

Climate financing by the German government: a win-win strategy?

Perspectives from trade unions, and civil society and the need for a new conceptual framework

Silke Ötsch 

Accepted: 6 June 2024 / Published online: 26 July 2024
© The Editor(s) 2024

Abstract This article analyzes the German government’s strategies and measures for financing climate and asks whether these policies deliver on the promise of a social-ecological win-win situation. Key political and academic positions on sustainable finance are based on this promise. The article first provides an overview of climate finance policies. Building on an analytical framework of cultural political economy, these policies are then evaluated from the relevant but hitherto underrepresented perspective of trade unions, environmental associations, and relevant civil society actors. The analysis shows that the German government uses a limited concept of climate finance or sustainable finance compared to the view of the interviewees. In the sense of strategic selectivity, the government takes up measures from a financial management and financial science perspective that views the problem as a question of information, transparency, and risk pricing. From the experts’ point of view, however, it excludes more effective measures relating to distribution issues, regulatory or monetary policy, public investment, structural policy, and co-determination. The policies are perceived as socially unbalanced, resulting in dwindling political support. In order to gain broader support, climate finance policies need a new conceptual framework.

Keywords Climate finance · Sustainable finance · Civil society · Unions · Social-ecological policies · Strategic selectivity

✉ PD Dr. Silke Ötsch

Sociological Research Institute Göttingen (SOFI), University of Göttingen, Göttingen, Germany
E-Mail: silke.oetsch@sofi.uni-goettingen.de

Klimafinanzierung der Bundesregierung als Win-Win-Strategie?

Perspektiven aus Gewerkschaften und Zivilgesellschaft und die Notwendigkeit eines neuen konzeptionellen Rahmens

Zusammenfassung Der Beitrag analysiert Strategien und Maßnahmen der deutschen Regierung, Klimaschutz zu finanzieren und fragt, ob diese Politiken das Versprechen einer sozial-ökologischen Win-Win-Situation einlösen. Dieses Versprechen wird von zentralen politischen sowie wissenschaftlichen Positionen zu Sustainable Finance vorausgesetzt. Der Beitrag gibt zuerst einen Überblick über Klimafinanzierungspolitik. Aufbauend auf einem Analyseraster der Kulturellen Politischen Ökonomie werden diese Politiken dann aus der relevanten aber bislang unterrepräsentierten Perspektive von Gewerkschaften, Umweltverbänden und einschlägigen zivilgesellschaftlichen Akteuren bewertet. Die Analyse zeigt, dass die Bundesregierung im Vergleich zur Sicht der Interviewten einen engen Begriff von Klimafinanzierung bzw. von Sustainable Finance benutzt. Die Regierung greift strategisch selektiv Maßnahmen aus einer Perspektive der Finanzwirtschaft und Finanzwissenschaft auf, die das Problem als Frage der Information, Transparenz und Risikobepreisung betrachtet. Sie klammert hingegen Maßnahmen aus, die aus Sicht der Expert:innen wirksamer sind, aber Verteilungsfragen, Ordnungs- oder Geldpolitik, öffentliche Investitionen, Strukturpolitik und Mitbestimmung betreffen. Die Politiken werden als sozial unausgewogen wahrgenommen, womit der politische Rückhalt schwindet. Um breiteren Rückhalt zu finden benötigen Klimafinanzierungspolitikern einen neuen konzeptionellen Rahmen.

Schlüsselwörter Klimafinanzierung · Sustainable Finance · Zivilgesellschaft · Gewerkschaften · Sozial-ökologische Politik · Strategische Selektivität

1 Introduction

Achieving the climate targets and the associated ecological restructuring of the economy and society requires capital, which is in principle available on the global financial markets according to the IPCC (2023, p. 33). However, the panel sees difficulties in steering financial flows for climate financing. The European Union wants to finance and incentivize environmental and climate protection measures, especially through a Sustainable Finance Strategy. This implies mobilizing private capital via a political framework that aims for transparency about the environmental impact of economic activity, preventing greenwashing, providing targeted public incentives, and giving steering signals through emissions trading. Fair transition policies are intended to cushion the social impact of measures. These positions are broadly in line with announcements made in the coalition agreement of the German coalition government of Social Democrats, Greens, and Liberals (known as the “traffic light coalition” government), which took office in 2021. These policies are based on the guiding principle that climate investment is a *win-win situation* that not only has positive effects on the environment but also brings financial, economic, and, thereby, social returns. However, fierce disputes over the German Building Energy Act, the

abolition of environmentally harmful subsidies for agricultural diesel, and further areas of transformation show that unresolved financing issues are a major obstacle to transformation. We explore the success of present climate protection funding schemes and their ability to deliver on the promise of a win-win situation using the German coalition government's financing of climate protection as an example. If nations with a relatively significant financial scope for action, such as Germany, lead the way, the possibility of global climate protection implementation increases.

This article analyzes the German government's strategies and measures for financing climate protection and its central sustainable finance strategy and asks whether these policies deliver on the promise of a social-ecological win-win situation. This win-win strategy is also promised by academic literature on sustainable finance. The main body of the article begins with descriptions of the approach and the analytical grid of cultural political economy (Sect. 3). In addition to the institutional framework, this covers social positions and power dynamics as well as visions and strategic choices, overcoming the shortcomings of a superficially technical approach. The main section (Sect. 4) is based on 24 expert interviews with relevant civil society and trade union actors who have previously advocated for social, ecological, or socio-ecological policies at the intersection of the environment, the economy, and financial markets but have been underrepresented in the discourse. It compares the German government's positions with those of the respondents, asking how effective the policies are and which alternative measures should be chosen within this range. The interviews reveal (Sect. 5) that the measurement of currently practiced sustainable finance policies and the ideas of civil society and trade union experts are founded on different imaginaries and thus have little overlap. The traffic light coalition's initiatives adhere to the strategic selectivity principle, which excludes important socio-ecological measures that could result in a win-win situation. Counter-hegemonic projects may be forming that advocate for repressed distribution and social justice policies.

2 Recent climate finance and sustainable finance policies

2.1 Climate, green, and sustainable finance as dynamic concepts

The challenge for researchers analyzing the financing of climate protection measures is to describe a complex phenomenon that is determined by multiple overlaps between environmental and climate protection effects and other sustainability factors. This also manifests in overlaps between the terms "climate," "green," and "sustainable finance" (Shishlov and Censkowsky 2022; UNEP 2016), which are successively in flux due to greenwashing practices and attempts to prevent them (Migliorelli 2021). There is no generally recognized definition of the terms "climate" and "sustainable finance" (Migliorelli 2021; Shishlov and Censkowsky 2022; UNEP 2016). In principle, climate finance refers to measures that provide financial impetus to reduce greenhouse gas emissions (mitigation) and cope with the effects of climate change (adaptation). Green finance also includes positive effects on the environment, while sustainable finance takes social, economic, and governance criteria into

account in addition to environmental criteria (UNEP 2016). The term “sustainable finance” underlines the normative intention of combining ecological and social goals in advance, as was attempted in the United Nations’ Sustainable Development Goals (SDGs), for example. However, the breadth of the term “sustainable” also allows for a less strict interpretation of climate targets or social criteria, as appropriate. Depending on the definition, sustainable, green, or climate finance refers to the private sector or financial flows from an undefined source, such as public funds. While the German government sees green finance as a “strategic approach to incorporating the financial sector in the transformation process,” the Organization for Economic Cooperation and Development (OECD) understands it as “achieving economic growth while reducing pollution and greenhouse gas emissions, minimizing waste, and improving efficiency in the use of natural resources” (UNEP 2016, p. 5). The OECD, the EU, and the German government associate green or sustainable finance with green growth (Deutsche Bundesregierung 2021; European Commission 2018). In contrast, the United Nations Framework Convention on Climate Change does not explicitly make this connection in its definition of climate finance and calls for financing for vulnerable groups. It also addresses negative environmental impacts of private investment (UNEP 2023). The United Nations Environment Program (UNEP 2016, p. 10) defines climate finance as “local, national, or transnational financing, which may be drawn from public, private, and alternative sources of financing. Climate finance is critical to both reducing emissions and allowing countries to adapt to the adverse effects and reduce the impacts of climate change.” Although we assume that sustainability in the sense of a combination of ecological and social criteria facilitates the implementation of ecological change, in this article, I refer primarily to climate finance in line with the UNEP definition, due to its distinctiveness. I also discuss the extent to which climate finance meets the criteria of a win-win situation, which reintroduces the social component. Because both the private and the public sector or mixed forms have the potential to finance climate protection and both forms of financing exist in reality, I include all sources of finance. In addition, I ask what the experts understand by the term “climate finance” in an open question (see Sect. 4). Given that relevant climate finance initiatives are subsumed under the umbrella term “sustainable finance” or “green finance,” I also refer to this spectrum in part in the discussion of policies.

2.2 Financial requirements

Climate protection measures are complex, and various concepts are circulating about financial requirements, including how or who should finance climate protection and what the funds are to be used for. On the international level, transfers from the Global North to the Global South spent on mitigation and adaptation would have to increase several times above the \$100 billion per year pledged by the industrialized countries at the 2009 UN Climate Change Conference in Copenhagen. This sum falls far short of the need, which experts estimate at around \$ 1 trillion annually by 2030, which Northern countries would have to provide to developing and emerging countries (excluding China) (Songwe et al. 2022, p. 5–6). At the European level, in its action plan for financing sustainable growth, the European Commission (2018,

p. 3) puts the annual investment gap for achieving the EU's climate and energy targets at €180 billion by 2030. More recent figures assume a funding gap of €406 billion per year, or 2.6% of the EU GDP, if the climate targets are to be met by 2030 (I4CE 2024). Depending on the study and its assumptions, expenditure and investment for climate and environmental protection in Germany should amount to between €43 and €100 billion per year (Boston Consulting Group 2021; McKinsey & Company 2021; Nextra Consulting et al. 2021; Fratzscher 2022). Public funding requirements between 2021 and 2030 are estimated to reach €460 billion, with €90 billion allocated to federal investments, €170 billion to municipal investments, and €200 billion to the promotion of private investments (Krebs and Steitz 2021, p. 8–12). Economists assume that the costs, or investments, necessary to finance the socio-ecological transformation are high, but inaction results in even higher costs (Bardt et al. 2019; Boston Consulting Group 2021; Jaeger et al. 2021; McKinsey & Company 2021; Flaute et al. 2022). Costs for social compensation are not included in most calculations. It is therefore crucial to understand how measures are designed, which groups bear the burden and which benefit, and what policies mean for the relationship between public and private households.

2.3 EU climate finance

At the EU level, the climate transition is to be financed via various partially overlapping initiatives and instruments, particularly in the context of the European Green Deal. The European Commission assumes that the private sector and the financial system will play a key role in meeting the Green Deal and climate targets. According to the Commission's 2018 Action Plan on Financing Sustainable Growth, the financial system must be reformed and comprehensively restructured to redirect private capital to sustainable investments (European Commission 2018, p. 1). The first step will rely on data collection, transparency, and certification. The EU taxonomy is intended to create a standardized classification system that records the interaction between economic activity and the environment on a scientific basis (European Commission n.d.; European Parliament and European Council 2020). This system is meant to prevent greenwashing and encourage investors to invest sustainably. The taxonomy is supplemented by the establishment of related standards for European Green Bonds, sustainability ratings, and "public sector investments and strategies" to promote sustainable investments and the activities of supervisory authorities (European Commission 2018, p. 17). As part of the Corporate Sustainability Reporting Directive, capital market-oriented companies with more than 500 employees will have to produce externally audited sustainability reports by 2024, in which they explain the *material impact* of their activities on people and the environment. Smaller companies and those from third countries will also be included at a later date. Under the Sustainable Finance Disclosure Regulation, providers of financial products and financial advisors must disclose the exact composition of their environmental, social, and governance (ESG) products and advise clients interested in sustainability in accordance with precise rules on sustainability investments.

In addition to these measures, the EU is focusing on the pricing of CO₂ emissions, with up to €65 billion being earmarked for a climate social fund to support the peo-

ple and companies most affected by emissions trading, a further €48 billion for the ecological modernization of lower-income member states, and €40 billion for the development of innovative low-carbon technologies (European Council 2024). The EU also intervenes through budget funds and the NextGenerationEU recovery plan launched after the COVID-19 crisis, 37% of which is to be spent on climate-related targets and the EU budget, with more than €580 billion available for climate action between 2021 and 2027 (European Council 2024). The funds, which will be granted as subsidies and loans, are intended in particular for innovations and investments and retraining measures in connection with green change, the promotion of competitiveness and growth, and further environmental and climate protection programs for developing countries, among others (European Council 2024). From 2026 onwards, to maintain competitiveness, a Carbon Border Adjustment Mechanism (CBAM) will be introduced at the European level, whereby importers that undermine environmental standards will have to pay for CBAM certificates for energy-intensive products with a higher CO₂ footprint.

2.4 The German governments' climate finance policies

In Germany, the government of the Big Coalition of Christian Democrats and Social Democrats under Angela Merkel translated international emissions targets into the German context, in particular via the Climate Protection Act passed in 2019. The SDGs of the United Nations also give a (barely binding) orientation for sustainability policies. The Climate Protection Act (*Klimaschutzgesetz*), whose objectives were sharpened by the German Constitutional Court in 2021, seeks to guarantee compliance with the reduction targets. Compared to 1990, greenhouse gas emissions are to be reduced by at least 65% by 2030 and by at least 88% by 2045, which means achieving net greenhouse gas neutrality. In 2019, the Grand Coalition launched the Sustainable Finance Initiative. The initiative focuses on private finance by arguing that a careful approach to public finances is desirable. Therefore, it is important to create *intelligent framework conditions* that stimulate private investment in sustainable projects. The government set up an honorary Sustainable Finance Advisory Board comprised of representatives from the financial and real economy, civil society, and academia to develop proposals on how the financial system can be geared towards *structural change*, understood as the alignment with internationally agreed emission reduction and sustainability targets while safeguarding competitiveness and employment in Germany (Sustainable Finance Beirat der Bundesregierung 2019). According to an important fundamental consideration shared by the Council, market players should take greater account of long-term climate risks, and the environmental impact of financial products must be transparent to enable the identification of potentially *stranded assets* (Carney 2015). In 2021, the Advisory Board recommended “a reliable policy framework” that coherently aligns the financial and real economy with sustainability, as well as future-oriented, transparent, and comparable corporate reporting, research and knowledge building, “sustainability-effective financial products that meet the growing needs” of investors, and the institutional stabilization of the process (Sustainable Finance Beirat 2021). Following the Grand Coalition in 2021, the traffic light government stated in its coalition agreement that achieving the

Paris climate protection targets is a top priority. Additional funds must be used “on an unprecedented scale” (SPD, DIE GRÜNEN, FDP 2021, p. 158). However, future investments will only be possible within the framework of the debt brake from 2023 onwards (ibid., p. 158 ff.), and tax increases are not planned (ibid., pp. 164–166). According to the coalition agreement, the government wants to resolve this apparent contradiction through modernization and incentives for private investment and “entrepreneurial risk-taking ... in order to generate growth” (ibid., p. 3). This marks the first time that a sustainable finance strategy is part of a government program, and the coalition even wants to “make Germany the leading location for sustainable finance” (ibid., p. 170).

In terms of realpolitik, this was initially successful because the government set up the Climate and Transformation Fund (KTF), which was declared a special fund and provided with €60 billion in reallocated COVID-19 aid, giving it a budget of €212 billion for the 2024–2027 period. The KTF will finance projects such as the energy-efficient refurbishment of buildings, the expansion of renewable energies and electromobility and charging infrastructure, investments in railroads, semiconductor production, and the hydrogen industry, and electricity price compensation for particularly energy-intensive companies (Bundesregierung 2023). Various measures are intended to enable transformation under conditions of international competition. The Climate Change Contracts Funding Program (CCfD) is designed to support industrial companies (e.g., in the steel industry) that invest in climate-friendly plants, provided that these investments are not profitable in the initial period (BMWK 2023). In addition to European emissions trading, Germany introduced a national emissions trading system in 2021, which levies a CO₂ tax in the heating and transport sectors. Most of the revenue from emissions trading (€18.4 billion in 2023) goes to the KTF (Umweltbundesamt 2024b). A fixed price of €45 is set for one ton of CO₂ in 2024 and €55 in 2025 (Umweltbundesamt 2024a). From 2026 on, the price should be set via the auctioning of certificates as part of European emissions trading, which is expected to lead to price increases. As rising energy prices are pushing poorer and middle-poor households in particular to their financial limits, the coalition agreement announced that citizens will be compensated via a payment called *Klimageld* (climate money) to all households.

In November 2023, the Federal Constitutional Court ruled that the transfer of unused COVID-19 relief funds to the KTF was unconstitutional because it violated the rules of the *debt brake* (Art. 109 and 115) enshrined in the German Constitution since 2009. Unlike the previous government, in mid-January 2024, the traffic light government’s Budget Committee decided to adhere to the debt brake rules for the first time since 2019 and cut investments and expenditures despite crises, including for agricultural diesel, development aid, and various subsidy programs for innovative and environmentally friendly technologies. The Ministry of Finance, led by the Liberals, is also attempting to postpone the payment of the *Klimageld* until the next legislative period. There are still no plans for how medium- and long-term projects for socio-ecological transformation are to be financed given that the incoming funds from national and European emissions trading foreseen for the KTF are modest.

2.5 Academic critique of climate finance policies

German climate finance policies have not been effective, and Germany is far from being a leading location for sustainable finance. By August 2023, the traffic light government had adopted 130 measures to reduce greenhouse gas emissions, which, according to the Expert Council for Climate Issues (Expertenrat für Klimafragen 2023, p. 33) appointed by the government, show a “substantial target achievement gap” in reducing emissions and lack a “coherent overall concept coordinated between the ministries.” According to the Council, the 2023 climate protection program assumes “considerable private-sector investment by companies and private households,” the feasibility of which “has not yet been proven either in microeconomic or macroeconomic terms” (Expertenrat für Klimafragen 2023, p. 27). The Council also criticizes the existing comprehensive environmentally and climate-damaging subsidies and calls for more significant economic incentive instruments such as a hard cap on emissions and fixed upper limits in national emissions trading “supplemented by accompanying measures such as climate money” (Expertenrat für Klimafragen 2023, p. 35). The strategy is considered to be unsuccessful not only by academics, but also by financial investors. Due to successive accusations of greenwashing, investors have little confidence in sustainable financial products (Forum Nachhaltige Geldanlagen 2023). Therefore, empirically speaking, the government is failing to meet the targets it has set for itself.

Academic finance and business management literature especially conceptualizes climate financing based on a narrowly defined concept of sustainable finance (e.g., Busch et al. 2022). In contrast, some economic and political science discourses fundamentally question whether financial actors chose exit options to promote sustainable finance and propose to focus on strategies of profit maximization (Braun 2022). Other authors point to a broader spectrum of forms of financing beyond private capital. Johannes Jäger and Lukas Schmidt (2020, p. 11) distinguish between *neoliberal green finance* (private green finance supported by public money and/or neoliberal public regulation and policies), *reformist green finance* (taxation used for environmental or social aims, binding regulation for the financial sector, and the restriction of harmful cross-border capital flows), and *progressive transformative green finance* (public command and control policies aiming at global environmental rights and caps and transformative public green finance for decommodification). One strand of political science literature criticizes the regulation of sustainable finance as insufficiently ambitious and inadequate. Notably, there is a lack of control bodies for financial products or initiatives such as green budgeting (Schneider 2023). Promotional and public banks are not exploiting their potential (concerning the European Investment Bank, see Mertens and Thiemann 2023). Contractual terms and conditions in public-private partnerships and public enterprises should be reformed according to sustainable, welfare-oriented, and innovation-led modern industrial policies (Mazzucato and Rodrik 2023). There is also a critical discussion of central banks’ brown (unsustainable) investments, green supporting factors, and brown penalizing factors (Li and v. Schickfus 2021). At a fundamental level, proponents of new monetary theories are calling for the use of central bank money for green investments (Pettifor 2020) or discussing a reform of the European Central Bank’s (ECB) mandate (Braun 2020;

Thiemann et al. 2022). Golka et al. (2023, p. 103) criticize outdated ideas of monetary and budgetary policy, which, among other things, assume market efficiency and price stability through “independent” central banks or a balanced budget policy. The conditions for leveraging private investments with public funds may be inadequate. The public bears the costs and risks of de-risking private actors, while the private sector profits (Gabor 2023; Golka et al. 2023). Therefore, instead of applying the German debt brake, the KTF should be provided with sufficient capital on the basis of loans (Golka et al. 2023). A further strand of criticism concerns issues of ecological and distributive justice, partly linked to post-growth positions. Ecological-social policies should not only lead to a broader acceptance of environmental policies but also be coherent in terms of emissions justice (Freydorf 2023; Raworth 2021; Rehm et al. 2023). Downward thresholds should prevent energy poverty and secure supply, while upward caps should prevent the above-average consumption of resources by beneficiaries (Freydorf 2023; Rehm et al. 2023). Other authors advocate a systematic expansion of public goods, an expansion of the third-sector economy (Dörre 2021; Foundational Economy Collective 2019), and/or greater democratization of the economy and financing models (Ötsch forthcoming). In addition, some positions do not reject green economy strategies in principle in the short term but express doubts about the long-term sustainability of decoupling strategies (Hickel 2022). The climate finance policies pursued by the German government are therefore based not only on a concept of climate finance that is restricted to the private finance industry but also on assumptions that are scrutinized critically from the perspective of political economy and heterodox economics.

With regard to the social impact of environmental measures, two basic convictions oppose each other. Proponents of ecological modernization (who are often advocates of sustainable finance) see no (or hardly any) contradiction between environmental measures and economic prosperity. Ecological modernization is considered a prerequisite for securing high standards and generating sufficient funding for transformation, or even for taking on a pioneering role in the global competition between locations in a decarbonized world (Busch et al. 2022; D’Aprile et al. 2020; Fücks 2019). Conversely, skeptics fear a lose-lose scenario in which environmental measures have socially detrimental effects, lose acceptance, and provoke a backlash, for instance, in the form of the election of anti-democratic parties that undo environmental progress (Dörre 2019; Dörre et al. 2020). A third position points out that people are, in principle, prepared to make material sacrifices for the environment. As an international survey has shown, people evaluate climate protection measures according to three criteria: their effectiveness, their fairness (especially the distributional effect for low-income households), and how their own households are affected (Dechezlepretre et al. 2022). In a meta-analysis of ex-post literature on the social impact of environmental policies, William Lamb et al. (2020) conclude that environmental policies can be designed to have both regressive and progressive effects (Lamb et al. 2020). However, it can currently be assumed that environmental policies are not sufficiently tailored and contradict the principles of environmental justice because the rich contribute little to financing even though they consume a disproportionate amount of the environment (Chancel 2022; Neckel 2023; Stockholm Environmental Institut and Oxfam 2020). An overly pessimistic attitude regarding

the social consequences of environmental measures can serve as a pretext to avoid potentially conflictive policies or refrain from actually undesirable measures. It can also become a self-fulfilling prophecy if the expectation of adverse social effects of environmental measures preempts their implementation. Meanwhile, an overly optimistic portrayal of the consequences of environmental policies or the fading out of conflicts of interest risks generating disappointment, which may lead to a turn away from environmental measures. In the following, we will analyze such questions regarding the assessment of climate finance policies as a win or lose situation using the specific case of Germany.

3 Theoretical positioning and methods: cultural political economy as an analytical framework

Climate finance policies selectively pick certain measures and exclude alternatives considered feasible in the academic literature. One reason may be path dependencies related to existing financial markets and their instruments. However, the selection goes beyond technical path dependencies. Decisions for or against policy instruments are guided by theoretical interpretations, normative positions, and interests related to the position of the organization or person who has the power to implement instruments. Thus, besides information problems, interests, conflicts, norms, and ideas must be addressed. The cultural political economy approach (CPE) proposed by Ngai-Ling Sum and Bob Jessop (2013) and Jessop's theories on governance and meta-governance (Jessop 2022) offer a theoretical framework that overcomes the blind spots of technical approaches. CPE considers institutions, knowledge and discourses, power, and networks in relation to each other. It combines a view of structures and institutions with approaches based on action and knowledge theory (Sum and Jessop 2013). Using Gramsci's concept of hegemony and Poulantza's understanding of the state as a social relation, Jessop (2022) sees the post-Fordist state as playing a moderating role between market actors and civil society, or rather he analyzes class interests within the framework of governance or processes of multilevel meta-governance. It is responsible for results. Jessop describes civil society as "a heterogeneous set of institutional orders and pluralistic set of agents, many of which are operationally autonomous and resistant to control from outside—whether through market forces, top-down command or horizontal networking" (Jessop 2022, p. 2), that is, as "a loosely bounded arena of social contestation and contention for (what it sees as) underrepresented causes" (Jessop 2022, p. 233). The state calibrates the modalities of governance, namely exchange, command, dialog, and solidarity, in the projects (Jessop 2022, p. 23). "Exchange" stands for market coordination, "command" for top-down hierarchies, "dialogue" or "self-organization" for civil society negotiation processes, and "solidarity" for value-oriented support, also within the framework of civil society, and each mode has specific advantages and disadvantages (Jessop 2022, pp. 46–48). The reduction of this complexity is not arbitrary. *Imagines*, that is, "a semiotic ensemble (without tightly defined boundaries) that frames individual subjects' lived experience of an inordinately complex world and/or guides collective calculation about that world," provide "mental maps" according to

which actors align their actions. Social forces try to establish a specific imaginary as a dominant frame (Jessop 2013). Besides imaginaries, institutional or spatio-temporal frameworks, a selective choice of options, and the discarding of others restructure the system. This *strategic selection* is not only based on learning processes or technical criteria but is also driven by strategic decisions associated with power relations (Jessop 2022, pp. 52–65). In this complex situation, there are no perfect solutions; the state must continuously calibrate its policies. Civil society and other actors can strengthen their own imaginaries, challenge the prevailing hegemony, and attempt to implement alternative projects that can become hegemonic.

The research project “Civil Society and Climate Finance” deals with socially relevant positions of civil society actors complemented by trade union positions, which have so far been underrepresented in the context of climate finance. It examines these actors’ positions on the financing of climate protection measures. From January to September 2023, we conducted 24 expert interviews with actors from civil society and trade unions. Our sample (see Appendix 1) includes representatives from trade unions that play different roles in the transformation, environmental

Trade Union and Civil Society Experts’ Preferences for Measures to Finance Climate Protection ¹			
Code system: Type of measure/ instrument	Measure assessed positively	Measure assessed ambivalently	Measure assessed negatively
Sustainable private sector financial instruments and investments	31	20	11
Transparency/reporting/labels	35	20	13
CO2 pricing/certificates/polluter pays	12	6	3
Environmental taxes	3	2	0
Divestment	12	6	0
Regulatory policy	71	11	9
Monetary policy/central bank inter- vention	20	4	8
Financial supervision	0	1	0
Using public banks	10	3	2
Public financing, structural policy, infrastructure	155	27	54
Special purpose fund/transformation fund	11	2	0
Debt brake	1	1	6
Climate compensation (<i>Klimageld</i>)	3	0	0
Education/behavioral change	0	0	1
Prosum (consumers as investors)	1	0	0
Proactive modernization	4	0	0
Bureaucracy	1	1	5
Commissions	3	0	1
Other	12	4	6

Fig. 1 Interviewees’ preferences for measures

Assessment of the role of actors in mobilizing financial resources for climate protection			
Code system: Role of actors	Positive role	Ambivalent role	Negative role
The rich/winners	1	2	3
Elites	1	0	1
Global North	0	2	6
Global South	2	4	8
United Nations/international law	2	1	0
International organizations for trade and finance	0	3	3
Sites (especially Germany, US, China)	13	4	22
Municipalities	6	0	1
EU/European organizations	10	2	14
Federal government/German politics	6	7	20
Parties	19	20	38
Politics/the state	11	3	13
Ministries	13	4	20
Administration/Supervision	2	1	0
Sustainable Finance Council	4	7	3
Trade unions	52	24	21
Coal Commission	2	0	0
Real economy			
<ul style="list-style-type: none"> Employers, business associations, Federation of German Industries, Chamber of Commerce and Industry 	6	2	1
<ul style="list-style-type: none"> Agriculture, agricultural and farmers' associations 	0	1	5
<ul style="list-style-type: none"> Lobbies 	4	3	20
<ul style="list-style-type: none"> Companies 	43	21	53
Financial sector	56	33	36
Civil society	71	15	17
Citizens	7	4	7
Academia and education	9	3	1
Media	1	1	4
Radical conservatives, the right wing, and libertarians	1	2	8
The left wing	0	3	0

Fig. 2 Evaluation of actors in promoting climate finance

movements and non-governmental organizations (NGOs), development NGOs and organizations with a critical view of financial and economic systems featuring a sustainable economy (CFES), and NGOs that operate in the narrower field of sustainable finance (for an overview, see Vögele and Tober 2017). The guideline used for expert interviews includes questions derived from the central categories of CPE related to climate finance. It features questions about the assessments of institutions (regulation), including modalities of governance, basic imaginaries about financing and the climate crisis, evaluations of the roles and projects of actors, and societal or political projects. Supported by MAXQDA software, we analyzed the transcribed interviews, drawing on qualitative content analysis as described by Kuckartz (2018). We derived the main categories from the research question and the main and subcategories inductively from the interviews. We use charts to illustrate some results. The visualizations show the interviewees' attitudes towards measures (Sect. 4.2; Fig. 1) and the roles of actors (Sect. 4.3; Fig. 2) and political parties in promoting climate finance. We marked passages in which interviewees discussed certain measures (or actors) and coded whether they saw them positively, ambivalently, or negatively in relation to the goal of financing climate protection. In the conclusions, we connect the interviewees' positions to government measures described in Sect. 2 using the framework of CPE and point out differences and resulting desiderata.

4 Is climate finance a win-win situation? Assessments by civil society experts

Ecological change requires a feasible but significant shift in financial resources over a short period. A broad social consensus is essential. So far, however, only a limited circle of experts has primarily dealt with the government's preferred sustainable finance strategy. What is the position of civil society and trade union experts who represent relevant sections of the working population and underrepresented concerns at the interface of finance and the environment? In the following, we outline how the experts surveyed perceived the Sustainable Finance Initiative and what they understood by climate finance (Sect. 4.1), which climate finance measures they preferred (Sect. 4.2), to what extent they saw conflicts, and how they assessed the role of various actors (Sect. 4.3). From the interviews, we derive competing and neighboring climate finance projects and describe the constellations of actors involved (Sect. 4.4).

4.1 Notions of climate finance and positions vis-à-vis the Sustainable Finance Initiative

Most interviewees used broadly defined terms for climate finance. Experts from trade unions, environmental NGOs, and most CFESs understood climate finance as the financing of socio-ecological transformation, which includes private, semi-public, and public financing and should be strongly accompanied by regulatory policy. Some interviewees perceived the metaphor of *redirecting financial flows* as an obfuscating narrative that enables policymakers to circumvent conflicting distribu-

tional policies. Most interviewees, particularly from the environmental sector, also criticized an excessively narrow focus on climate that leaves out issues such as biodiversity. An expert from Oxfam was critical of the broad use of the term because it originally stood for commitments to finance climate protection in the Global South, which receives too little attention. Overall, it is striking that most experts made remarkably few references to the German government's Sustainable Finance Initiative. All interviewed experts felt that Germany was far from achieving its goal of becoming the leading location for sustainable finance and was lagging behind countries such as France or the Netherlands. Some experts were disappointed by the lack of ambition to implement the strategy. Most were ambivalent about the measures, and some rejected them for fundamental reasons.

The majority of the interviewees were positive about the Sustainable Finance initiative but considered it to be insufficiently relevant and effective. They positively acknowledged the intention to draw on private capital for financing but saw few results. As Kleopatra Partalidou, project coordinator of the Fair Finance Guide Germany of the NGO Facing Finance, explained: *“what I see in practice is that there are ... at the moment ... there is no very significant redirection of capital. Thus, it's still the case that fossil energies get much more money, get more credits, get more financing than renewable energies, for example. So, I think it's very important that the new developments happen a bit faster.”* Interviewees criticized the fact that measures concerning purely voluntary action and behavioral change are not effective. Some underlined that environmental protection is an important priority for survival regardless of short-term profit interests. According to a widely shared view, a fundamentally problematic issue is the lack of viable business models for many conservation measures (E12). Most of the interviewees thought that private climate finance should be complemented, in particular, by regulatory policy and/or public finance. The majority of experts were ambivalent about the taxonomy and other forms of sustainability reporting. A trade unionist emphasized the psychological effect of reporting in raising awareness of sustainability criteria among supervisory boards but hardly saw any quantifiable effects (E1). Experts broadly agreed that the EU taxonomy neglects social criteria. In addition, various experts pointed out that different classification systems exist side by side, allowing companies to choose the one that is most favorable to them or requiring them to collect data without direct consequences. According to some interviewees, the Ministry of Finance would misuse the SDGs to circumvent the taxonomy's environmental criteria (E18). Representatives of development organizations were critical of sustainable finance as a private financial instrument because public funds can be used in a more targeted way (E8, E17). Interviewees who rejected central measures of the Sustainable Finance Initiative on fundamental grounds referred to greenwashing (the phenomenon was also noted by interviewees holding moderate positions, but they considered it containable) and partly to power relations and capitalist logic. Instead of relying on the philanthropy of entrepreneurs or banks, the issue is *“to shut down the old, to get combustion engines off the road, to shut down coal-fired power plants, gas-fired power plants”* (E22). Another perspective problematizes outdated concepts of money creation. Dirk Ehnts, a representative of Modern Monetary Theory, saw the sustainable finance strategy *“as misguided because it completely bypasses the tech-*

nical reality of money creation and is based on myths of money creation.” In his view, the state would be the creator of money and could create money as long as citizens have something to sell (labor) and certain criteria (debt in foreign currency, available products) are taken into account to prevent inflation (E22). In summary, most respondents had a broad concept of climate finance that corresponded more to UNEP’s than the German government’s (see 2.1.). It is therefore not surprising that although most interviewees were generally in support of the Sustainable Finance Initiative, they saw it as only one building block that is far from sufficient to finance the social-ecological transformation.

4.2 Preferred measures

We asked the interviewees which measures they considered suitable for financing climate protection. Most experts favored instruments other than the Sustainable Finance Initiative or were skeptical about the traffic light coalition’s mix of measures. The heat map below (Fig. 1) shows how the interviewees ranked each measure.

The experts interviewed, particularly those from the trade union sector, had strong preferences for public interventions and financing, structural policy, and infrastructure. These interventions include subsidies to support companies in the transformation. Meanwhile, experts from environmental associations viewed climate-damaging subsidies very negatively. However, interviewees also perceived subsidies ambivalently due to distributional issues because generally rich sections of society invest profitably while the public sector bears the risks and costs of these incentives (E18, E23). Given that companies have accumulated a lot of capital, they should make an appropriate contribution. Most interviewees favored structural policy and public infrastructure investments. In particular, respondents from CFES and trade unions had clear preferences for higher taxation of inheritances, wealth, and top incomes to finance the socio-ecological transformation and were critical of the debt brake, which they wanted to reform or abolish. Due to the lack of a political majority in favor of abolishing the debt brake, in the short term, they advocated for the creation of additional special funds. In addition, they argued that the state should use its role in procurement by rewarding environmentally friendly criteria in budgetary policy. The EU should also reform its state aid rules. As solutions (or mitigation) for the situation of countries in the Global South, interviewees from development NGOs suggested a fundamental concept for solving the debt issue: partial debt relief or cooperation between countries in the South and the North and more subsidies instead of high-interest loans.

Most experts favored a stronger regulatory policy. They described laws, prohibitions, and tough regulation as much more effective than indirect attempts at control via transparency and the classification of financial products. Sustainable finance and transparency initiatives were viewed positively, particularly by NGOs specializing in this area. According to the interviewees, commitment and fear of reputational damage can encourage financial service providers and companies to change their behavior. At the same time, interviewees were ambivalent about transparency initiatives, seeing them as red herrings and found the measures not to be successful. Various interviewees from different camps had the impression that the potential of

public banks—savings banks, state banks, and cooperative banks—was not being used for climate finance purposes: “*here in Germany, with the public banking sector, we actually have a great starting situation for managing this transformation. But we are not currently taking advantage of it,*” said one interviewee (E7; see also Däuper et al. 2021). This refers to the expansion of the public service mandate for savings banks or the co-determination of stakeholders or advisory boards regarding lending. Another suggestion concerned the expansion of the ECB’s mandate, which may consider taxonomy criteria in bond purchases.

A key difference between the interviewees’ concepts of climate finance and those of the EU (see 2.3.) and the German government (see 2.4.) is that the latter have made strategic selections that focus primarily on the governance form of exchange and private actors. In contrast to the ideas of the underrepresented experts, they contain few elements of command strategy apart from those of equal dialogue and care for the environment, public interest, and actors outside economic positions of influence.

4.3 Conflicts and Actors

Do experts from trade unions and civil society share the underlying view of sustainable finance strategies that climate finance is a win-win situation? Do they see conflicts caused by climate finance? Almost all interviewees reported conflicts. Although the experts saw no fundamental contradiction between environmental protection and social concerns, they noted conflicts due to inappropriate measures, unwillingness to change, resistance from potential losers, and political opponents. Interviewees from both trade unions and environmental organizations reported confrontations with each other. Some interviewees from environmental organizations perceived certain trade unions, especially in the past, as obstructionists on environmental issues, putting the interests of privileged groups of employees before environmental concerns and the Global South. Meanwhile, some trade union representatives described people from environmental organizations as middle-class people with little understanding of the concerns of employees. However, all interviewees emphasized that their positions have converged and, despite differences, they now see themselves as allies who should not allow themselves to be divided. While trade union members acknowledged the reality of climate change and wanted to shape transformation, representatives of environmental organizations felt that social acceptance of environmental measures is important for their implementation. In addition, trade unionists’ skills usefully complement their own expertise. Demands regarding the speed and radicality of measures differed, with trade unions favoring a cautious approach due to concerns about a lack of consent, their members’ overburdening, and a potential shift to the right. Representatives of environmental organizations, for their part, saw the irreversibility of environmental damage as an extension of the crisis through inaction. In general, interviewees reported a diffuse field of conflicts over climate finance and ecological transformation, which are listed below:

- Conflicts between industries and between different employees within industries for subsidies, investment, and new regulation.

- Conflicts between sites (advantages and disadvantages because of environmental legislation, protectionism, subsidies, and obligations due to environmental pollution and historic climate debt).
- Conflicts between private investors and public interests (poorly targeted use of public funds in favor of private investors, unequal exposure to regulation and burdensome bureaucratic requirements).
- Conflicts between the rich and the poor because of rising emission prices.
- Fear of change due to poor transformation experiences in companies (especially in the globalization process).
- Conflicts with fossil industry lobbyists.
- Conflicts between political and ideological camps, cultural war by the (far) right, libertarians, and some liberals and conservatives.

The interviewees evaluations of the role of actors in the introduction of climate finance measures (Fig. 2).

Unsurprisingly, the interviewees saw the role of civil society as particularly positive, followed by that of trade unions. At first glance, it seems surprising that the financial sector was also viewed more or less positively. However, many positive attributions relate in particular to public banks (development banks and central banks) and ethical and environmental banks whose potential has not been exploited according to the interviewees. The private financial sector tends to be perceived negatively as an excessively large and influential actor that engages in greenwashing, finances unsustainable business models, and exerts pressure on companies. The interviewed experts were ambivalent about the role of the corporate sector. While environmental associations in particular perceived fossil fuel corporate lobbies and large companies as very damaging, business associations were seen as contact partners who recognize the need for climate protection measures, albeit hesitantly, and in some cases act as allies for environmental NGOs. Small and medium enterprises (SMEs) were sometimes seen as players who do not face the challenges or suppress problems. Overall, however, interviewees understood the difficulty of transformation processes in SMEs, knew of positive cases in which SMEs actively helped shape the transformation, or saw them as victims of a missing regulatory framework. Strikingly, both the federal government and ministries, which are supposed to be promoters of climate finance, were attributed a particularly negative role in climate finance. However, these actors were also rated positively. Nevertheless, in the view of the interviewees, the government is a particularly powerful actor that has the best opportunities to implement climate finance policies. The breakdown of individual ministries shows that the environment, development, and economic and climate protection ministries were assessed positively to ambivalently, whereas the finance ministry was predominantly perceived as an obstacle. Among the parties, the Greens were seen as particularly useful, while the Social Democrats were deemed a party with an ambivalent role. The coalition partner FDP, which is very close to the radical right-wing AfD, was identified as playing a particularly obstructive role when it comes to climate financing. Thus, most interviewees saw the traffic light coalition as divided and, therefore, paralyzed and obstructive.

The inquiry revealed that transformational conflicts do not arise along classic lines of conflict, such as ecological vs. social issues or the employment vs. environment dilemma. Instead, positions are in the process of forming, and new alliances seem to be emerging. The sustainable finance strategy or the climate finance strategy set out in the coalition agreement is not even hegemonic within the government but is instead contested.

4.4 Projects and blocks

Sustainable finance policies have long been ignored. Because most civil society and trade unions actors favor different policies, counter-hegemonic processes may emerge. The basic imaginaries of established policies and finance-led actors are based on equilibrium assumptions that, on the one hand, favor market solutions and internalize negative externalities and, on the other hand, rely on appeals to behavioral changes in the sense of moral behavior on the part of investors, whose activities become visible through transparency. Investors should be informed and educated; market innovations create a win-win situation (see 2.3–2.5). In contrast, the interviewed experts were critical of ideologies that ignore market failures and harmful market logic, interests, and power politics, which are articulated through lobbying, short-term shareholder value practices, or profit-seeking. In most interviewees' views, appeals to ethical and moral behavior are a pretext for refraining from potentially conflicting political regulations. A counter-hegemonic position based on this criticism is therefore plausible. Nonetheless, the analysis of the interviews shows that no fixed discourse on climate financing has yet formed in the civil society context. Terms and positions are in flux. Interviewees discussed a variety of possible instruments in a differentiated manner and seemed to examine the positions of potential alliance partners. Many experts from the environmental sector and CFES were aware that they are still in the process of developing a consistent and coordinated program on climate finance issues. However, we deduced the following broad categories of existing and/or wished societal projects from the interviews.

Climate finance projects:

- a) ***Fossil fuel conservative projects*** that oppose any form of planned ecological change. Actors: lobbyists, far-right and right-wing conservatives, and libertarians.
- b) ***Minimal environmental policy draws on neoliberal justifications*** driven by short-term economic interest. Market instruments are only applied so long as they meet no resistance from established actors or their clientele (e.g., environmentally harmful subsidies such as *company car privileges*). Actors: political actors (e.g., liberal party), greenwashing industry.
- c) ***Green growth*** in combination with market instruments and social elements: market instruments such as environmental taxes or emissions trading and instruments that combine social and ecological aims (e.g., compensations like *Klimageld*), alongside regulation. Actors: political actors (e.g., EU, Green party), environmental organizations, specialized NGOs.
- d) ***High social and ecological standards***: good, unionized work in the industrial sector to secure the location (which also raises standards in other sectors) through

- a planned transformation; modern industrial, structural, and labor policies; involvement of private capital; strong regulatory policy; targeted public investment in infrastructure and subsidies (instead of indirect investments through sustainable finance); reform or abolition of the debt brake (which endangers the location and prevents necessary future investments); policies at the international level to raise standards through competition rules (e.g., CCfD, CBAMs, and the Supply Chain Due Diligence Act). Actors: trade unions.
- e) **Socio-ecological transformation**: overcoming neoliberal ideologies and policies through education, the democratic and political shaping of an economy that takes planetary boundaries into account, eco-social policies that address distribution issues (even a *tax revolution*) and/or ecological justice, and the expansion of the public sector and infrastructure. Actors: left wing of trade unions, CFES, environmental organizations and movements.
- f) **Sufficiency/post-growth**: an economy that complies with ecological limits, sufficiency, downward caps that ensure basic supply and upper caps to restrict luxury consumption, the restriction of resource consumption, ecological justice for the Global South, deliberative processes about the shape of the economy, and universal basic needs. Actors: post-growth movement, CFES.

The interviews showed that most respondents preferred a combination of modalities of governance that includes market elements, but they also wanted to strengthen elements of political governance and considered dialog forums (such as the Coal Commission), in which participants from different camps develop solutions, to be expedient for solving new types of problems. Experts from environmental organizations stated that the focus should be less on private sector sustainable finance strategies and market instruments, as in the past, and more on the public sector. The umbrella organization Climate Alliance describes the evolution of a number of environmental actors who have moved on from a “pure environmental focus to an overall societal focus.” While the network’s initial focus was on the carbon price and then sustainable finance, it now concentrates on public financing as the third pillar (E10). Resistance from the fossil-conventional bloc (a) and the bloc led by economic interests (b) was considered to be strong. Meanwhile, the respondents saw shared goals between proponents of green growth (c), the high road strategy (d), and projects of socio-ecological transformation (e), which should be pursued together in the short term despite differences. There were only partial overlaps between criticisms of growth (f) and the socio-ecological transformation (e). Interviewees accused representatives of post-growth viewpoints of neglecting the interests of socially disadvantaged people and having no concept of how the transformation would be financed if value creation in the industrial sector were eliminated. Official policies related to the Sustainable Finance Initiative use a concept of climate finance that is limited to the private sector situated between b) and c), which, in contrast to interview partners, excludes many financing options from the very beginning. This project was only partly supported and even seen as a counterproject by civil society and environmental experts. In official projects, climate protection still seems to be subordinated to the continuation of economic practices in the established financial sector.

5 Beyond ethical investors: social-ecological climate finance as a hegemonic project?

Climate financing should be a hegemonic win-win project, but the climate finance project pursued by the government and the Sustainable Finance Initiative are not perceived as win-win strategies. In a process of strategic selectivity, recent governments have initially limited climate finance largely to the area of private financial investments without substantially regulating economic activity. The financial and economic discussion on sustainable finance includes strategic selections, such as the restriction of the terms “climate finance” and/or “sustainable finance” to private financing, and awareness of these assumptions and their implications seems to be lacking. This framing, which Social Democrats and, for the most part, the Greens have also adopted due to the coalition agreement, gives the impression that resources for transformation are indeed scarce and that citizens have to prepare for hard times. A central imaginary of the sustainable finance strategy argues that through transparency and the pricing of climate risks, actors should opt for sustainable investments based on economic rationality. This contrasts with the imaginaries of previously underrepresented trade unions and relevant civil society actors. They argue that investments primarily follow the profit logic and in no way reflect environmental consumption, environmental risks, or social returns. These actors also think of climate finance in terms of conflicts, power politics, and financial, economic, monetary, or capitalist logic. This analysis results in demands for binding regulation, a revision of debt rules, socially balanced market instruments, green budgetary policy and monetary policy measures, public investment, distributional politics, and democratic participation. However, no new hegemonic project has emerged yet that could counter the fossil fuel or neoliberal projects. On the one hand, transparency and reporting obligations for companies create (not always justified) fears of *bureaucracy monsters*, particularly among SMEs. On the other hand, a reformed Sustainable Finance Initiative could become more popular. A review of the fundamental assumptions of the Sustainable Finance Initiative is needed, along with a new conceptual framework that does not frame climate finance as an information problem but takes the power issues and problems of the institutional and ideological framework raised by the interviewees seriously.

Supplementary Information The online version of this article (<https://doi.org/10.1007/s41358-024-00377-7>) contains supplementary material, which is available to authorized users.

Acknowledgements I would particularly like to thank my interview partners for their valuable insights and the two anonymous reviewers for their time and constructive advice. I would also like to thank my former colleague Jürgen Kädtler, who conducted some of the interviews, my student assistants Marvin Ayodele Classow and Stephanie Buchholz for their support with the analysis, and Peter Bartelheimer, Richard Hule, and the editorial team for good discussions.

Funding The text is part of the sub-project “Civil Society and Climate Finance” within the joint project “KlimFi: Climate Finance Society—The Institutional Logics of Climate Finance (ClimFiSoc),” funding code 01 LA2214A, funded by the BMBF.

References

- Bardt, Hubertus, Sebastian Dullien, Michael Hüther, and Katja Rietzler. 2019. *Für eine solide Finanzpolitik: Investitionen ermöglichen!* 152. IMK Report. IMK und IW. https://www.imk-boeckler.de/de/faust-detail.htm?sync_id=HBS-007455.
- BMWK. 2023. Förderprogramm Klimaschutzverträge. <https://www.bmwk.de/Redaktion/DE/Artikel/Klimaschutz/klimaschutzvertraege.html>.
- Boston Consulting Group. 2021. Klimapfade 2.0. Ein Wirtschaftsprogramm für Klima und Zukunft. Gutachten für den BDI. <https://bdi.eu/publikation/news/klimapfade-2-0-ein-wirtschaftsprogramm-fuer-klima-und-zukunft/>.
- Braun, Benjamin. 2020. Socialize central bank planning. Progressive international. <https://progressive.international/blueprint/4a74c8a1-1f68-46bb-bc72-a7921b94a376-benjamin-braun-socialize-central-bank-planning/en>.
- Braun, Benjamin. 2022. Exit, control, and politics: structural power and corporate governance under asset manager capitalism. *Politics & Society* 50(4):630–654. <https://doi.org/10.1177/00323292221126262>.
- Bundesregierung. 2023. Sondervermögen 'KTF'. Milliardeninvestitionen in Energiewende, Klimaschutz und Transformation. <https://www.bundesregierung.de/breg-de/aktuelles/ktf-sondervermoegen-2207614>.
- Sustainable Finance Beirat der Bundesregierung. 2019. Der Sustainable Finance-Beirat der Bundesregierung. Selbstverständnis, Ambition und Zielsetzung. Thesenpapier zu Selbstverständnis, Ambition und Zielsetzung des Sustainable-Finance-Beirats. https://sustainable-finance-beirat.de/wp-content/uploads/2020/02/20191028_SFB-Thesenpapier-DE.pdf.
- Busch, Timo, Alexander Bassen, Stefan Lewandowski, and Franziska Sump. 2022. Corporate carbon and financial performance revisited. *Organization & Environment* 35(1):154–171. <https://doi.org/10.1177/1086026620935638>.
- Carney, Mark. 2015. Breaking the tragedy of the horizon—climate change and financial stability. London. <https://www.bis.org/review/r151009a.pdf> (Created 29.09.).
- Chancel, Lucas. 2022. Global Carbon Inequality over 1990–2019. *Nature Sustainability* 5(11):931–938. <https://doi.org/10.1038/s41893-022-00955-z>.
- D'Aprile, Paolo, et al. 2020. Net-Zero Europe. Decarbonization Pathways and Socioeconomic Implications. <https://www.mckinsey.com/~media/mckinsey/business%20functions/sustainability/our%20insights/how%20the%20european%20union%20could%20achieve%20net%20zero%20emissions%20at%20net%20zero%20cost/net-zero-europe-vf.pdf>.
- Däuper, Olaf, Tobias Sengenberger, Christoph Lamy, Charlotta Maiworm, Christoph Paul, and Carolin Mießen. 2021. *Überlegungen zur gesetzlichen Umsetzung ausgewählter und weiterentwickelter Vorschläge des Sustainable-Finance-Beirats der Bundesregierung*. Berlin. Gutachterliches Eckpunktetpapier.
- Dechezlepretre, Antoine, Adrien Fabre, Tobias Kruse, Bluebery Planterose, Ana Sanchez Chico, and Stefanie Stantcheva. 2022. Fighting climate change: international attitudes toward climate policies. https://www.oecd-ilibrary.org/economics/fighting-climate-change-international-attitudes-toward-climate-policies_3406f29a-en.
- Deutsche Bundesregierung. 2021. Deutsche Sustainable Finance-Strategie. https://www.bundesfinanzministerium.de/Content/DE/Downloads/Broschueren_Bestellservice/deutsche-sustainable-finance-strategie.pdf?__blob=publicationFile&v=6.
- Dörre, Klaus. 2019. Risiko Kapitalismus. Landnahme, Zangenkrise, Nachhaltigkeitsrevolution. In *Große Transformation? Zur Zukunft Moderner Gesellschaften*, ed. Klaus Dörre, Rosa Hartmut, Karina Becker, Sophie Bose, and Benjamin Seyd, 3–33. Wiesbaden: Springer VS.
- Dörre, Klaus. 2021. *Die Utopie Des Sozialismus: Kompass für eine Nachhaltigkeitsrevolution*. Berlin: Matthes & Seitz.
- Dörre, Klaus, Madelaine Holzschuh, Jakob Köster, and Johanna Sittel. 2020. *Abschied von Kohle und Auto? Sozial-ökologische Transformationskonflikte um Energie und Mobilität*. Campus.
- European Commission. EU taxonomy for sustainable activities. https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en.
- European Commission. 2018. Action plan: financing sustainable growth. <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52018D0097>.
- European Council. 2024. Financing the climate transition. <https://www.consilium.europa.eu/en/policies/climate-finance/>.
- European Parliament, and European Council. 2020on. REGULATION (EU) 2020/852 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 June 2020 on the Establishment of a Frame-

- work to Facilitate Sustainable Investment, and Amending Regulation (EU) 2019/2088. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020R0852>.
- Expertenrat für Klimafragen. 2023. Stellungnahme Zum Entwurf Des Klimaschutzprogramms 2023. Gemäß § 12 Abs. 3 Nr. 3 Bundes-Klimaschutzgesetz. <https://expertenrat-klima.de/>.
- Flaute, Markus, Saskia Reuschel, and Britta Stöver. 2022. *Volkswirtschaftliche Folgekosten durch Klimawandel: Szenarioanalyse bis 2050. Studie im Auftrag des Bundesministeriums für Wirtschaft und Klimaschutz*. Osnabrück: GWS. <https://www.gws-os.com/de/publikationen/alle-publikationen/detail/volkswirtschaftliche-folgekosten-durch-klimawandel-szenarioanalyse-bis-2050>.
- Forum Nachhaltige Geldanlagen. 2023. Marktbericht Nachhaltige Geldanlagen 2023 – Deutschland und Österreich. Berlin. https://www.forum-ng.org/fileadmin/Marktbericht/2023/FNG_Marktbericht2023_Online.pdf.
- Foundational Economy Collective. 2019. *Die Ökonomie des Alltagslebens*. Frankfurt: Suhrkamp.
- Fratzscher, Marcel. 2022. Nicht weniger, sondern mehr Klimaschutz sofort. *DIE ZEIT*, September 16.
- Freydorf, Christoph. 2023. Sozialökologische Ziellogik als Herausforderung für Sustainable Finance am Beispiel einer Pro-Kopf-Zuteilung des Emissions-Restbudgets. *Vierteljahrshefte zur Wirtschaftsforschung* 92(1):113–132. <https://doi.org/10.3790/vjh.92.1.97>.
- Fücks, Ralf. 2019. Ökologie und Freiheit. In *Soziale Marktwirtschaft ökologisch erneuern*, ed. Ralf Fücks, Thomas, 99–105. Berlin: Köhler.
- Gabor, Daniela. 2023. The (European) derisking state. *Stato e mercato* <https://doi.org/10.1425/107674>.
- Golka, Philipp, Steffen Murau, and Jan-Erik Thie. 2023. Public Sustainable Finance: Von Nachhaltigen Finanzmärkten Zur Sozialökologischen Transformation. *Vierteljahrshefte zur Wirtschaftsforschung* 92(1):97–112. <https://doi.org/10.3790/vjh.92.1.97>.
- Hickel, Jason. 2022. *Weniger ist mehr: warum der Kapitalismus den Planeten zerstört und wir ohne Wachstum glücklicher sind*. München: oekom. Deutsche Erstausgabe.
- I4CE (Institute for Climate Economics). 2024. *European Climate Investment Deficit report*. Paris. https://www.i4ce.org/wp-content/uploads/2024/02/20240222-i4ce3859-Panorama-EU_VA-40p.pdf.
- IPCC. 2023. *Climate Change 2023. Synthesis Report*. Geneva: IPCC.
- Jaeger, Carlo, Armin Haas, and Jonas Teitge. 2021. *Klima, Digitalisierung und Nachhaltigkeit: Zur Finanzierung öffentlicher Zukunftsinvestitionen*. GCF Report 1. Global Climate Forum. https://globalclimateforum.org/wp-content/uploads/2021/09/GCF_Report_-_2021_1_Zukunftsinvestitionen.pdf.
- Jäger, Johannes, and Lukas Schmidt. 2020. Global green finance and sustainability: insights for progressive strategies. *Journal für Entwicklungspolitik* 36(4):4–30.
- Jessop, Bob. 2013. Recovered Imaginaries, imagined recoveries: a cultural political economy of crisis Construals and crisis-management in the north atlantic financial crisis. In *Beyond the global economic crisis: economics and politics for a post-crisis settlement*, ed. Mats Benner, 234–254. Cheltenham: Edward Elgar.
- Jessop, Bob. 2022. *Putting civil society in its place: governance, metagovernance and subjectivity*. Bristol: Policy Press.
- Krebs, Tom, and Janek Steitz. 2021. *Öffentliche Finanzbedarfe für Klimainvestitionen im Zeitraum 2021–2030*. Working Paper 03. Forum for a New Economy. https://static.agora-energiewende.de/fileadmin/Projekte/2021/2021_09_KlimaInvest2030/FNE_AEW_KlimaInvest2030_WEB.pdf.
- Kuckartz, Udo. 2018. *Qualitative Inhaltsanalyse: Methoden, Praxis, Computerunterstützung*. Weinheim Basel: Beltz Juventa.
- Lamb, William F., Miklós Antal, Katharina Bohnenberger, Lina I. Brand-Correa, Finn Müller-Hansen, Michael Jakob, Jan C. Minx, et al, 2020. What are the social outcomes of climate policies? A systematic map and review of the ex-post literature. *Environmental Research Letters* 15(11):113006. <https://doi.org/10.1088/1748-9326/abc11f>.
- Li, Celine, and Marie-Theres v. Schickfus. 2021. Kurz zum Klima: Zentralbanken und ‘Grüne Geldpolitik’. *ifo Schnelldienst* 74(8):53–60.
- Mazzucato, Mariana, and Dani Rodrik. 2023. Industrial policy with conditionalities: a taxonomy and sample cases. <https://www.ucl.ac.uk/bartlett/public-publications/2023/oct/industrial-policy-conditionalities-taxonomy-and-sample-cases>.
- McKinsey & Company. 2021. *Net-Zero Deutschland. Chancen und Herausforderungen auf dem Weg zur Klimaneutralität bis 2045*.
- Mertens, Daniel, and Matthias Thiemann. 2023. The European investment bank: the EU’s climate bank? In *Handbook on European Union climate change policy and politics*, ed. Tim Rayner, Kacper Szulecki, Andrew J. Jordan, and Sebastian Oberthür, 68–82. Edward Elgar. <https://doi.org/10.4337/9781789906981.00016>.

- Migliorelli, Marco. 2021. What do we mean by sustainable finance? Assessing existing frameworks and policy risks. *Sustainability* 13(2):975. <https://doi.org/10.3390/su13020975>.
- Neckel, Sighard. 2023. Zerstörerischer Reichtum. Wie eine Globale Verschmutzerelite das Klima ruiniert. *Blätter für deutsche und internationale Politik* 47–56.
- Nextra Consulting, Institut für nachhaltige Kapitalanlagen, and prognos. 2021. Beitrag von Green Finance zum Erreichen von Klimaneutralität in Deutschland. <https://www.kfw.de/PDF/Download-Center/Konzerntemen/Research/PDF-Dokumente-Studien-und-Materialien/Green-Finance-und-Klimaneutralitaet.pdf>.
- Ötsch, Silke. 2024. Progressive Finanzierungsinstrumente als Hebel von Konversion? In *Konversion. Eine Strategie der sozial-ökologischen Transformation*, ed. Peter Bartelheimer, Silke Ötsch. Marburg: Metropolis. Forthcoming.
- Pettifor, Ann. 2020. *Green new deal*. Hamburg: Hamburger Edition.
- Raworth, Kate. 2021. *Die Donut-Ökonomie: endlich ein Wirtschaftsmodell, das den Planeten nicht zerstört*. München: Hanser.
- Rehm, Miriam, Vera Huwe, and Katharina Bohnenberger. 2023. Klimasoziale Transformation – Klimaschutz und Ungleichheitsreduktion wirken Hand in Hand. <https://www.bertelsmann-stiftung.de/de/publikationen/publikation/did/klimasoziale-transformation-klimaschutz-und-ungleichheitsreduktion-wirken-hand-in-hand>.
- Schneider, Fabiola. 2023. Science to the Rescue: Lösungsansätze aus der Forschung für einen Wandel hin zu einem nachhaltigen Finanzsystem. *Vierteljahrshefte zur Wirtschaftsforschung* 92(1):37–52. <https://doi.org/10.3790/vjh.92.1.97>.
- Shishlov, Igor, and Philipp Censkowsky. 2022. Same but different? Understanding divergent definitions of and views on climate finance. In *Handbook of international climate finance*, ed. Axel Michaelowa, Anne-Kathrin Sacherer, 16–39. Cheltenham: Edward Elgar.
- Songwe, Vera, Nicholas Stern, and Amar Bhattacharya. 2022. *Finance for climate action. Scaling up investment for climate and development*. Report of the Independent High-Level Expert Group on Climate Finance. London.
- SPD, DIE GRÜNEN, and FDP. 2021. Mehr Fortschritt Wagen. Bündnis Für Freiheit, Gerechtigkeit Und Nachhaltigkeit. Koalitionsvertrag 2021–2025 Zwischen Der Sozialdemokratischen Partei Deutschlands (SPD), BÜNDNIS 90 / DIE GRÜNEN und den Freien Demokraten (FDP). <https://www.bundesregierung.de/breg-de/aktuelles/koalitionsvertrag-2021-1990800>. Accessed 16 Aug 2023.
- Stockholm Environment Institute, and Oxfam. 2020. The carbon inequality era. An assessment of the global distribution of consumption emissions among individuals from 1990 to 2015 and beyond. Joint research report. <https://www.sei.org/publications/the-carbon-inequality-era/>.
- Sum, Ngai-Ling, and Bob Jessop. 2013. *Towards a cultural political economy: putting culture in its place in political economy*. Cheltenham: Edward Elgar.
- Sustainable Finance Beirat. 2021. *Shifting the Trillions. Ein Nachhaltiges Finanzsystem Für Die Große Transformation*. Berlin. www.sustainable-finance-beirat.de.
- Thiemann, Matthias, Tim Büttner, and Oliver Kessler. 2022. Beyond market neutrality? Central banks and the problem of climate change. *Finance and Society* 1–21.
- Umweltbundesamt. 2024a. Nationalen Emissionshandel verstehen. https://www.dehst.de/DE/Nationaler-Emissionshandel/nEHS-verstehen/nehS-verstehen_node.html.
- Umweltbundesamt. 2024b. Neue Rekordeinnahmen Im Emissionshandel. <https://www.umweltbundesamt.de/presse/pressemitteilungen/neue-rekordeinnahmen-im-emissionshandel-ueber-18>.
- UNEP. 2016. Definitions and concepts: background note. UNEP inquiry. https://wedocs.unep.org/bitstream/handle/20.500.11822/10603/definitions_concept.pdf.
- UNEP. 2023. State of finance for nature. Nairobi. <https://www.unep.org/resources/state-finance-nature-2023>.
- Vögele, Gesa, and Claudia Tober. 2017. *Kurzanalyse zum Thema: Green Economy—Recherche Ist-Stand nachhaltige Finanzwirtschaft*. Berlin: Forum Nachhaltige Geldanlagen e. V.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.