Plan 2050.³³

Closely aligned with the AfD is the EIKE think tank (Europäisches Institut für Klima- und Energieforschung) in Jena, which claims to be the leading European 'institute' advocating 'climate realism' and spreads the largest number of denial and obstruction messages of all European denial think tanks.³⁴ It is closely connected to the climate countermovement in English-speaking nations, whose prominent members include the US-based Committee for a Constructive Tomorrow (CFACT) and the Heartland Institute. EIKE has organized German denial conferences modelled after

Heartland's (and with the participation of experts featured at Heartland conferences) together with the Institut für Unternehmerische Freiheit (IUF), a small neoliberal think tank in Berlin. Social media influencer Naomi Seibt has appeared at these conferences, giving talks and presenting videos in which, among other things, she denies the reality of climate change. Seibt is sometimes referred to as the 'anti-Greta' in contrast with Swedish climate protection activist Greta Thunberg.³⁵

While AfD's and EIKE's positions do not frequently enter the mainstream media, a dedicated group of AfD party and right-wing media outlets such as *Freie Welt* feature denialist arguments and authors. These publications, in addition to their social media channels, help these groups to sustain 'varieties of right-wing populist climate politics'.³⁶

STRATEGIES AND TACTICS UTILIZED

German companies and allied interest groups engage in a number of delay strategies to preserve fossil fuel dependency. Beyond traditional business associations, the public campaigns of fossil interest coalitions rely on think tanks and NGOs to influence public opinion. Medium- and long-term campaigns have been key to the considerable efforts undertaken to slow and shape Germany's energy transition following the approval of the RESA in 2000. Apart from the fringe right-wing groups that continue to deny the existence or relevance of man-made climate change, most grey energy groups officially endorse international climate policy commitments. However, many firms and associations fail to live up to their official positions and frequently lobby to lower ambitions, engage in greenwashing, and attempt to shift the burden of change to others to protect traditional business.³⁷

Championed by a coalition of Social Democratic and Green MEPs, the RESA of 2000 was unusual as it did not originate in the ministries but resulted from a parliamentary initiative. It was built on the aforementioned grid-opening 1990 Electricity Feed-In Act, which allowed small renewable electricity producers to sell to the utilities. In addition to grid access, the RESA provided additional support for the development of renewable electricity production along the entire production chain, with long-term stable prices provided by the feed-in tariff.³⁸

Utility companies opposed energy liberalization. The Hannover-based large utility PreußenElektra (later merged into E.ON) in particular fought hard against the rise of renewables in northern Germany, where it had held the regional grid monopoly. The company even pressed its case before the European Court of Justice, but lost that legal battle.³⁹ Incumbent fossil

energy producers and large industrial customers opposed the emerging support for renewables but fought an uphill battle until the conservative liberal coalition government led by Angela Merkel took office in 2009. Their traditional influence in the Ministry of Economics, which had been in charge of energy policy, no longer sufficed during the first decade of the new millennium. Responsibility for renewable energy had been moved from the Ministry of Economics to the Environmental Ministry (until 2005 headed by Jürgen Trittin, a member of the Green Party, until 2009 by Sigmar Gabriel, member of SPD) in the early 2000s. Under the Christian Democratic and liberal leadership of the Ministry of Economics and the Environmental ministry, respectively, access for industry groups once again improved.

Fossil industry supporters originally were also ill-prepared for the challenge of energy conversion politics. Most experts were surprised by the rapid expansion of the share of decentralized electricity produced by wind and solar energy after the grid opening. At the beginning of the new millennium, incumbent fossil producers and the large electricity customers, unlike the utilities, were not yet alarmed by the development. Most experts (including Angela Merkel at the time) expected only a low-single-digit share of renewable energy production to result from the legislation. In the course of the 2000s, dedicated actors from industry, academia, and the think tank world aimed to ensure such limits by undermining the incumbent renewable and climate regime through a variety of strategies and tactics.

Scientific studies, lobbying, and media campaigns

Shortly after the passage of the RESA, academic and think tank opponents of the state-led effort to increase wind, solar, and biomass sources of electricity generation advanced arguments against the feed-in tariff-based incentive for renewable investment. Institutions involved included the academic council of the Federal Ministry of Economics, the RWI, and the industry co-financed EWI. In 2004, a group of three research institutes published a study contracted through the academic council of the Federal Ministry of Economics on the general economic, sectoral, and ecological impact of the renewable energy act.⁴⁰ The authors claimed the system in place would not be an efficient way to proceed in the long run and emphasized the emergence of unnecessarily high consumer prices as a result of the guaranteed tariff then in place. To mend this problem, the study proposed incentives to increase innovation efforts and move toward competition between different types of renewable energy. This endeavour was in marked

contrast to the political effort to develop all renewable sources together to take advantage of their complementarity (the wind blows when the sun is down, solar works whether or not the wind is blowing, and so on). Instead of the feed-in tariff, the study proposed a quota system (which already existed in the United Kingdom and Sweden and compared poorly with the feed-in tariff in Germany in terms of expanding the share of renewable energy). Besides raising the spectre of incompatibility with EU law, the main concerns of the study were efficiency and cost.

Based on that study, the academic council of the Federal Ministry of Economics (headed by Wolfgang Clement, a conservative Social Democrat from the coal and steel state of Nordrhein-Westfalen) demanded the RESA be cancelled. Subsequent studies published by RWI's energy department repeated the core messages of the early expert document: the feed-in tariff is inefficient, alternative solutions based on competition are superior, and German law may not be compatible with EU law (despite the European Court of Justice's favourable ruling in 2001). Ultimately, various academic and partisan think tanks, including RWI and the employer-funded IW, as well as government expert commissions such as the German Council of Economic Advisors (SVR) and the Monopoly Commission, converged on proposing a quota system as an alternative to the feed-in tariff. This alignment on an alternative policy instrument was unsurprising due to the interlocking positions of key academics involved simultaneously in academic research, government commissions, and industry-financed think tank and campaign efforts.⁴¹

In the meantime, additional arguments had been developed by the range of research institutes also opposed to the feed-in tariff. They focused on the growing cost of financing the fixed tariff for renewable energy. Although the figures provided in industry-funded studies were inflated (up to an 'unnecessary' €52 billion in additional expenses⁴²), and, taken out of context, they served to feed an extended public media campaign against the tariff.

During the 2000s, criticism from RWI intensified. RWI researcher Manuel Frondel provided a study on the supposed high cost of German renewable energy to a US think tank, the Institute of Energy Research (IER), renewing the claim that the RESA was ineffective.⁴³ According to Frondel, the EU ETS, a market-based approach to reducing GHGs that sets a cap on emissions and allows allowance trading, undermined the ecological impact of Germany's own renewables policy. However, the claim did not take into account the practice of reducing the number of certificates traded according to the effectiveness of the feed-in tariff.⁴⁴ Although the European emissions trading scheme failed to live up to its CO₂-reduction promises (see Chapter 13, on the European Union), the German Innovation Council—an

expert commission composed of economists and management scholars—also demanded the elimination of public support for renewables. While mentioning one study that recognized innovation in wind energy, the council's report relied on studies claiming the opposite and summarily denied 'measurable' innovation effects.⁴⁵

Opposition also came from Germany's fringe climate-denial camp. For example, between 2013 and 2018, EIKE placed criticism of RESA at the centre of its social media activities.⁴⁶ In addition, the neoliberal INSM ran a dedicated media campaign demanding the abolition of the feed-in tariff, part of a sustained effort to mobilize the public against the RESA. Relying on RWI-contracted research and operating with a budget of up to €8 million per year, the 2012 campaign focused attention across the spectrum of mass and social media, helping to pave the way for the elimination of the feed-in tariff in 2014 (we provide a more detailed analysis of narratives deployed in this highly successful campaign in the final section of this chapter).

These various academic, legal, and media strategies ultimately contributed to the major revisions to the RESA in 2014, ending the fast tracking of renewable energy conversion in Germany—at least until the Russian invasion of Ukraine. The reform replaced the feed-in tariff-based support for renewable development with an auctioning system, which privileged large capital investment instead of the decentralized expansion of renewables prioritized earlier. After the elimination of the feed-in tariff, former supporters of the 'quota system' mentioned earlier fell silent, revealing the instrumental character of Germany's policy instrument competition: to end a highly successful regime to fund renewable expansion that had accounted for 47% of CO₂ reduction in Germany, compared with a 10% drop related to emissions trading.⁴⁷

Anti-wind power campaigns

Beyond fighting the RESA, the efforts of research institutes and think tanks to fight the energy transition have been accompanied by single-issue initiatives and right-wing groups alike, which can be illustrated by their dedicated campaigns against wind energy. Several organizations including Windwahn (wind delusion), Vernunftkraft (rationality power), and Wildtierstiftung (wildlife foundation) focused on trying to break the momentum of Germany's energy transition.⁴⁸

Windwahn is an online platform that aims to organize civic initiatives (CI) under one roof and sees itself as a mouthpiece for these CI. Its website

features a map listing more than 1,100 associations and initiatives and explicitly welcomes other initiatives ‘that act according to the motto ‘wind power yes, but . . .’. The website also includes factual reasons to oppose wind energy. However, headlines such as ‘Myth of cheap green electricity’, ‘Energy turnaround as a danger for the whole of Germany’, ‘Dark lull approaches’, and ‘Wind power megalomania’ predominate, illustrating the group’s radical rejection of wind power expansion.⁴⁹

Vernunftkraft calls itself a ‘federal initiative for sensible energy policy’ and is an umbrella organization for fourteen state and regional associations that oppose the RESA, wind energy, and other renewable energy projects. In contrast to Windwahn, Vernunftkraft argues mostly factually. It reinforces the local conservation concerns it raises by deploying professionals to lobby the government. Politically, Vernunftkraft has been supported by the AfD, EIKE, parts of the CDU, and parts of the FDP as well as within the Ministry of Economics.⁵⁰

Finally, the Wildtierstiftung is committed to nature conservation and education and represents the moderate edge of the spectrum critical of wind energy. However, from 2012 to 2019, the foundation was headed by Fritz Vahrenholt, a prominent climate change denier, a former renewable energy industry manager at RWI Innogy, and a long-term member of the supervisory board of Aurubis AG. Vahrenholt and the foundation’s head of communications, Michael Miersch, attacked the government’s climate policy goals and used anti-wind and other campaigns to support fossil industry positions. After the foundation dismissed Vahrenholt in 2019, climate change denial no longer played a role in the organization’s work, as a look to the Wildtier-Webinar, the Blog, or the list of publication show. Since his departure, Vahrenholt has engaged in a country-wide anti-climate policy campaign termed ‘save our industry’.

Right-wing extremist mobilization

The forces of business-related climate policy delay and climate denialist groups have recently been joined by right-wing extremist organizations targeting climate protection as part of their platform of degrowth, a decentralized economy, population control, and an end to immigration. These groups have organized to violently obstruct the climate justice movement. For example, the regional organization Pro-Lausitzer Braunkohle e.V., which advocates for the continued use of coal, organized counter-demonstrations against the German climate justice group Ende Gelände in 2016 during its occupation of the coal mining company Leag in the Lausitz.

Local far-right groups participated in these counter-demonstrations, physically attacking activists. Various civic initiatives promoted on social networks (e.g. Fridays for Hubraum, or ‘cubic capacity’) and ‘No ban on gasoline and diesel vehicles in Germany’ served as channels for radicalization in which fantasies of harm and sometimes even murder are voiced against climate activists. The latter group is administered by the Automobilclub Mobil Germany, a competitor of the larger General German Automobile Club. Together, these groups push for Germany to embrace stereotypes of petro-masculinity.⁵¹

CLIMATE POLICY OBSTRUCTION DISCOURSES: THREE INSM CAMPAIGNS

Over the years, the INSM has increasingly engaged with German climate policy. In addition to its campaign against the RESA, mentioned above, the think tank continued to criticize German climate action and accompanied their arguments with high-profile media campaigns in 2012, 2017, and 2019. A review of the discourses displayed in these three campaigns offers clear examples of the types of narratives fossil interest groups use to intentionally obstruct climate action, which stand in contrast to their official support for it.

INSM’s first campaign was launched with the slogan: ‘Stop the RESA—do the energy transition’, presenting the RESA as its opposite: an obstacle to climate protection. The INSM claimed that the RESA promotes inefficient technologies and thus makes the energy transition too expensive. By providing a counter-narrative based on an alternative Competitive Model for Renewable Energies, the INSM aimed to promote market-based instruments instead of government regulation and thus fight off the feed-in tariff, which was becoming increasingly unpopular amongst German industry due to the growing uncertainty created by obstructionist attacks from various quarters. Thus, the narratives of cost inefficiency and ineffectiveness included a more appealing narrative: market solutions that would purportedly result in better climate protection with fewer restrictions upon industry.

In the media campaign accompanying this discursive framing, an electrical outlet superimposed with symbolic images served as a visual motif for print ads and posters in public spaces. For example, under the question: ‘How does German energy policy affect the price of electricity?’ the INSM placed a picture of a time bomb over the power socket. In another commercial, the iconic image of Edvard Munch’s painting *The Scream*

appeared over the socket. Above, it said: 'Help! The energy transition is becoming unaffordable'.

The follow-up campaign in 2017 refrained from such dramatic imagery, but the organization continued to adhere to its cost criticism and the alleged ineffectiveness of the RESA. However, the INSM no longer contrasted the RESA with its own market-based model. Instead, the group extended its argument to other concerns. While the organization still strongly emphasized the alleged additional burden for electricity customers and especially industry, it now also stoked fears of a loss of industrial competitiveness. With reference to cheaper energy costs as a 'central location factor', the organization created the spectre of the relocation of industry and a concomitant loss of employment while ignoring the well-established negative effects of unchecked climate change on jobs and the economy.

In its 2019 campaign, INSM focused more on the federal government's climate policy in general. In addition to the narratives of energy poverty, inefficiency, and loss of competitiveness, the organization generated yet another image. While it described climate change as 'currently the greatest challenge facing humanity', it also referred to a 2°C target for limiting global warming in the Paris Agreement. Through this rhetorical figure, the organization lowered the bar for emissions reductions needed (it is 1.5°C in the Paris treaty). Moreover, INSM's campaign highlighted the need for international efforts to fight climate change while also sidestepping responsibility, stating that Germany's share of global CO₂ emissions is marginal, a staple argument of fossil interest groups in many countries whose historical emissions, like Germany's, are substantial.

In addition, the INSM relied on another aggressive media campaign to promote its positions on German climate policies. It began targeting the leader of the Green Party, Annalena Baerbock, during her election campaign of 2019. In INSM's parodic print campaign, Baerbock appeared dressed as the biblical figure Moses, holding up two stones engraved with the Ten Commandments. These commandments stated that 'you may not drive a combustion engine', 'you may not fly', and other such restrictions, ending with 'you may not even think that there is an end to prohibitions'. This image, titled 'Why we do not need a state religion', appeared in leading German newspapers such as *Frankfurter Allgemeine Zeitung*. Here, INSM's pictorial language converged with the narratives of the German denial organization EIKE, which has stated that 'not the climate is endangered, but our freedom'.⁵²

As part of their latest campaign, in a 23 February 2023 article 'Five ways to a better energy policy',⁵³ the INSM reflected the fundamental redirection of German climate policy after Russia's invasion of Ukraine and the

subsequent inflation crisis. In contrast to its previous positions, the group now promoted a faster expansion of renewable energy. But its messages still contained a toned-down criticism of cost inefficiencies and state subsidies. Now, the organization placed a stronger emphasis on technology options by promoting hydrogen development, the expansion of liquified natural gas (LNG) terminals, fracking, and carbon capture and storage (CCS).

CONCLUSION: INDUSTRY HEADWINDS AGAINST CLIMATE AMBITIONS

As this chapter has shown, existing climate policies and environmental protection in Germany have been strongly contested. Initial demands by environmentally conscious civil society groups, the rise of the Green Party, and the recent emergence of Fridays for Future and other climate movements have faced headwinds from powerful industry associations, neoliberal think tanks, employer lobby groups, and conservative civil society movements since the 1980s. Especially since the mid-2010s, a solid neoliberal opposition to the country's energy transition has developed that has proven more influential than the fringe climate denial position of a few actors. However, Germany displays a diverse range of opponents of renewable energy projects whose members have ties to factions of the major political parties including the Christian and Social Democrats and the smaller, right-leaning liberal FPD.

Positions beyond and between the left–right spectrum make orientation difficult. Not all conservatives are climate obstructionists. Some far-right groups conceive of climate protection as a matter of homeland security. The dogmatic character of certain ‘citizen initiatives’ against renewable energy projects suggests the involvement of organized obstructionists. There is a trend of ‘covert’ networks of anti-renewables lobbyists throughout Germany who—on behalf of companies—file lawsuits, advise CI, and act as experts. Similar to ‘astroturf’ organizations in the United States and other countries, some activist groups set up to oppose wind farms and solar panels in Germany that appear to be grassroots movements are actually sustained by (fossil) interest groups.⁵⁴

Certainly, the strongest efforts have been orchestrated against Germany's RESA. Through academic opposition (e.g. from RWI), partisan think tanks (e.g. CEP), public media campaigns (e.g. INSM), and continuous lobby pressure from powerful companies and industry associations (represented by the industry-financed think tank IW), the once radical act to expand decentralized renewable energy production eventually morphed

into a soft measure unlikely to help meet Germany's goal of becoming climate neutral by 2045.

Until recently, the 'grey' group of obstructionist actors has portrayed the continued use of fossil fuels as necessary to ensure reliable, affordable power and domestic energy security.⁵⁵ Following the Russian invasion of Ukraine, German energy policy has been contradictory, with a focus on both the diversification of fossil gas supplies and a reinvigoration of efforts to increase the use of renewable energy. The BMWK concluded long-term contracts with gas and oil suppliers and continues building LNG terminals on Germany's coasts. While regulatory hurdles against the expansion of wind power have been removed, the Liberal Party-led Ministry for Digital and Transport succeeded in erecting another barrier by blocking the European phase-out of combustion engines by 2035, a demand from the automotive sector and the eFuels Alliance. Similarly, the plan to phase out fossil gas heating ran into strong opposition and has since been both weakened and further delayed.

To better understand the ambiguities in the policy positions of the major industrial sectors and political parties in Germany, it will be necessary to study systematically the revolving door between political and business careers and the alliances between inner-party groupings and outside interest groups. For example, while car, steel, fossil energy, and chemical industry interests play a role in the SPD via its works council and union representatives, the links between industry and the Christian Democratic and Free Democratic parties run mainly through management circles. Future research is needed to better understand the structural dimensions of and strategic efforts in the transport and construction industries in addition to the energy sector. While the fight against the RESA shows the capacity of obstructionist forces to fight and win uphill battles, the *Energiewende* is still the policy arena with the best record of forwarding Germany's climate policy agenda. The focus of climate policymaking urgently needs to shift to transport, heating, and housing. Much more research is needed on the lobby groups in these areas, which have so far succeeded in blocking or delaying decarbonization.

NOTES

1. UBA (2022), *Umweltbewußtsein in Deutschland*. Umweltbundesamt (UBA): Dessau-Roßlau.
2. Amory Lovins (1977), *Soft Energy Paths*, 1st ed. New York: Harper & Row.

3. Florentin Krause, Hartmut Bossel, Karl-Friedrich Müller-Reißmann (1981), *Energie-Wende*, 3rd ed. Frankfurt am Main: S. Fischer.
4. Donella H. Meadows, ed. (1972), *The Limits to Growth*. London: Earth Island Limited.
5. Robert Jungk (1986), *Der Atom-Staat*, 71st ed. Reinbek bei Hamburg: Rowohlt.
6. Dieter Plehwe (2022), 'Reluctant Transformers or Reconsidering Opposition to Climate Change Mitigation? German Think Tanks between Environmentalism and Neoliberalism', <https://doi.org/10.1080/14747731.2022.2038358>.
7. Volkmar Lauber and Lutz Mez (2006), 'Renewable Electricity Policy in Germany, 1974 to 2005', *Bulletin of Science, Technology & Society*, 26: 105–120.
8. Greg Garrard, Goodbody, Axel, Handley, George B., et al. (2019), *Climate Change Scepticism*. London: Bloomsbury Academic.
9. UBA (2023), *UBA Forecast*. UBA: Berlin.
10. Daniel Delhaes (2023), 'Deutschland dürfte seine Klimaziele 2030 und 2045 verfehlen', *Handelsblatt*. <https://www.handelsblatt.com/politik/deutschland/klimapolitik-deutschland-duerfte-seine-klimaziele-2030-und-2045-verfehlen/29273700.html>
11. Deutschlandfunk, *Auf dem Weg zur Klimaneutralität* (2021, 24 June). <https://www.deutschlandfunk.de/auf-dem-weg-zur-klimaneutralitaet-die-neuen-klimazi-ele-fuer-100.html>
12. Kristoffer Ekberg, Bernhard Forchtner, Martin Hultman, et al. (2022), *Climate Obstruction: How Denial, Delay and Inaction are Heating the Planet*. New York: Taylor & Francis; and Achim Brunnengräber (2015), 'Klimaskeptiker in Deutschland und ihr Kampf gegen die Energiewende', <https://refubium.fu-berlin.de/handle/fub188/20150>.
13. William F. Lamb, Giulio Mattioli, Sebastian Levi, et al. (2020), 'Discourses of Climate Delay', *Global Sustainability*, 3: 1–5, doi:10.1017/SUS.2020.13.
14. Stella Schaller and Alexander Carius (2019), 'Convenient Truths. Mapping Climate Agendas of Right-Wing Populist Parties in Europe', <https://adelphi.de/en/publications/convenient-truths>. Accessed 8 November 2023.
15. Susanne Götzte and Annika Joeres (2022), *Die Klimaschmutzlobby*. München: Piper; and Matthias Quent, et al. (2022), *Klimarassismus*. München: Piper.
16. goClimate.de, 'Emissionen nach Sektoren einfach erklärt'. Accessed 1 April 2023.
17. Weert Canzler and Dirk Wittowsky (2016), 'The Impact of Germany's Energiewende on the Transport Sector: Unsolved Problems and Conflicts', *Utilities Policy*, 41: 246–251.
18. Anja Baisch (2021), *Fossile Strategien*. Hamburg: Tredition GmbH.
19. Claudia Kempfert (2023), *Schockwellen*, 1st ed. Berlin: Campus Verlag.
20. Tobias Haas (2019), 'Struggles in European Union Energy Politics: A Gramscian Perspective on Power in Energy Transitions', *Energy Research & Social Science*, 48: 66–74.
21. Achim Brunnengräber, Albert Denk, Lucas Schwarz, Dörte Themann (2023), 'Monumentale Verdrängung', *Blätter für deutsche und internationale Politik*, 9–12. <https://www.wiwo.de/unternehmen/banken/banken-gls-bank-verlaesst-klima-allianz-vorwuerfe-an-wall-street/28967554.html>
22. Ansgar Graw (2019, 22 December), 'Deutschland Wildtier Stiftung Kollateralschaden eines Rauswurfs', *Welt*; and Dennis Fischer (2021, 29 November), 'Aurubis erstreitet sich kostenlose CO2-Zertifikate', *Energate*

- Messenger. <https://www.wiwo.de/unternehmen/banken/banken-gls-bank-verlae-sst-klima-allianz-vorwuerfe-an-wall-street/28967554.html>
23. Greenpeace, 'Die DWS - Deutschlands klimaschädlichster Vermögensverwalter?', <https://www.greenpeace.de/klimaschutz/finanzwende/deutsche-bank-tochter-dws-greenwashing-betrug>. Accessed 1 April 2023.
 24. UNEP, 'Net-Zero Banking Alliance – Members', <https://www.unepfi.org/net-zero-banking/members/>. Accessed April 1, 2023.
 25. WirtschaftsWoche (2023), *GLS Bank verlässt Klima-Allianz – Vorwürfe an Wall Street*.
 26. Massimo Bognanni, 'Saubere Ziele, fragwürdige Anlagen', <https://www.tagesschau.de/investigativ/wdr/atomfonds-101.html>. Accessed 1 April 2023.
 27. influenceMap (2021), *German Automakers Dominate the Fight to Weaken Climate Regulation*.
 28. Lobbypedia (2023), 'Verband der Automobilindustrie', https://lobbypedia.de/wiki/Verband_der_Automobilindustrie. Accessed 8 November 2023..
 29. Lobbycontrol (2023), 'Pipelines in Die Politik', <https://www.lobbycontrol.de/pipelines-in-die-politik-die-macht-der-gaslobby-in-deutschland/>. Accessed 8 November 2023.
 30. Christina Deckwirth, 'Wie die Gaslobby das Heizungsgesetz entkernt hat', <https://www.lobbycontrol.de/lobbyismus-und-klima/wie-die-gaslobby-das-heizungsgesetz-entkernt-hat-109931/>. Accessed 8 November 2023.
 31. eFuels Alliance (2023, 23 May), 'Porsche Joins the eFuel Alliance', https://www.efuel-alliance.eu/fileadmin/Downloads/Pressemitteilungen_2023/20230523_P_M_Vorstandssitzung_EN_final.pdf. Accessed 8 November 2023.
 32. Dieter Plehwe and Kardelen Günaydin (2022), 'Whither Energiewende Strategies to Manufacture Uncertainty and Unknowing to Redirect Germany's Renewable Energy Law', *IJPP*, 16: 270.
 33. AfD, 'Themenposition: Energie', Umwelt, Klima, <https://www.afd.de/energie-umwelt-klima/>. Accessed 1 April 2023.
 34. Nùria Almiron, Jose A. Moreno, Justin Farrell (2022), 'Climate Change Contrarian Think Tanks in Europe: A Network Analysis', *Public Understanding of Science (Bristol, England)*, <https://journals.sagepub.com/doi/10.1177/0963662522113781>; and Alexander Ruser (2022), In: Michael Hoelscher, Regina A. List, Alexander Ruser, Stefan Toepler (eds.), *Civil Society*, 1st ed., pp. 349–358. Cham: Springer International Publishing.
 35. Wikipedia, 'Naomi Seibt', https://de.wikipedia.org/wiki/Naomi_Seibt. Accessed June 29, 2023.
 36. Veith Selk and Jörg Kemmerzell (2022), 'Retrogradism in Context: Varieties of Right-Wing Populist Climate Politics', *Environmental Politics*, 31: 755–776.
 37. Reinhard Schneider (2023), *Die Ablenkungsfalle*. München: oekom verlag.
 38. Bernd Hirschl and Thomas Vogelpohl (2019), 'Energiewende in Deutschland und Europa'. In: Weert Canzler and Jörg Radtke (eds.), *Energiewende. Eine sozialwissenschaftliche Einführung*, pp. 69–95. New York: Springer.
 39. Kai Roger Lobo (2011), *Die Elektrizitätspolitik und ihre Akteure von 1998 bis 2009*.
 40. Rolf Gerhardt, Gesamtwirtschaftliche, sektorale und ökologische Auswirkungen des Erneuerbare Energien Gesetzes (EEG), <https://docplayer.org/7207276-Gesamtwirtschaftliche-sektorale-und-oekologische-auswirkungen-des-erneuerbare-energien-gesetzes-eeg.html>. Accessed 1 April 2023.
 41. Lobbycontrol, 'Kampagne der INSM und des RWI gegen die Förderung des Ökostroms', Berlin: Freie Universität (Dissertation). <https://lobbypedia.de/>

- wiki/Kampagne_der_INSM_und_des_RWI_gegen_die_F%C3%B6rderung_des_%C3%96kostroms. Accessed 1 April 2023.
42. Manuel Frondel and Christoph M. Schmidt (2008), 'CO₂-Emissionshandel: Auswirkungen auf Strompreise und energieintensive Industrien', *RWI Positionen*. Essen: RWI Positionen, No. 26. <https://www.econstor.eu/bitstream/10419/52546/1/666558469.pdf>
 43. Claudia Kemfert (2015), *Kampf um Strom*, 8th ed. Hamburg: Murmann.
 44. Claudia Kemfert and Jochen Diekmann (2009), *Förderung erneuerbarer Energien und Emissionshandel: wir brauchen beides*. Berlin: Wochenbericht, Deutsches Institut für Wirtschaftspolitik.
 45. EFI (2014), *Gutachten zu Forschung, Innovation und technologischer Leistungsfähigkeit Deutschlands 2014*, Gutachten. Berlin: Expertenkommission Forschung und Innovation (EFI).
 46. Dieter Plehwe (2021), 'Der Streit um Umwelt und Klima. Rechte Think Tanks haben nicht nur politische Interessen', *WZB-Mitteilungen*, 172: 33–35.
 47. Nathalie Grün, Tonja Iten, Felix Nipkow (2019), *Mythen und Fakten zu Deutschlands Energiewende*. Zürich: Schweizerische Energiestiftung; and Wolfgang Riedl and Hans-Josef Fell (2018), *Erneuerbare Energien – die tragende Säule für die CO₂-Emissionsreduktion in Deutschland*. Berlin: Energy Watch Group.
 48. Nicolai Kwasniewski (2021, 11 February). 'Die Anti-Windkraft-Bewegung', *Spiegel*. <https://www.spiegel.de/wirtschaft/windenergie-so-verhindert-die-anti-windkraft-bewegung-neue-anlagen-a-46d88419-3b1d-427d-b6c0-cf696fec283c>
 49. Dörte Themann, Di Nucci, M. R., Krug, M. (2021), Gegenwind von Rechts? Windenergie im Spannungsfeld zwischen Klima-, Natur- und Heimatschutz. In: Heike Leitschuh, et al. (eds.), *Ökologie und Heimat*, pp. 113–126. Stuttgart: S. Hirzel Verlag.
 50. Manfred Redfels (2021), 'Die Gegner der Energiewende', Greenpeace Recherche. https://www.greenpeace.de/publikationen/gegner_der_windkraft.pdf. Accessed 8 November 2023.
 51. Kristoffer Ekberg, et al. (2023), *Climate Obstruction*. New York: Routledge.
 52. EIKE, 15. 'Internationale EIKE Klima- und Energiekonferenz', <https://eike-klima-energie.eu/15-internationale-klima-und-energiekonferenz>. Accessed 1 April 2023.
 53. INSM, 'Five Ways to a Better Energy Policy', <https://www.insm.de/insm/kampagne/angebotspolitik/energie>. Accessed 29 June 2023.
 54. Manfred Redelfs, 'Greenpeace-Recherche: Lobbyisten führen Kreuzzug gegen Windkraft', <https://www.greenpeace.de/ueber-uns/leitbild/investigative-recherche/netz-windkraftgegner>; and Moritz Neujeffski and Max Goldenbaum, 'Klimawandelleugner*innen in Deutschland', <https://www.nf-farn.de/klimawan-delleugnerinnen-in-deutschland>. Accessed 25 July 2023.
 55. IEA (2023), *Energy Security*. Paris: International Energy Agency.