Industrial Relations Journal

ORIGINAL ARTICLE OPEN ACCESS

German Trade Unions and Decarbonisation: A Transition to Green Growth, A-Growth or Degrowth?

Vera Trappmann[1] | Dennis Eversberg[2] | Felix Schulz[1,3]

[1]Leeds University Business School, Leeds, UK | [2]Goethe-Universität, Fachbereich 3 – Gesellschaftswissenschaften, Institut für Soziologie, Frankfurt am Main, Germany | [3]Lund University Centre for Sustainability Studies, Lund, Sweden

Correspondence: Vera Trappmann (V.Trappmann@leeds.ac.uk)

Received: 4 March 2025 | **Revised:** 11 March 2025 | **Accepted:** 21 March 2025

Funding: This research was supported by the Hans Boeckler Foundation (2021-582-2).

ABSTRACT

While the need for a transformation to tackle climate change is no longer contested, competing visions about the future have taken the front seat in political debates. Previous research on stakeholders in the European Parliament and the German Bundestag identified opposing views relating to green growth, degrowth and post-growth. In relation to trade unions, these have recently been discussed conceptually to some extent, but empirical work on the topic has hitherto been absent. Drawing on 25 semi-structured interviews with representatives of Germany's DGB trade unions, we find that, despite their strong support for a green growth narrative and official opposition to post-growth thought, the majority of interviewees sketched out concrete visions for a just future that in some respects aligns with post- or a-growth positions. In line with post-growth discourses, trade union officials described an economy that allows for 'a good life' and 'good work', based on principles of co-determination, secure and well-paid jobs ensured by collective bargaining, income, wealth and inheritance tax reform and a stronger, more active role of the state. Findings suggest that despite German labour unions' shared opposition to the term post-growth or degrowth, there is significant overlap in terms of concrete goals and policy proposals.

1 | Introduction

The climate crisis has placed societies and economies under great pressure. While the need to decarbonise our economies finds wide societal consensus (Andre et al. 2023; Schulz and Trappmann 2023), how to do so is hotly debated. With each political actor taking on a distinct role in decarbonisation, trade unions will play a crucial part (Galgóczi 2020; Clarke and Lipsig-Mummé 2020), but the future they envision is unclear—will societal and economic structures look similar to those of today, only based on renewable energy, or are deeper, more systemic changes going beyond such substitution necessary?

While some academics argue that the way forward is green growth, with an emphasis on technological innovation (Mazzucato 2022; Kedward and Ryan-Collins 2022), others doubt the possibility of decoupling such growth from environmental impact (Ward et al. 2016; Haberl et al. 2020; Hickel and Kallis 2020) and argue that existing economies and consumption will have to shrink to reduce global warming (Hickel et al. 2022). While debates on post-growth and degrowth are no longer marginal (Wilkinson and Pickett 2009), they still barely reach the corridors of established institutions—at least officially: Kallis et al. (2023) revealed competing, often critical views on growth among members of the European Parliament (MPs), and Rivera (2018) found that many German parliamentarians personally favour at least debating alternatives to growth.

In this paper, we look at German trade unions' visions of the future in the context of the climate crisis and net zero to examine where the scenarios envisioned by union officials are

situated along the axis of green growth, post-growth, and degrowth.

Labour unions are a key pillar of Germany's institutionalised industrial relations (Schmidt and Müller 2024) and wield significant power resources in the broader political context. The basic programme of *Deutscher Gewerkschaftsbund* (DGB), Germany's main confederation of labour unions, states that unions, beyond representing workers' interests, have ecological responsibilities (Deutscher Gewerkschaftsbund 1996), and therefore claim an important role in shaping ecological transformation. Given their strong institutional position, the visions of the future, imaginaries of change, and concepts of socio-ecological reform that trade unions develop and promote may influence the pathways of decarbonisation, climate mitigation, and broader societal transformation in Germany.

Currently, German unions' stance on growth is mixed. While in official statements and documents unions continue to present themselves as 'traditional fans of growth' (Urban 2024; see also Keil and Kreinin 2022; Flemming 2022), some union officials have problematized this position (Reuter 2014; Urban 2022). However, a thorough analysis of unionists' views on growth within the context of decarbonising the economy is missing. The remainder of the paper summarises debates around green growth, degrowth, and post-growth and their relevance to German unions in a broader political context before presenting the data and the findings. We look into growth perceptions, market and regulation, the future of industry and work, participation, and social inequality. We conclude that the alienation between unions and post-growth advocates is partially linked to mutual misrecognitions and that a fruitful exchange could establish powerful alliances.

2 | Literature and Background: Critical Growth Debates and German Unions

2.1 | Green Growth, Degrowth, and Post-Growth

Eco-social growth debates distinguish between green growth, degrowth, and post-growth (or a-growth) (Likaj et al. 2022; Drews et al. 2019). Green growth has been widely criticised as 'amorphous' (Smulders et al. 2014), as a 'wonderful slogan' (Schmalensee 2012), or even as ideological (Dale et al. 2016), and its core idea of decoupling economic growth from environmental damage has undergone extensive critical scrutiny, leaving substantial doubts about its feasibility (Haberl et al. 2020; Hickel and Kallis 2020; Ward et al. 2016). The idea nonetheless remains highly influential, wielded by international institutions (OECD 2015; The World Bank 2012) and governments (European Commission 2019; G20 2022) in attempting to reconcile economic and ecological concerns. Core elements include (a) innovation policies to develop 'green' (i.e., more resource- and energy-efficient) technological solutions, (b) measures to internalise externalities (by putting a price on nature), (c) promotion of environmentally desirable consumer behaviour, and (d) means to address the social implications of these measures (e.g., compensatory cash transfers for carbon taxation, retraining and relocation measures for affected workers) (OECD 2015, 21; Bowen and Hepburn 2014).

Positions challenging growth as a policy goal are diverse (Schmelzer et al. 2022; Lehmann et al. 2022). Post-growth not so much advocates for an end of growth but sees it as an already established condition. As Tim Jackson states, 'it is now time for policy to consider seriously the possibility that low growth rates might be "the new normal" and to address carefully the "post-growth challenge" this poses' (Jackson 2019, 236). Post-growth argues for setting aside economic growth as a policy goal and prioritising more specific aims with a concrete bearing on human wellbeing and environmental sustainability. Whether politics should simply ignore growth in favour of an agnostic 'a-growth' stance (Van Den van den Bergh 2011) or whether the structural dependency of existing systems on growth needs to be actively addressed (Petschow et al. 2020), they agree on the need to define different goals. Kate Raworth's 'doughnut economy' (2017) develops minima for such social indicators as food and energy availability, educational levels, and low economic inequality within 'planetary boundaries' (Rockström et al. 2009). Surprisingly, the OECD's 'Beyond Growth' report (OECD 2020) also recommends policies geared to improving environmental sustainability, raising wellbeing, lowering inequality, and improving system resilience rather than GDP growth. A specific German variant is the 'precautionary post-growth position' developed by economists in Germany's Environmental Protection Agency (UBA). It argues that we cannot know whether sufficient absolute decoupling is eventually possible but must act as if it is not. Key concerns are to internalise ecological externalities, explore alternatives and 'develop new forms of economic and day-to-day practices', and to make societal institutions independent of growth (Petschow et al. 2020).

All these concepts surpass the technology- and market-based recommendations of green growth advocates in implying a need for substantial systemic transformations. On the other hand, this heterogeneous spectrum attempts to set itself apart from the perceived negativity and one-dimensionality of degrowth positions.

However, actual degrowth positions are far from preoccupied with numerical GDP reduction. The difference is that while post-growth assumes non-growth as a given and seeks ways to adapt to it, degrowth actively embraces a conscious reduction of society's biophysical throughput: 'The degrowth hypothesis is that it is possible to organise a transition and live well under a different political-economic system that has a radically smaller resource throughput' (Kallis et al. 2018, 292). Nevertheless, this is seen to require not just pursuing positive, desirable goals but also actively confronting the social structures of oppression, exploitation, and ecological destruction that stand in their way. These considerations motivate various policies and proposals, many compatible with post-growth thinking. Degrowthers argue for a democratisation and bottom–up reorganisation of the economy based on collectives, cooperatives, and commoning practices (Schmelzer et al. 2022, 212–50) and have recently begun a more serious debate on participatory planning (Durand et al. 2024; Foster 2023). They call for new mechanisms of social security and redistribution, including wealth and income caps as well as guaranteed minimum standards through universal basic services as social rights closely intertwined with policies to strengthen and extend public infrastructures (Liegey

et al. 2014). Further demands concern the revaluation and redistribution of work (including working time reduction and rebalancing care and 'productive' work) and a democratisation of the societal metabolism, implying a democratically negotiated restructuring of the economy (including phasing out unsustainable sectors in processes of just transition). Other aspects of degrowth policies include the call for a more socially embedded use and democratically controlled development of technology based on open-source principles as well as global socio-ecological justice through compensation policies for the Global South (Schmelzer et al. 2022), and dismantling of the 'imperial mode of living' (Brand and Wissen 2021).

Recent studies have examined support for green growth, post-growth (or a-growth), and degrowth among policy actors. According to Lehmann et al. (2022), experts at UBA, when asked directly, support a-growth (45%) more often than degrowth (30%) and green growth (25%). Interestingly, deriving their positions indirectly from response patterns to a series of 16 concrete 'position statements' leaves almost no one in the green growth camp (1%). Similarly, a survey of EU parliamentarians shows green growth not to be "a consensual discourse but a predominantly centre-right discourse [...], while the (centre-)left are mostly divided up into degrowth and eco-socialist factions" (Kallis et al. 2023). However, these growth-critical views hardly receive attention, resulting in a perceived green growth consensus. Similarly, in the German Parliament the upfront discourse continues to uphold growth as an unquestionable policy aim despite MPs widely holding different convictions in private (Rivera 2018).

2.2 | German Trade Unions and Green Transitions

German trade unions have been involved in debates around climate policy and the need for a "green" or "post-fossil" transition for a long time—not only due to the immediate interest of workers affected, but also because they have always claimed a broader socio-political mandate that extends to ecological issues (Deutscher Gewerkschaftsbund 1996). Kalt (2022), drawing on the power resource approach (Schmalz et al. 2018), argues that unions are neither "natural opponents" nor a priori supporters of green transitions, but choose to develop different strategic orientations toward them depending on the power resources available to them, the strategic interest in protecting existing or developing new such resources, and a range of contextual conditions, both internal and external. Many studies on German unions' green transition strategies stress how these have been shaped by the high degree of institutionalised power through social partnership (Galgóczi 2020) and the corporatist tradition of political decision-making (Herberg et al. 2020). However, these forms of cooperation are "rooted in a carbon-based economy, and therefore hinder the radical transformations necessary for a post-carbon economy" (Herberg et al. 2020, 2). Indeed, Hassel and Weil (2023) show from empirical data that high-emitting, fossil sectors of the economy tend to be union strongholds with strong social partnership arrangements and higher wages than other sectors. At times, and particularly in the coal mining sector, this has made unions part of what some authors describe as a powerful "incumbent regime" that has slowed down transitions, particularly the phaseout of hard coal mining (Oei et al. 2020; Bang et al. 2022; Bößner 2020). More recently though, there have been some more innovative initiatives (Dupuis et al. 2024; Lehndorff 2024).

Within the union movement, different unions have more or less transformative agendas (Prinz and Pegels 2018; Galgóczi 2020; Clarke and Sahin-Dikmen 2020; Trappmann et al. 2025). Cremer (2024) sorts German societal organisations into four clusters based on their demands in press releases, categorising IG BCE and IG Metall as "status quo supporters", ver.di as part of an "eco-social alliance" with most environmental NGOs, and other unions and the DGB located in between these two and a "pragmatic" cluster that holds most social welfare organisations.

In terms of alliances, not least due to their historically large institutionalised power and opportunities to participate in major decisions, German unions still have a tendency to prioritise cooperation with government and business over alliances with NGOs and social movements (Kalt 2022).

From an explicitly growth-critical standpoint, Keil and Kreinin (2022) scrutinise the concepts of "the good life" promoted by German unions in congress resolutions, various publications and interviews for whether and in what ways they entail an explicit or implicit critique of the given "imperial mode of living" (Brand and Wissen 2021) and consider or suggest alternatives. They find that unions are heterogeneous and ambivalent on this and that there is "no strong or coherent unitary good-sense counternarrative of TGL [the good life] within planetary boundaries embracing sufficiency as a societal goal", but do see a number of "entry points" for developing a more comprehensively critical stance in new alliances with climate and solidarity movements.

Lehndorff (2024), in a detailed stocktake of recent developments in unions' industrial transformation policies, claims that unions have made significant proactive claims, trying to actively shape transformations at sectoral and regional levels. Emerging from recent initiatives enabled by allies in government, notably the green-led ministry of economic affairs and climate and the ministry of labour, these include concepts for conditional public funding of industrial transformations; regional transformation councils deliberating and conceiving concerted structural change, and new "future oriented collective agreements" (see also Dittmar and Kleefeld 2024, 13–6; Pulignano et al. 2023). However, it is unclear how far-reaching these recent activities are: do they demark agradual motion away from unions' traditional attachment to economic growth (Urban 2024) towards more genuinely transformative concepts (Dörre et al. 2024). It is this question that we aim to shed more light on in this paper by examining unionists' views of the future and how it relates to growth.

We aim to answer the following research questions: (a) What ideas and visions of future societal change do German unionists articulate? What role do they see for themselves in this future? and (b) How do these ideas and visions relate to the proposals and demands put forward in post-growth discourses?

3 | Methods

The data for this study captured how labour policy actors perceive the challenges of climate change and decarbonisation and what visions of the future they advocate. We draw on 25 semi-structured interviews with officials of German trade unions, carried out remotely and in person between January 2023 and January 2024. The interview guideline comprised questions about the interviewees' role in the organisation, professional background, their personal and their organisations' perceptions of climate change, and how their members are affected. It asked about the organisation's means, instruments, and levers to influence climate policy, the climate policies they support to help workers navigate decarbonisation, and pathways to a fossil-free economy and visions of a fair future. All participants consented to the interviews being recorded; interviews were transcribed, anonymised, and coded with NVivo.

Next, we applied thematic analysis (Mayring 2007; Nowell et al. 2017). We developed a codebook relating to our research questions with 16 organising core codes (Crabtree and Miller 1999). Thematic analysis helped to identify recurring themes in the data and led to new understandings (Elliott 2018). We coded all interviews and assigned new codes to emerging themes not covered by the codebook. We highlighted essential interview parts related to growth, market and state regulation, industry, good work, inequality, visions of the future, good life, democracy, and participation and analysed these quotes in-depth and systematically.

4 | Findings

4.1 | Green Growth, Qualitative Growth, or Post-Growth?

In official documents, green or qualitative growth is the goal of labour unions. Government is often criticised for 'stifling growth' by refraining from necessary large-scale investments in infrastructure and from incentivising firms to gain and maintain a competitive advantage in green technology. This is reflected in our interviews. The respondents, particularly from the industrial unions, observe that in specific production processes, efficiency improvements have already led to sharply declining resource use and conclude that absolute decoupling is possible:

> *I believe this [absolute] decoupling is possible if we look at the supply side (...). The decoupling is already happening... I believe that indeed the economy, the firms are sufficiently innovative because they realised that the primary resource use at its current level is not permanently feasible.*
>
> (Int13)

Promoting further development of the technologies that deliver these improvements is therefore considered a way for German firms to remain ahead in international competition, protecting jobs and generating a surplus to distribute in line with German unions' traditional orientation.

Relating to the latter, it was recognised that growth would need to be selective and that some sectors would eventually have to shrink, also requiring greater political coordination.

> *For instance, buildings: yes, without some growth in construction and the heating industry, we will not achieve the decarbonisation of our building stock. On the other hand... for the 'mobility transformation', individual motorised traffic needs to decrease... There will be parts that grow and parts that shrink.*
>
> (Int2)

> *We are aware that there are areas that will need to shrink where this is the case... [But] when it comes to questioning growth per se, that is something we would have a hard time with.*
>
> (Int17)

However, whether this coordinated process of selective growth and shrinkage would lead to an overall reduction in economic activity was questioned. Decarbonisation and the development of cleaner sectors will require massive public and private investments, and these will almost inevitably result in economic growth.

> *(Our) point of departure is we need to make sure that GDP shrinks so that resource use and emissions also shrink... What should be the focus for us is the actual quality of development. If we want to switch over completely to renewable energy, if we want to build the required infrastructure for that, it may, for a time, significantly accelerate growth of GDP, which can significantly reduce resource use and emissions.*
>
> (Int3)

> *Well, it is the case... that climate policy needs to be designed in a way that allows for sustainable economic development. If this results in economic growth, one has to see.*
>
> (Int17)

When directly asked about post-growth or degrowth, the interviewees unanimously stressed the absence of an official union discourse around post-growth:

> *There is no [official] discourse around the topic of post-growth...*
>
> (Int2)

In other words, while all the participants were familiar with post-growth ideas, these were not concretely discussed in relation to climate policy and decarbonisation. However, they frequently referenced the idea that growth ought to be directed at desirable aims rather than blindly quantitative.

> *[We are] very sceptical [about post-growth]. We rather place a special emphasis on the quality of this development.*
>
> (Int3)

We no longer necessarily need to continue to grow, but we need to (...) develop other indicators of growth other than the gross domestic product, like life satisfaction and health.

(Int24)

Our vision is one of qualitative growth...

(Int2)

to grow qualitatively: are we only growing like the capitalists grow? Or are we growing in a direction that we perceive as good, with good work, and also what unions are standing for in a welfare state: a good life?

(Int12)

It is like a [balloon] – if you continue to blow, it is going to burst. It is a question [of] how to define growth (...) [and it is] about GDP or other [types of] growth as well. And sometimes we have to decrease growth a little.

(Int24)

4.2 | The Future of Industry

The key priority is remaining an industrial nation, maintaining production capacities and industry jobs in Germany.

Well, we need a transformation of our industrial base (...) We have to decide together: should Germany remain a classical industrial nation? Yes. Then one area is the clear focus – CO_2 neutrality...

(Int5)

This implies directing all efforts at decarbonising industry and developing 'greener', more 'sustainable' products and production processes.

How can we maintain employment? What are alternative products, production processes? How can we make this location future proof?

(Int1)

Exactly this is the question that we ask ourselves: how do we manage to transform industrial work in a way that still functions in 20 years?

(Int13)

Reducing industrial production is not considered a viable climate mitigation path. Interviewees stress the problem of carbon leakage: if German firms stopped making certain products to limit CO_2 emissions while global demand for them remained, then firms in countries with laxer environmental standards would meet that demand, resulting in higher overall emissions. Recent government investments to support decarbonisation in the steel and chemical industries were therefore positively received. Interviewees also emphasised that a dichotomy between 'bad, dirty industry jobs' and 'good service jobs' is not helpful as delivering health, education, or care work also requires all sorts of products, and countless processes in the service industry would need to be decarbonised.

Notwithstanding some disagreements about subsidising electricity prices for energy-intensive industries, interviewees agreed that the government must retain these industries and that the greatest future challenge will be to provide the necessary amount of renewable energy.

So if you really want to operate all of the chemical industry based on electricity, it will need as much electricity as Germany needs today as a whole.

(Int13)

There is also an awareness that not all jobs will remain the same. Interviewees unanimously stated that cars with combustion engines will not last and acknowledged the necessity of a shift toward public transport. However, they insisted that this should not result in shrinking or offshoring industrial jobs. Instead, it should imply the conversion of manufactured products or even a re-shoring of production vital to decarbonisation.

Well, those companies that build combustion engines and fossil technologies (...) will then build regenerative or future technologies. So technologies for (...) energy and mobility transformation, electric cars, heat pumps, wind turbines, PV plants, electrolysis. There are many technologies and products, particularly industrial products, which enable a more efficient human use of energy and (...) will lead to secure and value-added employment in this country.

(Int19)

Many interviewees knew of the resource use associated with 'green' technologies and the need for drastic reduction of such use, yet several interviewees opined that with efficiency improvements and greater circularity, resources could be reduced (Int6, Int13, Int18).

Others admitted that 'not everything will somehow be solved through technical innovation' and that 'a few wind turbines and a bit of PV' would not suffice (Int3) but could not specify solutions beyond technology. Only one interviewee mentioned that fossil resources might not be fully substitutable by other resources such as renewables or biogenic substances while achieving global climate goals. Citing a recent peer-reviewed study on post-fossil extractivism, they argued that it might not be environmentally possible to globally substitute green for fossil technologies at the full scale of their current use: 'And if this was the case, then we have to fundamentally question the logic of our economy. So profit and growth' (Int19).

4.3 | Market Economy and the State

In line with official union positions, interviewees viewed a strong state as key for transformation. State intervention has to go beyond the ordo-liberal framework setting and needs

industrial policy that actively shapes the economy through massive public investments, mostly in new green technologies.

> *But especially in these core areas, we would definitely like to see a much more active role for the state.*
>
> (Int2)

> *We also need a certain shift between the market and the state. So I think that we haven't done too badly with it either, that for the last 20 or 30 years, we've had a very, very, very liberal understanding of the market, from which the state has to largely stay away. I don't think it works that way in transformation.*
>
> (Int13)

> *The liberal way of thinking 'the market will sort it out' or 'the market can do it better' was clearly in focus for a while. That just didn't work out.*
>
> (Int5)

To correct those long-standing imbalances and enable transformation, they call on the state to lead the way by setting regulatory frameworks and investing heavily in decarbonisation efforts.

> *We need an incredible amount of investment to enable green production. And that's not economical to begin with. If it works (...) then it's competitive.*
>
> (Int6)

For the interviewees, Germany's constitutional 'debt brake' (*schuldenbremse*) to enforce a balanced budget is economically unwise and a self-imposed hindrance to tax-funded investment programmes. The resistance of liberal and conservative parties to abolish it is also seen as a threat to democracy and to an active state capable of shaping a positive future:

> *So (...) the debt brake must go. That's the one thing (...) because that's a totally ludicrous discussion if you say, well, in Germany, we mustn't invest anything more. Since (...) if we don't invest in education, what is it we can pass on to our children?*
>
> (Int24)

Other funding sources included the reintroduction of a wealth tax (Int19) as well as windfall taxes (*übergewinnsteuer*), which were proposed in some European countries as a response to energy companies making outsized profits in the energy crisis.

> *A country like Greece with a conservative government – they just did it. Pragmatically. This pragmatism, which some counties have, we don't have (...) at least not in the economic policy debate. We don't have the majorities (...) to implement this.*
>
> (Int2)

The U.S. Inflation Reduction Act was considered a role model for state investment, not least because it ties government funding to guaranteed wage levels.

> *The [United States], with the Inflation Reduction Act, has a progressive industrial strategy. What do we have in Europe? We are still in an era of market liberalism, for which the European institutions are still quite strongly calibrated (...) with the formulation of the internal market and competition and antitrust law and so on.*
>
> (Int2)

For some, state intervention should go even further. They were in favour of public control over key infrastructures such as the energy sector and the nationalisation of core sectors.

> *That the (energy sector) and the development of a hydrogen network is organized by the private sector, (we) view that critically. Especially for (...) networks or public infrastructure.*
>
> (Int19)

Competition and the market were frequently mentioned as a problem for green transformation as they often set the wrong incentives and individualise societal challenges—'the main problem is the competition mantra' (Int18). Market solutions like the carbon tax would not lead to more sustainable consumption but to greater inequality, placing the burdens mostly on those that cannot afford.

> *Even the inventor of the CO_2 price says it can no longer be done by a carbon tax. It doesn't make sense (...) economically (...) because certain people could always somehow buy their way out or free themselves. In the end, bringing the amount to zero requires other instruments.*
>
> (Int18)

Certain differences in emphasis were evident in relation to the proposal of cash transfers to redistribute carbon tax revenues (*Klimageld*), which the current government has promised but not yet introduced. To some interviewees, this did not remedy the individualising tendencies of a tax, where the focus should be on infrastructural policies that enable a more sustainable mode of living:

> *This balance has to take place through enabling sustainable consumption – i.e. by creating the framework conditions, expanding public transport, expanding energy networks, support when it comes to heat pumps to be installed, needs-oriented and (...) problem-oriented support measures that arise for the consumer. From our point of view,* Klimageld *is more of an instrument that (...) shifts a bit of responsibility onto individuals.*
>
> (Int17)

Others saw the need for a compensation especially to lower-income households but were sceptical about the potential implementation.

> *So is the money really coming? How much is that really? There will still be an additional monthly burden. What*

about the households that can't afford that for now? There are various studies as to how much the monthly or annual additional burden would be at the CO_2 price of XYZ. And that's sometimes several hundred euros per household...

(Int19)

4.4 | Industrial Democracy

Industrial democracy is a core value for trade unions in normal times but even more so considering the challenges lying ahead. Most interviewees agreed that it must guide the profound change required by climate mitigation and decarbonisation.

That is our core mission, to guarantee that the transformation is profound and lasting (...) that all of it is organized in a just and fair manner for and with our colleagues.

(Int3)

Here, the aspect of time is crucial. Many argued that the short-term orientation of firm strategies directed at profit maximisation required the more long-term view of worker representatives as a counterbalance. The German system of codetermination was thus seen as a vital tool for shaping the transformation:

to develop a strategy for the company that lasts for the next couple of years. A strategy that is forward looking (...) you'd be surprised how naive many firms are (...) We have realised that compared to maybe 15 years ago, trade unions and workplace codetermination are required to develop their own concepts and strategies for sites.

(Int1)

However, co-determination was seen not only as conducive to the transformation but also as something that was to be preserved in its course:

Even in a transformed economy – where many of the climate-related, societal, and political aspects will be fixed – (...) we still have bargaining autonomy that ensures that the work and economic conditions are still bargained collectively (...) [T]here are co-determination opportunities which remain institutionalised (...) like we know them here in Germany through the mitbestimmungsrecht*. So those are facets that we want to maintain in future, although we currently see (...) that transformation could threaten them.*

(Int4)

Some were also a bit more assertive, calling for greater worker influence in transformation processes: 'Workers (...) need to have their say; they need to codetermine' (Int19).

Active participation was also considered a precondition for gaining majorities in support of the socio-ecological transformation. However, the challenge of balancing one's insight into the necessity of drastic measures with that of not appearing unreasonable to workers is daunting for many union representatives. It is about who defines the just transition, what is electable, what the majority wants. Union representatives act on the idea that the transformation pathways are contested. While one unionist said, 'I don't believe there is a societal majority for restricting individual [motorised] transport' (Int1), others saw changes in lifestyle and consumption patterns happening among union members: 'There's (...) also a big chance in terms of (...) what sort of consumption habits we will need in future to have a different economy. Meat consumption is now thankfully declining too after many years' (Int23).

As the reference to consumption indicates, interviewees do not restrict their demands for participation to workplace and company levels but see unions as a democratic community actor: 'We are representatives of the organised civil society (...). We need dialogue at all levels... (Int5).

4.5 | Economic Inequality

Economic inequality and redistribution are unquestionable key concerns for trade unions. While they achieve this mainly through collective bargaining, the labour movement poses more far-reaching demands in the political arena, including suggestions for restructuring the welfare state:

Our appeal to politicians is to introduce a citizens' insurance. This means that all professional groups, from civil servants to entrepreneurs to commercial employees, all simply pay into one pot and (...) draw from one pot. This is one of our central socio-political concerns.

(Int4)

Interestingly, none of the interviewees directly mentioned economic inequality as a root of the climate crisis and thus as a lever to mitigate its consequences; rather, they were concerned about increasing economic inequality caused by climate mitigation.

Their primary concern was to prevent increasing inequality during the transformation process, and they argued that inequality must be actively countered to garner support for climate policy measures. To prevent workers from being 'left behind' (Int12), they regarded a debate about who is to pay for the transition. To distribute burdens fairly, they favour higher income, wealth, and inheritance taxes as a funding source for the transformation. Taxing income and wealth was also seen as a redistribution of political power, to correct the growing influence of the extremely wealthy who 'undermine democratic processes' (Int17). In this regard, the current focus on price-based mechanisms was criticised. As one respondent said about the CO_2 pricing, 'certain people could always buy themselves out' (Int18).

As some products became more expensive (e.g., energy), unions aimed to achieve higher wages by collective bargaining to cushion the effects of decarbonisation for workers. However,

this came with a recognition that large efforts will require significant contributions from everybody once that distributional priority is established—which is still largely theoretical. Interestingly, equality is linked to the process of transitioning; it is not perceived as a goal of the transition, with some exceptions.

> *It is not the case that our vision of a transformation is so differentiated that we always [combine climate change and inequality]. Sometimes they go partly together in cases to address financial questions or where [employee] participation plays a role... but it is not the case that when we have debates within workplaces and say 'we have to move away from the combustion engine' (...) we then also say that as part of this, we want to make the society significantly fairer.*
>
> (Int17)

> *On the one hand, it is about finding compensation mechanisms for the expensive change in our mode of production, especially for disadvantaged classes and for employees. On the other hand, it is much more about designing a socially just society which does not yet exist.*
>
> (Int4)

4.6 | The Future of Work

Work is considered as a means to attain not only basic needs but also integration into society, recognition, identity, and meaning. In this regard, the transformation was seen as both an opportunity and a threat. Sectors with traditionally high unionisation and collective bargaining levels (e.g., mining and steel) and the low union density in the emerging sectors related to renewable energy, the transformation was feared to accelerate the decline of organised labour. Following the U.S. Inflation Reduction Act, the DGB and its member unions argued that government funding should presuppose collective bargaining and co-determination as eligibility requirements. This would allow to bridge the often politically created separation—or even opposition—of environmental and social goals.

Despite demographic changes, unions were in favour of reducing working time, particularly work-related stress reduction (Reifenscheid and Möhring 2022): 'Colleagues are working a lot and are at the edge. It is desireable to work less. There are huge stresses; working time reduction would be really good' (Int8).

To some, the call for shorter working hours even implied a fundamental critique of principles of capitalist production:

> *And now we realize that the mode of production is also systematically destroying our livelihoods. (...) it was a big step to quantify the working hours that it is also antisocial because it no longer really serves your own needs.*
>
> (Int20)

However, the role of work for social identity was never questioned; work in any future scenario remains central and made unions critical of any form of basic income.

4.7 | Basic Societal Needs

Divergent views were voiced in relation to minimum, basic, or social needs.

> *I do not feel comfortable when I hear that (...) a privately owned car (...) for instance – is not a basic need. That is a paternalistic argument.*
>
> (Int1)

They explained that people in urban areas might easily live without privately owned cars as they can rely on functioning public transport systems. Contrarily, those living in rural areas—when transport infrastructure is lacking—may depend on their cars to fulfil their daily chores. In their eyes, it is too simplistic to define basic social needs for all citizens. Other interviewees did define certain general needs, mentioning housing, mobility, and care.

> *If housing is a human right, then it is clearly a task for the state to intervene more intensively.*
>
> (Int7)

> *A good life means (...) access to social material infrastructures like mobility, food, care, housing, and so on. [There] is social cohesion (...).*
>
> (Int3)

Early childhood education, healthcare, and elderly care were considered by all vital for meeting basic human needs. At the same time, investments in these sectors are argued to increase economic growth but to be decoupled from resource consumption.

> *All interviewees mentioned the importance of enabling a good life for people, however, there are no official union positions on basic needs or what activities are harmful. Some reflected critically on what these needs are by asking 'What is important?' or 'What do we actually need in terms of material goods for good quality of life in our daily lives?' Some interviewees expressed critical views about prevailing modes of living and consumption habits, but they underlined that these were their personal views, not those of their respective unions. Still, they also claimed that a new societal debate is needed about what constitutes a good life. We need to challenge what is sensible, what contributes to life quality, this constant drive for innovation and acceleration, maybe to work less, to have less social stress – that could be quality of life.*
>
> (Int4)

> *[As] a society, we will have to say goodbye to some models of prosperity. (...) And (...) we as unions will continue to work intensively on this very question. Namely (...) what is necessary for society, how we live.*
>
> (Int5)

5 | Discussion and Conclusions

We have asked in this paper how German trade unionists' visions of the future of a low-carbon economy correspond to green growth, post-growth, and degrowth debates. Our findings show a broad consensus among trade unionists that decarbonisation will lead to green growth and that the socio-ecological transformation entails more than just decarbonising the economy. Tasked with defending the interests of workers under conditions defined by the German economic model, they perceived transformation as another potential threat to fundamental achievements of labour under that model, which globalisation, financialisation, and shareholder value strategies have already heavily strained. Their response is thus restorative in defending workers' rights and jobs in Germany. This contrasts with the emphatic-affirmative views of transformation typically held by postgrowth advocates. At the same time, transformation is seen as an opportunity to redefine the fundamentals of the economic model and put justice, redistribution, and participation centre stage – concerns that tend to converge with post- and degrowth thinking.

Trade unionists concur that overall resource use needs to be reduced to achieve sustainability, and they see increasing resource efficiency and a shift to circularity principles as key strategies. In line with a green growth strategy, they favour efficiency and consistency strategies, marking a clear difference from post- and degrowth positions, which generally insist that sufficiency (i.e., a reduction in overall production and consumption) is necessary as a third strategy.

Many interviewees' calls for maintaining a strong industrial base as a nation and for measures to prevent carbon leakage may be an approach to what, for instance, the OECD's 'Beyond Growth' report (2020) addresses as 'systems resilience'. However, their positions are mostly far removed from the decommodified, community-based and decentralised economic structures that most other post- and degrowth concepts identify with such terms.

Most interviewees articulate ideas that go beyond green growth, and these, we find, resonate with central claims of post-growth and degrowth debates. The reduction of economic inequality is a concern our interviewees share with post- and degrowth, with wealth redistribution, progressive taxation, and a stronger public role in managing the transformation constituting common ground. Convergences also abound regarding calls for democratising the economy and for expanding and better funding public infrastructures—arguably pivotal future-oriented strategies. Interestingly, some of the more concrete radical suggestions of degrowth resonate with our interviewees, particulary where degrowth, in contrast to post- or a-growth thinking, puts a stronger emphasis on social relations of power and domination. In terms of democratising the economy, public infrastructures and provisions for basic needs, equal recognition of different kinds of work, and the need for the greatest initial contributions from the richest and highest-emitting, there is significant (and largely unexplored) common ground.

Differences in emphasis and degree of involvement are evident in relation to the role of work, the future of industry, and concepts of basic needs. Our interviews view a 'good life' as firmly grounded in good work, which is the key source of identity, social integration, and meaning in life and requires strong participatory rights, organised power to reach good collective agreements, good pay, and reduced working hours to allow for a healthy balance between paid and other work. While working time reduction is a clear overlap with post-growth, the focus is distinct from many post-growth concepts, in which work is often a subordinate concern and work-related demands are rarely developed. The same is more pertinent to industry: unionists strongly emphasise the importance of a functioning and productive industrial economy for the well-being of society, and many of their key demands derive from this tenet; post-growth visions often devote little thought to how the production and provision of the goods needed for a good life can be efficient without markets and growth (Dörre 2021; Urban 2024).

These differences concerning work and industry are one reason for the apparent disagreement with post-growth visions around the notion of growth. 'Qualitative growth' has long been used by German unionists to set themselves apart both from a liberal fixation on GDP and from the critiques of growth voiced since the 1970s (e.g., Loderer 1977; Walter 1992). Most interviewees do not uncritically GDP growth as such but, rather than rejecting it, want to qualify what should grow, what should not, and for whom growth is useful. Qualitative Growth as they envision it aims at providing the means of a good life to people rather than 'more' for the sake of itself and thus closely resembles a-growth, although unionists insist on the term 'growth' itself.

To summarise, the publicly perceived and performed distance between German trade unions and radical green social movements and their economic post-growth or degrowth scenarios do not hold in the face of closer scrutiny of unionists' beliefs. There is actually significant overlap in these positions and good reason to further explore avenues for exchange and cooperation. A big difference is that post- and degrowth actively embrace transformation as something positive and desired, while our interviewees saw it as as a process forced on them by the (inevitable) course of events that they need to help shape to avoid negative outcomes. Future research should determine to what extent trade union officials, in voicing these positions, actually represent rank-and-file beliefs. Recent research has shown union members to be more concerned about climate change than the average person and more prone to becoming active (Schulz and Trappmann 2023).

Our research has shown that there are societal forces with similar ideas for a socio-ecological transformation whose collaboration would strengthen progressive participatory democratic decisions for a fair and just ecologically sustainable future. That there is currently no active coalition-building can have many reasons. One is a desire to stress differences rather than commonalities. Unionists intuitively feel a need to set themselves apart from post- and degrowth as too radical and utopian for serious political organisations. Also, their traditional political alignment with social democratic and left parties is linked to a reluctance to embrace 'green' ideas in the political landscape. However, the mutual desire to set oneself apart and to ignore or downplay actual convergences is likely an expression of deeply internalised, habitual beliefs. In

substance, 'qualitative growth' is hardly distinguishable from 'a-growth', and the differences from post-growth ideas seem to be a matter of degree rather than principle. Nonetheless, unionists' insistence on conceiving what they envision as 'growth' seems more a result of a positive connotation of the word itself, which is firmly associated with ideas of progress and improvement that, against the backdrop of labour struggles, are a formative part of their identity. This progressivist disposition and corresponding contrary dispositions lead to systematic mutual misrecognition that often deter more rational dialogue. To the credit of German unions, they have put these aversions aside and seek common ground with environmental organisations and movements to create radical class alliances (Parker et al. 2021). Extending this to discussions with more explicitly post- or degrowth-oriented actors and making it the rule rather than the exception will require conscious work on both sides on accepting and appreciating different horizons of experience rather than cultivating boundaries. Despite the beginnings made, much remains to explore here: despite their primary concern with economic inequality, none of the interviewees drew links between inequality and the roots of the climate crisis as commonly drawn in the degrowth literature. Highlighting inequality and labour exploitation as a driver of the climate crisis could be a powerful argument around synthesising the concerns of unions and the degrowth community (on communicative power resources, see Ioannou 2020), and could strengthen the positions of both sides in the societal conflict around the necessity, speed, extent, form, and direction of socio-ecological transformation.

Our research is limited by the small sample of union representatives that it builds on. Future research should aim to substantiate our claims by looking into union position papers, motions, and publications to understand the official positions regarding green growth or postgrowth and degrowth as well as analysing the rank and file positioning towards these questions.

Acknowledgements

Funding has been received by Hans Boeckler Foundation under the project "Just Transition: action, concepts, debates and strategies - an international comparison across 14 countries", 2021-582-2. The project is part of the research network "Social-Ecological Transformation".

Ethics Statement

Ethical approval has been gained as 2289 by University of Leeds.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data is available on request due to privacy/ethical restrictions.

References

Andre, P., T. Boneva, F. Chopra, and A. Falk. 2024. "Globally Representative Evidence on the Actual and Perceived Support for Climate Action." *Nature Climate Change* 14: 253–259.

Bang, G., K. E. Rosendahl, and C. Böhringer. 2022. "Balancing Cost and Justice Concerns in the Energy Transition: Comparing Coal Phase-Out Policies in Germany and the UK." *Climate Policy* 22, no. 8: 1000–1015.

van den Bergh, J. C. J. M. 2011. "Environment Versus Growth — A Criticism of 'Degrowth' and a Plea for 'A-Growth'." *Ecological Economics* 70, no. 5: 881–890.

Bößner, S. 2020. "The Role of German Regime Actors and Trade Unions in the Energy Transition: Agency and Power." In *The Palgrave Handbook of Managing Fossil Fuels and Energy Transitions*, edited by G. Wood and K. Baker, 341–369. Springer International Publishing.

Bowen, A., and C. Hepburn. 2014. "Green Growth: An Assessment." *Oxford Review of Economic Policy* 30, no. 3: 407–422.

Brand, U., and M. Wissen. 2021. *The Imperial Mode of Living: Everyday Life and the Ecological Crisis of Capitalism*. Verso Books.

Clarke, L., and C. Lipsig-Mummé. 2020. "Future Conditional: From Just Transition to Radical Transformation?" *European Journal of Industrial Relations* 26, no. 4: 351–366.

Clarke, L., and M. Sahin-Dikmen. 2020. "Unions and the Green Transition in Construction in Europe: Contrasting Visions." *European Journal of Industrial Relations* 26, no. 4: 401–418.

Crabtree, B. F., and W. L. Miller. 1999. *Doing Qualitative Research*. SAGE Publications.

Cremer, J. C. 2024. "Collective Actors and Potential Alliances for Eco-Social Policies in Germany." *Zeitschrift für Politikwissenschaft* 34: 183–206.

Dale, G., M. V. Mathai, and J. A. P. de Oliveira. 2016. *Green Growth: Ideology, Political Economy and the Alternatives*. Bloomsbury Publishing.

Deutscher Gewerkschaftsbund. 1996. *Die Zukunft gestalten: Grundsatzprogramm des Deutschen Gewerkschaftsbundes*. Düsseldorf: Deutscher Gewerkschaftsbund.

Dittmar, N., and I. Kleefeld. 2024. "Collective Bargaining for a Just Transition?" Paper Presented at EGOS 40th Colloquium Crossroads for Organizations: Time, Space, and People, Milan, July 4–6, 2024. https://www.researchgate.net/profile/Nele-Dittmar-2/publication/382641850_Collective_bargaining_for_a_just_transition/links/66ab855dde060e4c7e6dd27f/Collective-bargaining-for-a-just-transition.pdf.

Dörre, K. 2021. *Die Utopie des Sozialismus: Kompass für eine Nachhaltigkeitsrevolution*. Matthes & Seitz Berlin.

Dörre, K., S. Liebig, K. Lucht, and J. Sittel. 2024. "Class Versus Climate? Transformation Conflicts in the Automotive Industry." *Journal of Contemporary Central and Eastern Europe* 32, no. 2: 371–404.

Drews, S., I. Savin, and J. C. J. M. van den Bergh. 2019. "Opinion Clusters in Academic and Public Debates on Growth-vs-Environment." *Ecological Economics* 157: 141–155.

Dupuis, M., I. Greer, A. Kirsch, G. Lechowski, D. Park, and T. Zimmermann. 2024. "A Just Transition for Auto Workers? Negotiating the Electric Vehicle Transition in Germany and North America." *ILR Review* 77, no. 5: 770–798.

Durand, C., E. Hofferberth, and M. Schmelzer. 2024. "Planning Beyond Growth: The Case for Economic Democracy Within Ecological Limits." *Journal of Cleaner Production* 437: 140351.

Elliott, V. 2018. "Thinking About the Coding Process in Qualitative Data Analysis." *Qualitative Report* 23, no. 11: 2850–2861.

European Commission. 2019. *The European Green Deal*. European Commission. https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF.

Flemming, J. 2022. *Industrielle Naturverhältnisse. Politisch-kulturelle Orientierungen gewerkschaftlicher Akteure in sozial-ökologischen Transformationsprozessen*. Oekom.

Foster, J. B. 2023. "Planned Degrowth: Ecosocialism and Sustainable Human Development." *Monthly Review* 75, no. 3: 1–29.

G20. 2022. Bali Declaration of the G20 Heads of State and Government, G20 Summit in Bali, Indonesia, November 15–16, 2022. https://www.bundesregierung.de/resource/blob/992814/2143372/6ae70c64a05f2e210b735d42458850fd/2022-11-16-declaration-g20-deu-data.pdf?download=1.

Galgóczi, B. 2020. "Just Transition on the Ground: Challenges and Opportunities for Social Dialogue." *European Journal of Industrial Relations* 26, no. 4: 367–382.

Haberl, H., D. Wiedenhofer, D. Virág, et al. 2020. "A Systematic Review of the Evidence on Decoupling of GDP, Resource Use and GHG Emissions, Part II: Synthesizing the Insights." *Environmental Research Letters* 15, no. 6: 065003.

Hassel, A., and K. Weil. 2023. "Sozialpartnerschaft – Chancen Und Herausforderungen." *Vierteljahrshefte zur Wirtschaftsforschung* 92, no. 4: 15–34.

Herberg, J., T. Haas, D. Oppold, and D. von Schneidemesser. 2020. "A Collaborative Transformation Beyond Coal and Cars? Co-Creation and Corporatism in the German Energy and Mobility Transitions." *Sustainability* 12, no. 8: 3278.

Hickel, J., and G. Kallis. 2020. "Is Green Growth Possible?" *New Political Economy* 25, no. 4: 469–486.

Hickel, J., G. Kallis, T. Jackson, et al. 2022. "Degrowth Can Work — Here's How Science Can Help." *Nature* 612, no. 7940: 400–403.

Ioannou, G. 2020. "The Communicative Power of Trade Unionism: Labour Law, Political Opportunity Structure and Social Movement Strategy." *Industrielle Beziehungen. Zeitschrift für Arbeit, Organisation und Management* 27, no. 3: 286–309.

Jackson, T. 2019. "The Post-Growth Challenge: Secular Stagnation, Inequality and the Limits to Growth." *Ecological Economics* 156: 236–246.

Kallis, G., V. Kostakis, S. Lange, B. Muraca, S. Paulson, and M. Schmelzer. 2018. "Research on Degrowth." *Annual Review of Environment and Resources* 43, no. 1: 291–316.

Kallis, G., R. Mastini, and C. Zografos. 2023. "Perceptions of Degrowth in the European Parliament." *Nature Sustainability* 7, no. 1: 64–72.

Kalt, T. 2022. "Agents of Transition or Defenders of the Status Quo? Trade Union Strategies in Green Transitions." *Journal of Industrial Relations* 64, no. 4: 499–521.

Kedward, K., and J. Ryan-Collins. 2022. "A Green New Deal: Opportunities and Constraints." In *Economic Policies for Sustainability and Resilience*, edited by P. Arestis and M. Sawyer, 269–317. Springer International Publishing.

Keil, A. K., and H. Kreinin. 2022. "Slowing the Treadmill for a Good Life for All? German Trade Union Narratives and Social-Ecological Transformation." *Journal of Industrial Relations* 64, no. 4: 564–584.

Lehmann, C., O. Delbard, and S. Lange. 2022. "Green Growth, A-Growth or Degrowth? Investigating the Attitudes of Environmental Protection Specialists at the German Environment Agency." *Journal of Cleaner Production* 336: 130306.

Lehndorff, S. 2024. *Socio-Ecological Transformation of German Industry: Challenges, Actors, Strategies, and Conflicts*. transform! europe.

Liegey, V., S. Madelaine, C. Ondet, et al. 2014. *Un projet de décroissance: Manifeste pour une dotation inconditionnelle d'autonomie (DIA): Promouvoir une transition démocratique et sereine vers des sociétés soutenables et souhaitables*. Les Éditions Écosociété.

Likaj, X., M. Jacobs, and T. Fricke. 2022. *Growth, Degrowth or Post-growth? Towards a Synthetic Understanding of the Growth Debate*. Forum for a New Economy.

Loderer, E. 1977. "Qualitatives Wachstum, Vollbeschäftigung Und Kernenergie." *Gewerkschaftliche Monatshefte* 28, no. 10: 616–618.

Mayring, P. 2007. *Qualitative Inhaltsanalyse. Grundlagen und Techniken*. Beltz.

Mazzucato, M. 2022. "Financing the Green New Deal." *Nature Sustainability* 5, no. 2: 93–94.

Nowell, L. S., J. M. Norris, D. E. White, and N. J. Moules. 2017. "Thematic Analysis: Striving to Meet the Trustworthiness Criteria." *International Journal of Qualitative Methods* 16, no. 1: 1609406917733847.

OECD. 2015. *Towards Green Growth?: Tracking Progress*. Organisation for Economic Co-operation and Development. https://www.oecd-ilibrary.org/environment/towards-green-growth_9789264234437-en.

OECD. 2020. *Beyond Growth: Towards a New Economic Approach*. OECD. https://www.oecd-ilibrary.org/economics/beyond-growth_33a25ba3-en.

Oei, P. Y., H. Brauers, and P. Herpich. 2020. "Lessons From Germany's Hard Coal Mining Phase-Out: Policies and Transition From 1950 to 2018." *Climate Policy* 20, no. 8: 963–979.

Parker, J., O. N. Alakavuklar, and S. Huggard. 2021. "Social Movement Unionism Through Radical Democracy: The Case of the New Zealand Council of Trade Unions and Climate Change." *Industrial Relations Journal* 52, no. 3: 270–285.

Petschow, U., S. Lange, D. Hofmann, et al. 2020. *Social Well-Being Within Planetary Boundaries: The precautionary Post-Growth Approach: Partial Report for the 'Approaches to Resource Conservation in the Context of Post-Growth Concepts' Project*. Umweltbundesamt.

Prinz, L., and A. Pegels. 2018. "The Role of Labour Power in Sustainability Transitions: Insights From Comparative Political Economy on Germany's Electricity Transition." *Energy Research & Social Science* 41: 210–219.

Pulignano, V., M. Hauptmeier, and D. Frans. 2023. "Determinants of Union Strategies Towards the Twin Digital and Green Transitions in the German and Belgian Automotive Industry." *Transfer: European Review of Labour and Research* 29, no. 1: 121–138.

Raworth, K. 2017. *Doughnut Economics: Seven Ways to Think Like a 21st Century Economist*. Chelsea Green Publishing.

Reifenscheid, M., and K. Möhring. 2022. "Towards a New Working Time Paradigm? Public Support for Trade Union Demands for Working Time Reduction." *Industrielle Beziehungen* 29, no. 29: 186–210.

Reuter, N. 2014. "Die Degrowth-Bewegung Und Die Gewerkschaften." *WSI-Mitteilungen* 67, no. 7: 555–559.

Rivera, M. 2018. "Growth in Parliament: Some Notes on the Persistence of a Dogma." *Futures* 95: 1–10.

Rockström, J., W. Steffen, K. Noone, et al. 2009. "A Safe Operating Space for Humanity." *Nature* 461, no. 7263: 472–475.

Schmalensee, R. 2012. "From 'Green Growth' to Sound Policies: An Overview." *Energy Economics* 34: S2–S6.

Schmalz, S., C. Ludwig, and E. Webster. 2018. "The Power Resources Approach: Developments and Challenges." *Global Labour Journal* 9, no. 2: 113–134.

Schmelzer, M., A. Vetter, and A. Vansintjan. 2022. *The Future Is Degrowth: A Guide to a World Beyond Capitalism*. Verso.

Schmidt, W., and A. Müller. 2024. "Differing Industrial Relations: The Public and the Private Sector in Germany." *Industrial Relations Journal* 55, no. 4: 285–302.

Schulz, F., and V. Trappmann 2023. "Erwartungen von Beschäftigten an die sozial-ökologische Transformation." Working Paper Forschungsförderung Nr. 308. October 2023. https://www.boeckler.de/de/faust-detail.htm?sync_id=HBS-008723.

Smulders, S., M. Toman, and C. Withagen. 2014. "Growth Theory and 'Green Growth'." *Oxford Review of Economic Policy* 30, no. 3: 423–446.

The World Bank. 2012. *Inclusive Green Growth*. The World Bank. https://elibrary.worldbank.org/doi/abs/10.1596/978-0-8213-9551-6.

Trappmann, V., D. Eversberg, and F. Schulz. 2025. "Conjunctures of Eco-Social Partnership Unionism: The German Trade Union Confederation's Climate Policies Over Three Decades." *Industrielle Beziehungen*.

Urban, H. J. 2022. "Gewerkschaftliche Strategiebildung In Der Ökologischen Transformation." *WSI-Mitteilungen* 75, no. 4: 337–341.

Urban, H. J. 2024. "Das Ende Eines Erfolgsmodells. Der Fossile Wohlfahrtsstaatskapitalismus Und Die Gewerkschaften." *Blätter für deutsche und internationale Politik*, no. 3/2024: 94–104.

Walter, J. 1992. "Zehn Andere Thesen Über Umweltverträgliches Wachstum." *Gewerkschaftliche Monatshefte* 43, no. 8: 180–185.

Ward, J. D., P. C. Sutton, A. D. Werner, R. Costanza, S. H. Mohr, and C. T. Simmons. 2016. "Is Decoupling GDP Growth From Environmental Impact Possible?" *PLoS One* 11, no. 10: e0164733.

Wilkinson, R. D., and K. Pickett. 2009. *The Spirit Level: Why More Equal Societies Almost Always Do Better*. Bloomsbury Publishing.