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RESEARCH ARTICLE

Conversion: a strategy for ecosocial production politics

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This article debates the potential of *productivist* ecosocial conversion strategies as solutions to the environmental crisis. We describe shortcomings of current transformation policies in Germany, which can largely be attributed to the exclusion of labour from decision making on the transformation processes, particularly the lack of democratic control of production and insufficient consideration of workers' interests. The article introduces the concept of ecosocial conversion and several conceptual and theoretical reference points for such a strategy, including the notions of just transition, sustainable work, and labour process theory. The latter should be 'greened', while the transformation process should by design extend democratic control over production. Using Germany as a case study, the article discusses the challenges and opportunities associated with ecosocial conversion, specifically addressing issues related to ecology as a common good, the scope of action within Germany's industrial relations, and the framework conditions of ecosocial conversion. As the transformation challenges the impact power of trade unions, economic and institutional power resources of the workers' movement need to be complemented with a social movement unionism approach to organizing, campaigning and coalition building, which aligns with the social power approach to a just transition.

Keywords labour process theory • conversion • ecosocial production politics • ecosocial transformation • blue-green alliances

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Introduction

Production – defined as the generation of economic goods – and its transformation play a central role in the success of the socioecological transition. Politicians often shift the responsibility for environmental protection onto markets, consumers, and investors. The paradox whereby numerous workers dedicate a substantial part of their lives to the production of environmentally harmful products – over which they have limited control – while simultaneously being expected to engage in environmentally responsible behaviours in their personal lives is rarely addressed. As the 'centre of metabolism with nature' (Schaupp, 2024b: 97), labour should be a fundamental component of ecological policy and environmental research, and the environment should be a crosscutting issue for labour process theory (LPT). Engaging with labour in the context of transformation requires methods and concepts that adequately address the dimensions of the environmental crisis and the urgent need for change, moving beyond modest forms of codetermination. Therefore, we propose *conversion strategies* that incorporate ecological considerations into the production process, including the types of products manufactured. This article integrates discussions on conversion as a bottom-up strategy for socioecological transformation with Michael Burawoy's concept of 'politics of production', with the goal of reforming the production systems characteristic of capitalist societies. In the context of a shifting framework of state regulation influenced by commitments to the Paris Agreement, the social relations in and of production are contested among corporate actors, workers and their representatives, and broader ecosocial stakeholders, leading to new lines of conflict. The decarbonization of industry and the promotion of sustainable production – which includes services and infrastructure – require not only ambitious modifications in the range of products and production processes at the organizational level but also systemic changes across various sectors. This article examines the potential of LPT to provide solutions to the environmental crisis through conversion strategies, while simultaneously undergoing a process of renewal. Initially, we utilize the German context to illustrate the inadequacies of existing transformation policies and to argue for the necessity of a new form of ecological-social policy. We then introduce the concept of conversion. Subsequently, we explore LPT and other valuable frameworks for contemporary conversion initiatives. Following the principle that LPT views itself as engaged research we discuss conversion strategies as an approach that introduces a political logic into the production process, and serves as a viable alternative to unsuccessful strategies for socioecological transformation. Finally, we conclude that the conversion strategy necessitates a form of unionism characterized as social movement unionism, which aligns with the social power approach to a just transition.

Barriers to ecosocial transformation: the case of Germany

As an export-oriented economy with a relatively strong financial position, the success or failure of Germany's socioecological transformation is of significant importance, not only as a role model but also due to its impact on commodity chains, trade agreements, regulations, standards, and investment treaties. Despite a reduction in emissions since 1990, Germany continues to fall short of its emissions targets (Expertenrat für Klimafragen, 2024). Small and medium-sized enterprises (SMEs) often lack comprehensive plans to reduce greenhouse gas emissions, and only half of

them believe that climate neutrality is compatible with their business models (KfW Research, 2023). The necessary infrastructure for this transformation, such as charging stations, energy grids, and sustainable transportation systems, is currently planned and financed only to a limited extent (Expertenrat für Klimafragen, 2024). Public funding for climate change mitigation is largely underutilized due to staffing bottlenecks in public administrations and SMEs. Consequently, these funds do not reach the areas and projects where they are most needed (Bär and Collmer, 2024). The 'traffic light' coalition that came to power in 2021 collapsed at the end of 2024, primarily due to disputes over the financing and organization of the ecological transition.

In Germany, over 75% of employees are engaged in the service sector (Statistisches Bundesamt, 2025); however, the industrial sector plays a critical role, contributing 23% of greenhouse gas emissions (Umweltbundesamt, 2024). Metal production, cement and lime manufacturing, and the chemical industry are particularly energy-intensive (Hermann and Emele, 2023: 14), while the automotive sector, alongside agriculture, also makes significant contributions to emissions. In addition, business models in the automotive industry rely heavily on individual transport, which is responsible for much of the transport sector's carbon footprint. Germany's value creation has been robust in the automotive, mechanical engineering, and pharmaceutical sectors (Dullien et al, 2025: 8) – all of which are undergoing a transition. The automotive industry is shifting towards electromobility and exploring alternative business models (Blöcker, 2022), whereas the chemical sector remains heavily reliant on fossil raw materials (Bendel and Haipeter, 2022). Declines in these industries could adversely impact other areas of the economy. Cheaper industrial products from regions with lower standards can displace those produced under stricter regulations. Although experts anticipate slight employment gains as a result of the transformation, they foresee asymmetrical effects across various industries, sectors, and regions. They also recognize the risk of deindustrialization, which could potentially threaten collectively organized and well-paid jobs in the industrial sector (Rat der Arbeitswelt, 2023).

Policy tools such as climate tariffs and carbon contracts for difference aim to uphold regulatory standards despite competition; however, they face opposition from conservative, far-right, and liberal factions (Ötsch, 2024). Quality standards are also the subject of international trade disputes, resulting in uncertainty about the enforcement of these regulations. The state of the industry has deteriorated since 2021. Both employers and employees agree that a lack of demand, particularly for industrial products, is the primary issue. Additional factors contributing to this decline include the industrial policies of China and the US, rigid fiscal policy frameworks in Germany and Europe, relatively high energy prices, a backlog of infrastructure investments, a shortage of skilled workers, and the unpredictability of socioecological transformation policies (Dullien et al, 2025).

The design of the transformation is primarily driven by capital and ownership. This results in political resistance to environmental policies. Micro-sociological research indicates that many employees in the automotive industry perceive the socioecological transformation as externally imposed and threatening, which leads them to reject ecological policies (Dörre et al, 2024). However, the current ecological rollback observed in Germany masks a fundamental concern regarding climate change that is prevalent among the population, including a majority of production workers (Mau et al, 2023: 211–20). According to a representative survey, most employees are willing to support environmental measures if specific conditions are met, such as

linking state subsidies to requirements (provision of socioecological conditionality), ensuring participation, providing material and social security, and fostering better understanding through improved communication (Schulz and Trappmann, 2024). An ecological backlash is not predetermined. Thus, the crucial challenge is to harness the inherent willingness of the majority to promote positive socioecological change.

The concept of conversion in ecosocial transformation

When faced with the ecological crisis, workers and unions are navigating what Räthzel and Uzzell (2011) refer to as the 'jobs versus environment dilemma'. While most workers are well aware of climate change and biodiversity loss, often feeling the brunt of extreme weather events like droughts, flooding and heat in everyday life, they also confront the imperatives of decarbonization and ecosocial transformation in the context of their workplaces. Their social security, income, and living standards, as well as their professional identities, are closely linked to their current jobs, which may be jeopardized by the shift towards sustainability. Transitioning to new occupations may involve spells of unemployment, retraining, and potential income loss, while the emergence of new 'green' jobs may not benefit those adversely affected by these changes. These apprehensions may foster alliances between management and workers that advocate for postponing transformative measures, while simultaneously limiting the independent agency of workers in relation to capital.

The conflict between job interests and the need for transformative change is neither new nor is the dilemma unavoidable. In the 1970s and 1980s, active union members began to explore the concept of arms conversion and alternative production as a means of developing independent strategies to secure jobs and shape working conditions within their companies. This approach challenged management's exclusive authority over decisions regarding products, investments, and the organization of work. In Germany, as well as in other countries, the 'corporate plan' introduced in 1976 by the Lucas Aerospace Shop Stewards (Wainwright and Elliot, 1982), and the industrial policies of the Greater London Council from 1981 to 1986, which promoted 'socially useful production' (Mackintosh and Wainwright, 1987), inspired initiatives on the shop floor as well as novel strategies of factory councils for the negotiation of 'employment pacts' that focused on retraining and alternative products to avoid layoffs (Bartelheimer, 2025).

These initiatives were largely ineffective in industries affected by disarmament and sectoral restructuring following German unification in 1990, as well as during the privatization and large-scale deindustrialization of the East German economy. At the company level, the idea of conversion was conventionalized to a management strategy for diversification. In addition, the term began to be applied beyond factories to the repurposing of unused military and industrial sites, as well as to the individual retraining of workers and occupational transitions within the context of industrial restructuring.

Currently, within the scientific community in Germany, there is no universally accepted definition of 'conversion', nor is there a consensus on its relevance to contemporary union strategies (Bartelheimer, 2025; Bartelheimer and Ötsch, 2025). Broadly defined, conversion refers to the repurposing of economic resources and to a type of economic innovation that is driven not by market forces, but by policies. However, since 2008, and in the context of ecosocial transformation, positions promoting a 'labour turn' of the environmental movement have returned to the

concept of conversion to refer to transformation strategies that will effect qualitative change towards a sustainable and decarbonized economy, challenging the logic of capital valorization in the process. Along these lines, conversion strategies for the automotive industry advocate for a comprehensive restructuring to embrace alternative mobility solutions, rather than merely substituting internal combustion engines with battery electric drive systems.

In this article, we define ecosocial industrial conversion as a reorganization of production that is proposed and controlled by workers and trade union representatives and suitable to shift labour and productive resources within a specific enterprise, sector or region towards sustainable products and production methods. It is essential that these conversion proposals align with both the job interests of workers and the common good, specifically with broader objectives of ecosocial transformation that are widely supported in society. Ecosocial conversion can be advanced through alliances between workers and environmental movements, as well as other social movements and civil society at the regional level. Recently, this understanding of ecosocial conversion has been inspired by the struggle of the Collettivo di Fabbrica ex-GKN in Campi Bisenzio (near Florence) that is occupying their factory since June 2021 in resistance to a shutdown and is forming alliances with other regional movements to promote an industrial plan for socioecological production organized on a cooperative basis (Gaßen, 2025).

Whereas the concept of socially-useful production remained somewhat indeterminate in the 1970s and 1980s, today's climate mitigation policies offer a rather precise metric for assessing the potential of alternative production concepts. On the other hand, the macroeconomic context is so different that the historical examples cannot serve as models for today's ecosocial conversion strategies. First, there is a difference in scale: industrial conversion is no longer a sector-specific issue that affects only a limited number of enterprises. Climate mitigation targets apply to all economic sectors. Simple diversification of production is not an option when fossil pathways must be entirely abandoned. Second, in arms conversion following the end of the Cold War, the state had provided only an indirect impetus by reducing demand for the arms industry which it had a monopoly on, and had left adaptation to the companies, aside from some programmes for regional development. In contrast, today the state has committed to sector-specific climate targets, and corporate actors expect planning security through binding political guidelines. As neoliberalism has lost some of its lustre, incentive systems, subsidies for decarbonizing key processes such as steel production, and public industrial policy in general, meet much more political acceptance. Political governance has become significantly more important for corporate conversion concepts than it was in the past. Third, the limitations of operational production changes within enterprises become evident more quickly. On one hand, the ecological effects of new products can only be realized in conjunction with changes on the consumption side, that is, through a transition to more sufficient forms of needs satisfaction and more sustainable lifestyles. On the other hand, the technical implementation of new production lines that transition away from fossil energy and reduce emissions is increasingly tied to external conditions, like extensive changes in value chains and the ramping up of upstream and downstream infrastructures, such as for 'green' electricity and hydrogen. Corporate conversion strategies are not only contentious issues between management and workers within the enterprise, but they are also inherently linked to larger societal conflicts and must

address broader ecosocial transformation conflicts. At the same time, conversion strategies at the industry level, within the value chain or within the respective region, acquire greater strategic significance compared to individual company approaches. Fourthly, in the past, conversion has been strongly associated with securing jobs within enterprises, and it held special appeal for workers with long tenure and seniority in internal labour markets. While the interest in securing jobs within companies will continue to be the starting point for ecosocial conversion proposals, such concepts may find it more difficult to promise security of employment, professional status, and income at the company level due to the broader macroeconomic implications of the necessary restructuring. Not all production facilities can be repurposed for alternative products. For product lines and business models that are no longer justifiable from a climate and environmental policy perspective, restructuring also implies redundancies. Conversion concepts come to rely more on supports in the external labour market, and the acceptance of climate conversion therefore critically depends on social guarantees for voluntary and self-determined labour market transitions, including retraining outside the company and monetary transfers that ensure some degree of income stability.

Conceptual and theoretical reference points for conversion strategies

Theoretical frameworks that are suitable for guiding reflection on ecosocial conversion strategies must first be 'productivist', meaning they should address the causes of climate change and of the broader ecological crisis within production processes. Secondly, since ecosocial conversion seeks to promote economic innovation towards decarbonized and sustainable production by means of politics, these frameworks must reflect the primacy of politics in investment and production choices. Lastly, they should recognize workers as subjects with agency in the production sphere.

Environmental labour studies

Initially primarily concerned with the environmental policies and practices of trade unions, the emerging research field of environmental labour studies today endeavours 'to provide critical analyses of the ways in which production in the broadest sense creates and destroys environments and how working people can act towards these processes in order to identify and promote solutions to some of the most pressing crises the planet faces' (Räthzel et al, 2021: 18). Its field of inquiry encompasses not only the environmentalism of wage workers but also that of subsistence workers, unwaged workers, and the 'environmentalism of the poor', particularly in rural areas of the Global South. A comprehensive understanding of work encompasses social reproduction beyond waged labour, as well as subsistence work.

The authors identify three key characteristics of environmental labour studies:

- They aim to be interdisciplinary, integrating concepts and methods from 'the natural, physical, and biological sciences, the social sciences and the arts and humanities'.
- They maintain an international perspective that reflects the realities of globalized labour relations and the global division of labour.

- They seek to deliver 'engaged research' that benefits social actors and organizations working towards transformational change.

While many researchers engaged in this field share a common interest in the overarching theoretical themes of the relationship between society and nature, as well as the labour-nature relationship (Räthzel, 2021), environmental labour studies are necessarily interdisciplinary and cover a wide range of issues. Consequently, strategic thinking related to industrial conversion may also benefit from the consideration of more specific conceptual reference points.

Just transition

The idea of a just transition originated within the US labour movement in the 1980s, when corporate interests employed 'jobs blackmail' to oppose action on environmental issues (Stevis, 2023). After the 1992 United Nations' Earth Summit in Rio, the international union movement adopted the term to frame its positions in meetings on sustainable development and in the international climate negotiations established by the United Nations Framework Convention on Climate Change (UNFCCC). After the concept of just transition was included in the Preamble of the 2015 Paris agreement on climate change, it became the 'major labour-environmentalist narrative at the global level', also spreading beyond the union and labour movements (Stevis, 2023: 17, 26).

Far from representing a definitive theory or a clear-cut strategy, the term remains 'a contested concept because people and organizations invest it with their own political preferences' (Stevis, 2023: 26). Positions vary along the dimensions of breadth (from workers in one factory to all affected workers and communities), depth (from weak environmental justice to strong ecological justice), and ambition (more or less transformative), and imply an array of theoretical and normative questions.

Sweeney and Treat (2018) note an evolution in just transition accounts within the union movement, transitioning from a 'protective and worker-focused' perspective to a societal shift approach. The former perspective viewed unions as advocates for a safety net for categories of workers whose jobs and livelihoods were impacted by environmental policy responses to the ecological crisis (see Snell, 2018: 553). In contrast, the latter approach 'integrates immediate worker concerns with the drive for a broader and deeper socioeconomic transformation' (Sweeney and Treat, 2018: 4). The social dialogue approach, which is endorsed by the International Trade Union Federation (ITUC) and by the International Labour Organisation (ILO) and is institutionalized within the European Union, perceives transition to a low-carbon economy as a 'shared responsibility' that transcends the antagonistic relationship between capital and labour (ILO, 2018: 2), thereby placing strategic responsibility on the state. However, Sweeney and Treat (2018) argue that an insistence on social dialogue fails to meet the urgent demands of the climate crisis. Instead, they advocate for a 'social power' approach that, while not entirely dismissing dialogue, positions unions as independent actors in the transformation process. This approach endorses 'social, class, or industrial conflict', challenges 'arrangements of ownership and power', and calls for 'public or social ownership and democratic control over key sectors' (Sweeney and Treat, 2018: 31).

Sustainable work

Since the 2010s, discourse and research on sustainability have evolved to encompass the concept of sustainable work. This shift has been motivated by the recognition that barriers to sustainability and conflicts over decarbonization 'result above all from the way societies organise, distribute, and value work' (Barth and Littig, 2021: 770). The expansion of the sustainability framework gained significant momentum following its formal endorsement in the United Nations Development Report (UNDP) (Jahan et al, 2015). As the report emphasizes, 'sustainable work is not just about paid work'. It includes unpaid caregiving, volunteer activities, and creative work. For these activities to be deemed sustainable, they must '[promote] human development while reducing or eliminating negative externalities that can be experienced over different geographic and time scales'. Work should not only sustain the planet but also ensure work for future generations (Jahan et al, 2015: 37).

To date, the academic debate on sustainable work has centred on foundational issues such as reconceptualizing work and the relationship between society and nature. According to Barth and Littig (2021), the UNDP's definition reflects a weak sustainability concept and neglects the class-based organization of labour, as well as the predominance of paid work. Zimmermann and Engelbrecht (2024) have emphasized the split between research on the social and ecological sustainability of work.

Nevertheless, two key ideas have emerged from the discussion:

- A 'consequentialist' perspective on work should consider sustainability implications beyond the workplace (Zimmermann and Engelbrecht, 2024): What is the materiality and ecological imprint of a specific labour process in the global supply chain? How does it affect consumers, and how is it influenced by their consumption patterns?
- Workers should not be seen merely as passively affected by transformation but as its potential protagonists (Jochum et al, 2020), that is as 'doers' and 'judges' of sustainability (Zimmermann and Engelbrecht, 2024). A research agenda for the ecosocial transformation of the 'working society' should examine 'to what extent the current power asymmetries in the employment system contribute to the unsustainability of work' (Jochum et al, 2020: 229).

'Greening' of labour process theory

Labour process theory commends itself for theoretical reflection on conversion strategies, as it conceives production as an arena of politics. Burawoy opposed the concept of *production politics* to 'theories of production that ignore its political moments as well as its determinations by the state' (Burawoy, 1983: 587). His premise was that there is 'politics outside the state' and that 'the arena of production contains political and ideological institutions' (referred to as 'apparatuses', Burawoy, 1985: 9, 254). Production politics involve both social relations *in* production, that is, 'between and among workers and managers', and social relations *of* production. The latter may encompass the regulation of industrial relations, the architecture of the welfare state, and the modes of reproduction of labour power, all of which together form the historically-specific regime of capitalist accumulation. However, Burawoy's primary focus is on the interaction between production politics and state politics: For instance, the state influences the labour process by establishing an institutional framework for

industrial relations and by setting health and safety regulations. Concurrently, factory regimes have effects on gender and family relations that extend beyond the realm of production (Burawoy, 1985: 14, 253). The influence of state politics on the labour process, and the relationship between enterprises and the state, are critical factors in determining the prevailing type of factory regime. According to Burawoy, a shift from 'despotic' to 'hegemonic' forms of capital's control over the labour process, which seek a balance between consent and coercion of workers, became historically feasible when the welfare state took on some responsibility for the reproduction of labour power outside the employment relationship.

In capitalist societies organized around wage labour, the labour process, while depending on the natural properties of its materials and objects and the resultant characteristics of specific tasks, is also a 'contested terrain' (Thompson and Smith, 2024: 148, quoting Edwards, 1979). As a commodity in the market, labour power is of indeterminate character. Its transformation into actual labour that is suitable for a specific production process remains contentious between workers and management. While all schools of industrial sociology share this 'transformation problem' as their point of departure, LPT is primarily concerned with the forms of control by management and the factory or workplace regimes that serve to regulate the conflict between capital and labour and enforce what Marx (1962: 533) termed the 'real subsumption of labour under capital'. This enforcement is achieved not only through direct or indirect forms of control but also through the 'manufacture of consent' (Burawoy, 1982). Workplace regimes vary in the degree to which they depend on either method. Furthermore, the real subsumption of labour is never absolute. Even within despotic workplace regimes, workers retain some degree of autonomy and, depending on the type of workplace regime, workers can navigate 'the full range of labour agency, from resistance to consent and cooperation' (Thompson and Smith, 2024: 148).

Burawoy (1985) asserts that the labour process shapes the working class not only in an objective manner, through the organization of work, but also subjectively, by defining their work experiences, worldviews, and class consciousness. If this holds true, then the labour process and prevailing workplace regimes also shape workers' subjective relationships with nature and their perspectives on environmental issues (Uzzell, 2021). As workers navigate the demands of the labour process, they also develop a connection to the products they create. In the automotive industry, for instance, this may involve identification with a broader automotive way of life (Tullius and Wolf, 2022). The ecological implications of this aspect of 'manufacturing consent' (Burawoy, 1982) are at least ambiguous. Consequently, it is reasonable to conclude that the emergence of 'working-class environmentalism' (Bell, 2020) is contingent upon experiences of ecological or climate dissent over products and production processes.

Recently, Baglioni (2023) and Schaupp (2024a; 2024b) have explored how the core concepts of labour process theory can be set to work on struggles related to climate change, environmental degradation, and ecosocial transformation. Baglioni flags the 'nature gap' in LPT as one of its 'connectivity problems' (Baglioni, 2023: 10): The capitalist labour process needs constant underpinning by relations that are 'external' to the firm and the workplace but essential to its viability, one of them being the relation with nature.[1] She concludes that a 'green' labour process theory should 'investigate the labour process as an ecological process'. Such an approach would require a 'greater awareness of workplace materiality': how do 'physical properties

of commodities' shape production relations, and how are 'inherent obstacles posed by the commodification of nature' passed on to workers? And second, since 'capital cannot fully control workers or nature', the labour process should be understood as both socially and ecologically indeterminate. Thus, the problem of transforming labour power into actual labour acquires a 'socioecological' dimension (Baglioni, 2023: 27; Thompson and Smith, 2024: 160).

Whereas Baglioni discusses these implications for labour process theory in purely abstract terms, Schaupp (2024a; 2024b) arrives at similar conclusions based on observed effects of extreme heat on construction work. In industries that are particularly vulnerable to climate change, conflicts arise over disruptive biophysical effects on the labour process, which not only lead to productivity losses but also pose significant health hazards for workers. Struggles over extreme heat and corporate failure to adapt production processes can also call into question the technological and social organization of construction work. For instance, the use of reinforced concrete in construction cuts labour cost and renders traditional skills obsolete. But it also contributes significantly to global CO_2 emissions, and moulds must be cast in a continuous workflow that cannot accommodate interruptions caused by adverse weather conditions (Schaupp, 2024a: 7).

Like Baglioni, Schaupp emphasizes that a more comprehensive concept of subsumption must take nature into account. Nature, like workers, resists being subsumed under capital. It must therefore be regarded as 'an autonomous force' in the labour process, and this autonomy comes 'to the fore … in ecological crises' (Schaupp, 2024a: 13; 2024b: 105). However, while nature demonstrates 'autonomy without agency' (Schaupp, 2024b: 105, citing Malm, 2018), workers possess the capability for conscious action: like management, they engage in politics of production. Schaupp concludes that industrial relations 'should be understood as "metabolic politics", as they not only negotiate issues of employment but also regulate the societal metabolism with nature' (Schaupp, 2024b: 105). Consequently, 'all politics of production are also environmental politics' (Schaupp, 2024a: 5). At the same time, all climate mitigation policies of the state must be translated into politics of production in order to be effective. '[E]nvironmental issues are increasingly imposing themselves on the 'context' of narrowly defined employment relations ….' (Schaupp, 2024a: 5, 13).

Conflicts over climate adaptation may, to some extent, follow established patterns of industrial conflict, as long as they give rise to new demands on contentious issues like working hours, occupational health and safety and wage compensation, for instance for adverse weather conditions. However, workplace conflicts of a different nature emerge as climate mitigation policies tackle the causes of the ecological crisis stemming from unsustainable production. The interaction between enterprises and the state is evolving to incorporate a new ecological dimension. As business decisions, which in the ordinary course of capitalist market economy are regarded as the exclusive purview of management, become politicized, the contested terrain of the labour process and workers' agency extends to its products and material basis.

Ecosocial conversion: challenges and opportunities

Ecosocial conversion is grounded in democratic principles and incorporates a political framework into the production process. The conversion strategy acknowledges workers as subjects and gives them more decision-making power. In doing so, it counteracts

the erosion of workers' control. This approach views socioecological transformation as a process shaped by collective interests, and considers issues of power – specifically, the conflicts and alliances that are often overlooked in the technocratic management of ecosocial transformation. However, conversion promoted by economic democracy has to result in a mode of production that respects the limits of the earth's ecosystem. It is not a given that workers and their collective representation will think and act in an ecosocial manner; this requires a supportive political framework and strategic political alliances. Furthermore, ecosocial conversion is not a one-size-fits-all solution. The concept must be tailored to address the complex and dynamic conditions at play. In the following sections, we will discuss the experiences, controversies, and unresolved challenges associated with this approach.

Will economic democracy promote ecological transformation?

Ecosocial conversion subordinates production decisions to a political logic, representing a reorganization of production that is increasingly controlled by workers and their representatives. This approach is closely associated with the principles of economic democracy.

Efforts toward economic democracy aimed at resolving the crisis have a history that warrants reflection. During the crisis of the 1920s, Fritz Naphtali and coauthors (Arons et al, 1928) discussed their experiences and strategies for extending democracy to the economy to address transformation barriers, specifically in relation to social progress as a stepping stone toward socialism. They understood the 'principle of economic democracy' as '… the subordination of all economic activity to the interests of the general public …' (Arons et al, 1928: 18). The means of production should be removed from the sole control of entrepreneurs and a new distribution system should allocate capital based on social criteria (Arons et al, 1928: 175). The representation of workers, which at that time was predominantly focused on the internal company level (Potthoff, 1985: 144–5), was intended to be enhanced by expanding democratic participation through trade unions and state actors, as well as institutions at the industry or sector level and the macro level (Arons et al, 1928). Although there are parallels between our concept of conversion and the expansion of codetermination in production and framework conditions, the context and objectives differ. Of particular interest to our research question is the extent to which the ecological component of the orientation toward the common good is emphasized through extended codetermination.

Naphtali's concept of economic democracy suggests that trade unions and the state should enforce the common good against the economy. However, defining the common good in complex societies is not simple and requires negotiating among divers actors with differing interests. Franziska Wiethold (2025: 454) argues that 'workplace democracy and social interests are in a state of tension even without capitalist dominance'. Exemplary conversion projects depend on collaboration among different stakeholders, such as employees, civil society, regional stakeholders, and scientists. Nevertheless, several key concerns arise: the legitimacy of these actors, and how well they represent broader societal and ecological interests, given the middle-class bias within civil society (Wiethold, 2025: 463); the potential for regional and civil society contexts to be appropriated by right-wing actors (Schroeder et al, 2020); and how grassroots democratic processes, such as citizens' councils, integrate with higher levels of representative democracy (Wiethold, 2025: 463). Additionally,

employees often resist socioecological transformation measures due to their strong identification with their companies and their (minor) involvement in the company's market success. This resistance can result in divisions and a phenomenon known as 'company egoism' (Wiethold, 2025: 454; Šik, 1979). Under capitalist conditions, trade unions are often perceived as pursuing a competitive corporatist policy and adopting the logic of capital interests. Röttger (2011) critically describes how conversion strategies have shifted their focus from objectives that transcend the company – particularly from armament conversion in the 1980s – toward corporatist policies in which trade unions assume the role of co-management, alongside the logic of location competition. Ottaiano (2025) describes the current activities of trade unions within the context of the transformation of the German automotive industry as classic defensive battles aimed at securing jobs. These efforts are only tentatively expanding toward more sustainable products and business models. Despite numerous unresolved questions, Wiethold identifies opportunities within economic democracy projects to mitigate the risks associated with capitalist destruction. The resolution of these implementation challenges largely depends on the willingness of participants to engage in a collaborative learning and negotiation process that transcends selective short-term activities (Wiethold, 2025: 467). Even if incremental changes at the micro level face pressure to be integrated into the prevailing system, experiencing what is termed a 'mission shift' or 'mission displacement' (Minkoff and Powell, 2006), research has demonstrated that organizations with a public good mission may gradually shift their focus from societal to service-oriented objectives without necessarily becoming conservative or predominantly profit-driven (Minkoff and Powell, 2006). Firstly, participants learn from their mistakes and integrate these experiences into their organizational structures (Gubitzer, 1989; Elsen, 2007; Notz, 2011). Secondly, development at the micro level is significantly influenced by the prevailing industrial relations and political framework conditions.

As we have argued, following Uzzell (2021), workers' subjective relationships with nature and their perspectives on environmental issues are influenced by their workplaces, which typically prioritize profit over environmental goals. Consequently, it is essential to explore the conditions under which the interests of workers in environmental protection, along with their fundamental support for environmental measures, can be translated into environmentally-friendly actions. If a conversion strategy is to effectively address the barriers to ecosocial transformation, it is essential to justify how increased participation in the economic sphere encompasses both social and ecological components. In this context, the common good, or, in other words, the objectives of transformation, should be understood from an ecological standpoint. When employees can make choices, they are more likely to support ecological goals compared to situations where such participation is lacking. Empirical surveys indicate that 'company egoism' or corporatism is not an inevitable law of nature. Employees also support environmentally-friendly measures and make environmentally-conscious decisions at the micro level. According to a recent study, two-thirds of employees in Germany support climate-protection measures, anticipate material losses, but expect greater well-being and a more liveable environment, with trade union members engaging in these discussions more intensively (Schulz and Trappmann, 2023). Companies with strong codetermination had significantly higher environmental, social and governance (ESG) scores than those without codetermination (Scholz, 2023). Case studies on employee takeovers revealed that the workforce was initially

focused on job security; however, over time, they began to align themselves more with broader social goals and transitioned to environmentally-friendly products (Klemisch et al, 2010: 55). Psychological studies indicate a correlation between democratic organizations and the willingness to engage in socioecological action in most cases (Weber et al, 2023), as well as the alignment of meaningful work with corporate social responsibility (Svendsen and Jønsson, 2022). In addition, various studies support the notion that codetermination in the workplace enhances resilience to right-wing extremism and fosters a socioecological orientation. Having a high-quality job and being satisfied with it, being included in decision making, and not being uncertain about career prospects, lead workers to value democracy and stimulate satisfaction with its functioning (Hövermann et al, 2025: 62). Conversely, uncertain career prospects, particularly worries regarding digitalization and climate-change policies, tend to undermine trust in national and supranational institutions (Hövermann et al, 2025: 64).

Industrial relations as a context for ecosocial production politics: the case of Germany

In Germany's dual system of industrial relations, workers' representation is, on one hand, significantly more influential than in other countries; on the other hand, it is also strongly institutionalized. Economic, organizational, institutional and societal power (for a typology of power sources see Schmalz et al, 2018; Dörre, 2021) are unevenly divided between company-based bodies of codetermination and trade unions at the regional, sectoral, and societal level.

Codetermination legislation grants workers both the individual and collective right to elect a works council (or staff council in the public sector) and to be represented on the corporate board. Works councils possess certain enforceable rights, particularly concerning shop-floor regulations, working hours, and the monitoring of performance. In the event of mass redundancies, relocations, or shutdowns, a 'social plan' that establishes social criteria for dismissals and compensation standards requires their consent. They can withhold approval for individual hiring and dismissal decisions, and on other issues specifically defined by the Works Constitution Act 1972, they must be consulted or informed. Although management can overrule them on most matters, they have the ability to delay measures that are not in the interest of workers and can refer certain issues to arbitration. They can also negotiate legally binding works agreements with management. Yet, their power is mostly institutionally bestowed, as they are under legal obligation to cooperate trustfully with management and maintain industrial peace.

Elected worker representatives on the corporate board serve as an additional source of institutional power. Half of all board seats (in smaller firms, a third of all seats) and vice presidency of boards are set aside for the employees' 'bench'; but in case of conflict, with few exceptions in mining and steel and at Volkswagen Corporation, the vote of the president whom shareholders elect by default can break a tie.

As trade unions have the right to strike for collective agreements, they potentially hold the economic power to disrupt production (and valorization of capital), provided that numbers and activity of union members give them sufficient organizational power to permit industrial action. Collective agreements are primarily negotiated by sector with employers' associations. As these agreements are legally binding for both parties, they are also a source of institutional power. However, companies can circumvent

them by opting against membership with employers' associations. Although such agreements still cover a majority of employees in industrial sectors, overall coverage has significantly declined over the past 15 years. Since the right to strike (as well as the right to impose lockouts) is only indirectly derived from Article 9(3) of the Federal Basic Law, and is not legally defined further, strikes have been restricted by court rulings. Most importantly, during the term of a collective agreement, industrial action is prohibited, and strikes must pertain to issues of working conditions and economic conditions that can be resolved through such agreements with employers. Their objectives must not be 'political', meaning they should not be directed toward government policies.

Unions and works councils rely on one another for their power resources. At the firm level, unions are represented by shop stewards; however, outside of collective bargaining, shop steward bodies and union representatives cannot negotiate directly with management without the works councils acting as intermediaries. In industry, a majority of works council members are typically union members. Councils leverage the organizational resources of unions both within and outside the firm; however, their policies do not always align with union positions. This set of relations both enables and constrains ecosocial production politics by workers.

On a sectoral level, unions can fight for measures that protect workers in adaptation to climate change, as discussed by Schaupp (2024a; 2024b) in relation to the construction sector. Also, in key sectors that require expansion for ecosocial transformation, they can form alliances to enhance job opportunities and improve working conditions within the existing bargaining framework. Therefore, the recent joint ecosocial campaigns 'We ride together', organized by the service workers' union ver.di, and Fridays for Future, could focus on support of collective agreements in public transport (Lucht and Liebig, 2023) to promote a mobility turn.

By contrast, sectoral union strategies for decarbonization of production processes and for more sustainable products that may secure 'green' employment will lack economic weight, because business decisions, for instance, to shift manufacturing capacity from individual to public transport are not subject to collective bargaining, and climate mitigation is considered a political concern. Unions may mobilize societal, particularly discursive, power to advocate for state and municipal measures. However, to promote changes in production, the union apparatus must depend on offering external counselling and expertise to works councils. For example, the metalworkers' union IG Metall has established regional 'transformation teams' to support works councils in this manner (Ottaiano, 2025). Equally, the initiatives of shop stewards, along with support from other social movements, need to be taken on board by works councils in order to be effective. Therefore, in this set of industrial relations the starting point for conversion of production will always be the individual firm, even if implementation calls for wider systemic changes in the economy, in markets and in consumption.

In many companies impacted by climate policies and ecological transformation, works councils encounter management strategies of delay. Postponing investments in new production processes and products reinforces fossil lock-in effects (Seto et al, 2016), which will exacerbate future economic risks and threaten employment. Yet it is precisely on these matters that the codetermination rights of works councils are limited to information regarding company planning and consultation concerning operational changes. Their enhanced rights will only become effective when delaying

strategies are no longer economically viable, and layoffs or exemptions from current wage tariffs are on the agenda.

Therefore, firm-based negotiations for new business models that align with ecosocial transformation have thus far been defensive in character, falling short of the concept of democratic conversion discussed earlier. Ottaiano (2025), presenting two case studies in car parts manufacturing, characterizes the way IG Metall presently approaches firm-centred transformation as 'competitive corporatism', and sees works councils caught in the trap of co-management without effective control.

While works councils and unions have no effective means to prevent company takeovers, shutdowns or disinvestment, in the German setting factory occupations and takeovers by workers' cooperatives are rare and do not serve as effective models for ecosocial conversion (Martens et al, 2025). Works councils basically count on present company shareholders or on new investors to implement the alternative business plans and to introduce the more sustainable products or low-carbon technologies that may be developed with their participation (Martens et al, 2025).

A landmark struggle over the shutdown of the Bosch plant in Berg am Laim, near Munich (see Kaiser, 2023), has recently highlighted the inadequacies of codetermination with regard to conversion. An environmental initiative had supported the works council and the workforce in proposing ecological product innovations as an alternative to shutting down operations; however, production at the site was ultimately discontinued.

As a response to the patent lack in institutional power to address transformation, the union movement has endorsed a draft for a fundamental reform of the Works Constitution Act 1972 that would give works councils enforceable rights over economic and technological affairs (Allgaier et al, 2022). Additionally, IG Metall is currently implementing a new strategy of collective bargaining that may leverage its economic and organizational power to facilitate socioecological transformation at the firm level. In 2021, it successfully negotiated a clause regarding 'agreements for future' (Jänicke, 2021; Ottaiano, 2025), which is now being applied in firms that are facing challenges in adapting to transformation. The sectoral collective agreements for the metal industry now provide a framework for unions and works councils to initiate a process with management to define targets for product and process innovations in the context of digitalization, energy transition, and mobility transition, and to define measures that secure competitiveness, employment and skills. Such initiatives are not enforceable; however, when engaged, they involve the workforce, works councils, and the union in discussions that can lead to an agreement between the employer and the union.

Other conversion activists argue that, given the limited power resources of the workforce, works councils and unions, only socialization affords the necessary leverage to prevent plant shut-downs and lay-offs and to enforce ecosocial business models (Hirsekorn and Rosswog, 2025). All the firm-based approaches discussed above reach their limits when jobs cannot be secured internally, and workers require individual entitlements for professional conversion, retraining or employment in the external labour market. Additionally, in cases involving firms or business plans that are inherently unsustainable, such as lignite mining and coal-based power plants, mobilizing power resources within the firm is clearly impractical. In both cases, conversion must occur at the regional level, and that involves a fundamental shift in power relations for workers and their representation. In regional conversion processes

(for case studies in two German lignite regions, see Sander and Haas, 2025), unions and works councils are unable to exert their economic and institutional powers, as these are tied to the labour process. They must then depend on their organizational resources to mobilize sufficient discursive and coalitional power in the larger context of regional ecosocial transformation (for past experiences, see Röttger, 2011; Bartelheimer, 2025).

An overarching democratic framework for ecosocial conversion

In the 1920s, the concepts of economic democracy proposed by Naphtali and his coauthors emphasized that, first, the inter-company representation of workers plays a crucial role in shaping economic and social policy. This includes negotiating collective agreements, establishing social security systems such as unemployment insurance, and supporting self-help organizations like consumer cooperatives and trade union-owned enterprises (Arons et al, 1928). Second, it is essential at the state level to prioritize the common good over capital interests. This involves promoting worker protection, providing worker insurance, supporting self-governing economic bodies, and ensuring the involvement of worker representatives. Additionally, the state should facilitate the flow of capital through central banks and the public banking system (Arons et al, 1928: 175). In historical retrospect, Potthoff (1985) argues that proponents of economic democracy failed to implement fundamental structural changes in the economy during a period of revolutionary optimism. They were satisfied with internal codetermination and self-help initiatives, such as cooperatives. However, a system of inter-company councils, which would have granted equal rights to worker representation, did not materialize. Ultimately, worker representatives lacked the power to challenge entrepreneurial interests amid the escalating crisis of hyperinflation. The concept of economic democracy overlooked critical economic and power-political dimensions (Potthoff, 1985: 148).

Addressing today's ecosocial crisis requires a global approach due to the interconnected nature of ecosystems and the world economy, which underscores the need for international coordination and collective action. However, individual, group-based, and national strategies currently coexist alongside policies aimed at enhancing social and environmental standards from a global perspective. While individual approaches to addressing the crisis are escapist (Rushkoff, 2025), national (or European) strategies focus on competitiveness, primarily promoting innovation, which is perceived as a prerequisite for facilitating investment in environmental and social issues. In the past, policies designed to establish higher standards with international reach were conceived as ecological and market-based instruments, including CO_2 taxes, emissions trading schemes, and transparency standards (for example, the EU taxonomy). However, regulatory policies were also introduced. In addition to climate agreements, these include fair transition policies as part of the European Green Deal, supply chain legislation, environmental tariffs, and the integration of trade policy with social and environmental standards. Furthermore, there are industrial policies that incorporate socioecological objectives (Ötsch, 2024). These policies are contested. Ecological and social conflicts of interest also emerge on an international scale; for instance, when poor countries frame socioecological

standards as protectionism. The ambitious implementation of transparency regulations (under the EU-CSRD Directive) has prompted a widespread campaign by business organizations against 'bureaucracy' perceived as detrimental to local economies. Trade unions, as well as social and environmental organizations, express significant concerns that the rationale of reducing bureaucracy will primarily be used to undermine ecosocial standards. Challenges in implementing ecosocial industrial policy are posed by conservative factions that hold state intervention in the economy to be detrimental.

On the other hand, critics argue that transformation policies disproportionately favour private capital. The transformation is expected to be financed largely by private capital, which will be leveraged through public incentives. A prominent discussion centers on conditionalities and public-private partnerships (PPPs), transitioning from projects that are predominantly privately controlled and publicly funded to genuine partnerships that prioritize public interests (Herzog, 2024; Mazzucato, 2024). The concept of the 'green entrepreneurial state' (Mazzucato, 2015) has inspired new industrial policy frameworks that advocate for a renaissance of public control and enhanced state steering capabilities, particularly through the design of smart contracts and the establishment of conditionalities (Mazzucato and Rodrik, 2023). Approaches such as foundational economy suggest excluding the question of ownership while incorporating aspects of the common good into corporate constitutions or more closely aligning public procurement with politically-established goals, such as ecosocial change (Arcidiacono et al, 2018). Industrial policies receive strong support from trade unions, which significantly shape this perspective. However, socioecological industrial policy is under scrutiny from growth critics who argue that strategies of 'ecological modernization' fail to address the rebound effect and maintain a commitment to the German export-oriented production, associated with problematic raw material requirements and value chains (Brand, 2019). In the context of the ecological crisis, the focus should shift away from growth and instead prioritize a 'socially and ecologically compatible quality of production, distribution, and consumption' (Brand, 2019).

Both strategies of socioecological modernization, which rely on an expansion of state influence, and positions critical of the growth imperatives of the capitalist system, currently lack political majorities. However, conversion projects can unite actors committed to both socioecological modernization and anti-growth positions. By collaborating, these groups can work towards forming ecosocial alliances and achieving political majorities. Positions that regard state policies as insufficiently critical of growth and of the capitalist system, however, support conversion projects, such as the Collettivo di Fabbrica Ex-GKN. These projects are viewed as solidarity-based and sustainable solutions to the crisis, serving as exemplary real laboratories for change. Conversion projects integrate elements of both representative and direct democracy, and can be seen as efforts to rejuvenate representative democracy. In these initiatives, interactions among workers, civil society, and political entities are enhanced with a focus on the common good. The associated negotiation processes necessitate democratic competencies. Trade union experience in negotiation will be combined with civil society expertise, particularly in the environmental sector. This approach facilitates the development of transformation-specific skills that also democratize processes.

New alliances and conflict constellations

At the level of the firm, the conflict between capital and labour, between management and workers, intersects with a larger societal conflict over ecological transformation that calls into question not only modes of production but also ways of life (Dörre, 2021: 91). Consequently, working-class strategies for democratic conversion also need to be intersectional by design: they must be suited to intervene successfully in both axes of conflict. In discussions on how to build collective power for a new ecosocial kind of production politics the concept of social-movement unionism occupies an important place. For Pillay (2021: 86), it is even equivalent to 'democratic ecosocialist working-class politics'.

Like just transition, social movement unionism can and will be read in many different ways. Yet, four characteristics of this type of unionism appear to meet general acceptance (Moody, 1997; Fairbrother and Webster, 2008; Dörre, 2020; Pillay, 2021):

- It is relying less on centralized and institutionalized collective bargaining than on decentralized campaigning and organizing at the level of individual firms, communities and regions.
- It is sustained by grassroot activism, calls for direct membership participation and involves the rank and file in decision making.
- Its agenda for campaigning and organizing is 'comprehensive', linking workplace issues with others that are situated outside industrial relations but concern workers, and derived from an understanding of a larger set of power relations (Dörre, 2020: 33).
- It is focused on building local coalitions of unions with other groups and social movements that hold a stake in these concerns, which involves 'deep organizing' in social contexts outside the labour process, for instance in local communities.

In the past, fragmentation and erosion of collective bargaining, and the growing share of precarious and non-standard employment, have been cited as major reasons for the need to complement the more institutionalized union functions of member representation and centralized bargaining. But in the context of ecosocial transformation, unions have even more reason to look for a new balance of participatory and representative approaches. Unions and works councils often lack both economic and institutional power resources to intervene proactively in the transition to sustainable production and to secure employment, skills and working conditions in the process. They need to build local and regional alliances in order to mobilize discursive and cooperative power resources, and to assert themselves in processes of regional transformation. Also, they need to complement firm-centred action with efforts to create job and training alternatives in the external labour market, to procure demand for alternative products, and to effect the necessary systemic changes, for example in the transport or energy sector, that such alternatives require. Lastly, ecosocial transformation is politically induced and involves a new kind of interaction between state politics and firm-centred production politics. To address its political dimension, unions need to acquire the organizational and cooperative power to successfully wage political campaigns.

Conclusions

In discussing theoretical reference points for ecosocial conversion, this article prominently features LPT. Its core concept is well-suited to inform strategies that politicize economic decisions regarding investments, production processes, and products, while emphasizing workers' agency. We pay tribute to this theory by coining the term of ecosocial production politics. LPT must also connect with issues of ecosocial transformation that extend beyond the labour process. This 'greening' of LPT, for which we can only offer a few suggestions, lies beyond the scope of this article. Thinking of the economy and the environment not as conflicting interests, but as a necessary connection, requires new crosscutting concepts. Beyond the conceptual level, this strategy also demands more democratic rights over production and the establishment of alliances that can make these policies viable for the majority.

To effectively assess work, one must adopt perspectives that extend beyond the operational level, addressing both the micro and macro levels of production and their environmental interactions. A framework for socioecological conversion must include economic, industrial, regional, financial, and monetary policies, as well as the interactions of these policies with environmental and social processes from a global perspective. Conversion requires collective, diverse, and pluralistic processes that facilitate experimentation and are supported by appropriate framework conditions. This conversion can occur within existing companies, manifested in Green Jobs, or in new institutions or organizations that incorporate an economic democratic component, emerging from collaborative search processes.

Conversion and economic democracy are closely linked. Subjects who lack decision-making power in the workplace are more likely to experience a loss of control rather than becoming active shapers of the transformation process. The latter presents complex challenges that can only be addressed through collective intelligence, social and democratic competence. Ecosocial conversion necessitates transdisciplinary learning and exploratory processes. The path to achieving a fully climate-neutral economic system remains unclear, as does the successful transition away from fossil-based economic practices. Contrary to the implications of prevailing political approaches, the emphasis should not be solely on technical knowledge; instead, it is crucial to focus on process knowledge related to democratic negotiations and conflict-resolution strategies. This knowledge must be applied at all levels, from the shop floor to broader networks, alliances, and commissions, areas in which trade unions possess significant expertise. Long-lasting ecosocial institutions require a commitment to social and ecological justice.

Note

[1] Next to nature, she sees social reproduction as a process disjointed from the capitalist labour process but also subsumed under capital (Baglioni, 2023: 20).

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