

Chapter 2

Inequality in the green transition

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Introduction

This chapter takes a close look at inequalities in the green transition in the context of the so-called ‘polycrisis’. This picks up the thread of Fineman’s (2021) reflections on the discriminatory impact of recent systemic shocks, such as the financial crisis of 2008–2009, the Covid-19 crisis and now the cost-of-living crisis, and how they exacerbated existing embedded patterns of social disadvantage and generated a range of ‘exponential inequalities’.

We are facing a new constellation of cumulative inequalities in the climate–environment–social nexus for which we simply do not have adequate policy tools. This is mainly because of the complex ways in which these inequalities are related and how intertwined they are. The idealistic vision of a ‘just green transition’ outlined in, for example, the ILO’s (2015) Just Transition Guidelines claims that a transition to a zero-carbon economy can be achieved in an equitable way and that entrenched inequalities can also be addressed. In this ideal scenario the process would move from the current unequal carbon-intensive and resource-depleting economy to a more equitable zero-carbon and sustainable one, and the transition itself (with its often disruptive effects) would not create new sources of inequality. While change is inevitable, recent history shows us that all changes and shocks tend to generate further inequalities. This chapter will address multiple inequalities in the context of climate change and the green transition. Without addressing these and at the same time avoiding new forms of inequality, the existential threat of climate change cannot be properly addressed. The aim of this stock-taking is not to come up with a transformative grand solution, but to identify the main challenges and policy gaps and generate some policy recommendations, as well as to raise questions for further research.

Section 1 draws some lessons from the pandemic on the enhanced role of the state and inequality. Section 2 provides an overview of different dimensions of inequalities in the climate–environment nexus with reference also to the cost-of-living crisis. Section 3 provides a case study on electromobility, illustrating how a technology-based approach to the green transition can generate further inequalities. Section 4 examines how applied policy tools and just-transition approaches are targeting individual manifestations of inequality in line with advocacy group interpretations. The concluding Section 5 argues that addressing one type of inequality can have knock-on effects on other inequalities (even making them worse) in the absence of an integrated and comprehensive approach. A conclusion follows, incorporating policy options ranging from a redesigned welfare state and universal basic services to price regulation and rationing.

1. Lessons from the pandemic

The pandemic demonstrated that, although challenging, it is possible to mobilise collective action and implement policies to deal with acute crises. In the case of the climate crisis, however, in relation to which cause and effect are distant from each other in both time and space, and links between collective and individual risks are not so apparent, this becomes more difficult. This ‘time and space lag’ also partly explains why raising awareness of the costs of inaction is more challenging. While no (or less ambitious) climate action will have dramatic effects on future generations, at-risk regions and vulnerable people in particular, it is not perceived as an imminent danger. This contrasts starkly with the immediate effects of a ‘lockdown’ on contagion rates and deaths. On the other hand, the effects and social ‘costs’ of climate change mitigation policies (including employment and distributional effects) manifest themselves in the here and now. If a coal mine is closed down to reverse global warming, redundancies and job losses materialise immediately, while the benefits will be experienced only in the distant future. One lesson from the pandemic was that despite determined state action to address the health crisis, and active intervention to fend off the economic effects, inequality has increased in several dimensions. How can policymakers then deal with the more complex challenge of climate change and environmental degradation, when the complete economic and consumption model needs an overhaul.

A large body of literature demonstrates how the pandemic has both created new inequalities and exacerbated existing income gaps between and within countries (Deaton 2021; see also the chapter by Dorling in this publication).

1.1 Unequal effects of the pandemic and its aftermath

The World Bank (Gopalakrishnan 2021) has documented the rise of inequality along a range of measures, from uneven economic recovery and unequal access to vaccines to the increasing indebtedness of poorer countries. It has also shown the widening income losses by income decile and the divergence in learning, demonstrating that the Covid-19 pandemic had a disproportionate impact on the poor and vulnerable in 2021. The World Health Organisation (WHO 2021) stated that at the global level more than half a billion people were pushed or pushed further into extreme poverty by health care costs.

The pandemic has also exacerbated pre-existing inequalities in the labour market, largely because the ability to work remotely is highly correlated with education, and hence with pre-pandemic earnings (World Bank 2020; Sostero et al. 2020). In developing economies, the same labour market forces are turbocharged by informality: lower-skilled workers are predominantly informal and thus have no access to furlough programmes or unemployment insurance (Ferreira et al. 2021).

Given pre-existing racial and gender occupational differences, the exacerbation of these labour market inequalities is also likely to have translated into even greater racial and gender disparities in many countries.

1.2 Remote working during and after the pandemic

The trend for workers in certain occupations, particularly those with high skills, to work from home (home office) has been another source of inequality during the pandemic. Certain occupations in, for example, health care, many services, public safety, restaurants, repairs, maintenance and transport cannot be practiced remotely. The rift between home office workers in well-paid high-skill occupations and these necessarily in-person occupations could lead to a kind of embedded inequality between occupations and regions. There are already clear differences between regions in the United States and Europe regarding the prevalence of home office working. A new urban/rural divide has been emerging (Brynjolfsson et al. 2020; Eurostat 2022). As remote working gains ground even in the wake of the pandemic, expanding to encompass broader swathes of the workforce, it will have longer-term effects on inequality. Given the general increase in more precarious work forms as a result of outsourcing and platform work, a process in full swing even before the pandemic, it is worth pursuing the link between remote working and a decline in the prevalence of regular employment contracts in the types of occupations that have been affected by the more recent shift to home office and decentralised work cooperatives (Brynjolfsson et al. 2020).

The benefits associated with being able to work from home also potentially exacerbate existing or emerging inequalities (Sostero et al. 2020). While evidence points to a strong association between income levels and the possibility of remote working (Dingel and Neiman 2020), existing inequalities make it harder to assess the environmental impacts of remote work.

An important lesson from response measures to the economic effects of the pandemic with relevance to both the cost-of-living crisis and the green transition concerns the side effects of blanket measures. In response to the widespread economic collapse in 2020, the world's key central banks further loosened monetary policy, injecting enormous amounts of liquidity into financial markets. While these broad-based stimulus measures and monetary policy interventions were well-intentioned, and helped to prevent bankruptcies and preserve jobs, they inflated the value of assets held primarily by rich people. Capital markets have also played a role in generating inequality during the pandemic, particularly at the top. While this additional liquidity was not immediately translated into goods price inflation, it has contributed significantly to the inflationary shock waves triggered by the energy price rises caused by Russia's invasion of Ukraine. It hardly needs adding that spiralling inflation in 2022 affects the poor and the vulnerable most, thereby further aggravating inequality.

All this means that discussing 'inequalities' in the context of climate and environmental action is an extremely complex task, fraught with challenges and often contradictions in terms of the timeframes associated with particular decisions.

2. Inequalities in the climate–environment–social nexus

Inequalities within the climate–environment–social nexus are complex and cumulative, with several dimensions and layers, some conflicting. The main dimensions range from responsibility to exposure and vulnerability (to both climate change and pollution), adaptation capacity and mitigation policies for their employment and distributional effects (for more on this see Galgóczi and Akgüç 2021). All these dimensions are linked to inequalities in income, wealth, spatial characteristics, housing and employment, and correlate with age, gender, skills and racial (ethnic) characteristics. What makes this constellation even more challenging is that the forces driving these inequalities have different time horizons and geographical spread. Cause and effect are direct and readily identifiable in some cases, but indirect and obscure in others.

2.1 Main dimensions

2.1.1 Carbon (footprint) inequality

Carbon footprint (CO₂-equivalent emissions per capita) is the main indicator of responsibility (of individuals, states or companies) for causing climate change. Its distribution is extremely unequal both within and across countries. Nearly half of global cumulative CO₂ emissions since 1850 were emitted in just 25 years between 1990 and 2015, with the richest 10 per cent of countries responsible for 52 per cent (Gore 2020). Furthermore, the richest 1 per cent of the world population alone (around 63 million people) were responsible for 15 per cent of cumulative emissions. At the same time, the poorest 50 per cent (around 3.1 billion people) were responsible for just 7 per cent of cumulative emissions. For the EU, a study by Ivanova and Wood (2020) showed that while the top 1 per cent of emitters had a carbon footprint of 43.1 tonnes CO₂ per capita in a year, that of the bottom 50 per cent of emitters was only 4 tonnes.

2.1.2 Unequal impacts of climate change – exposure, vulnerability and adaptation capacity

The differential effects of climate change and extreme weather events will be a major source of inequality. Climate models and forecasts for Europe also show that the effects will be very uneven (European Commission 2021). This, coupled with inequality of adaptation capacities, makes poorer societies and poorer households more vulnerable. Lower income individuals also tend to have occupations that are more exposed to climate change, and their housing conditions make them more vulnerable, too (for example, inner city ‘heat islands’ versus green belts). Responsibilities and impacts often work in opposite ways, constituting a ‘double injustice’ (Walker 2012).

2.1.3 Inequality of exposure to environmental harm

A recent analysis by the OECD (2021) shows that the impacts of environmental degradation are concentrated among vulnerable groups and households. Poorer health, limited access to good quality health care, and a lower ability to invest in defensive measures increase the vulnerability of low-income households to air pollution and

climate change. A UN report (Achieme 2022) highlights the racially discriminatory and unjust roots and consequences of environmental degradation, including climate change.

2.1.4 Inequalities during the green transition

Climate policies will continue to have a major effect on the world of work. Millions of new jobs are being created in the transition to a net-zero carbon economy, but millions of jobs will also disappear. The majority of jobs will go through a fundamental transformation. This unprecedented wave of restructuring will have unequal effects on many fronts, including skills, gender, age, economic activity and region.

The energy and automotive sectors will be hardest hit by the decarbonisation drive from climate and environmental regulations at European and national levels. In the coal-based power sector the majority of currently existing jobs will disappear in a decade. This constitutes a small fraction of EU jobs but will have significant regional impact (Alves Dias et al. 2021).

The automotive sector, with a more than 5 per cent share of total European employment, is a key employer and the electrification of the powertrain will require less labour input (Bauer et al. 2020). The only certainty is that the changes will be on a massive scale; up to three million jobs will be fundamentally transformed in terms of skills and competences (Kuhlmann et al. 2021). Decarbonisation and digitalisation will reshape international value chains, bringing great uncertainty for the future economic viability of locations all over the world. Plant-level case studies also reveal that the people negatively affected by restructuring tend to have irregular contracts with precarious jobs (Sonzogni and Schulze-Marmeling 2019).

Concerns about inequality in low-carbon transitions also include the inequitable distribution of benefits. Studies indicate that marginalised groups hardly benefit from job creation in the US renewable energy sector, with low representations of women and people of colour (E2 2021).

While market mechanisms – such as the EU Emissions Trading System (EU ETS) – that set price signals for market actors are important in changing investment and behavioural patterns, they have significant regressive distributional effects, disproportionately affecting low-income households (Cabrita et al. 2021). Feed-in tariffs with higher electricity prices to finance investments in renewables, for example, hit low-income households hardest (Zachmann et al. 2018). Even before the price hikes from late 2021 and the price explosion because of the war in Ukraine, energy poverty was at an alarming level in many EU Member States. Poorer households also have less capacity to change to low- to zero-carbon options, such as electric vehicles, rooftop solar panels or heat pumps (Galgóczy and Akgüç 2021). Uneven distributions of low-carbon energy technologies and rising electricity prices raise significant concerns for environmental and energy justice (Kelly et al. 2020).

2.2 Cost-of-living crisis

The ‘cost-of-living crisis’ triggered by the runaway fossil fuel energy prices amplifies these inequalities further. Trends indicate that the effects of higher energy costs are harshest for vulnerable lower income groups, while richer households may even increase their consumption and carbon footprints (as, for example, fast-growing civil aviation and SUV sales show; IEA 2022a). The main factor that limited further increases in global GHG emissions in 2022 is slower growth of output and energy use, with dramatic effects on the poor.

The positive message of the IEA Energy Outlook (2022b) was that even if 2022 was about to bring further growth in global emissions, a significant moderation was likely compared with earlier forecasts. While the record deployment of renewables (as one driver of the moderation) is indeed good news, the net positive effect on global emissions from slower growth because of the war in Ukraine is not. While the world may ‘need’ a cost-of-living crisis to avoid another jump in emissions (because lower growth entails less fossil energy use), it also highlights the limited achievements of climate policy efforts. This is bad news from a climate policy point of view, but even worse from a social one. Further details from the IEA report show that aviation has become an important driving force of emissions increases and while a record rise in electric vehicle sales has had a significant impact on road transport emissions, the similarly record sales of powerful and expensive SUV cars have cancelled out any improvements. Both trends indicate that the carbon footprint of the rich is less affected by the global slowdown. The apparent outcome is that while the ‘cost-of-living crisis’ may bring some incremental improvement in emissions, it aggravates inequalities, with devastating social effects. We also saw this pattern in the financial crisis, as well as in the pandemic.

Europe is trying to perform a balancing act of maintaining its climate ambitions while at the same time addressing the social emergency posed by the cost-of-living crisis. Speeding up the green transition while addressing the injustice of those with the lowest carbon footprints suffering most from the effects of energy price increases (because they can least afford to shift to low carbon technologies) is a formidable task.

Energy poverty was already significant before the dramatic price increases, as data for 2021 show. For the EU27, 6.9 per cent of the total population or 30.8 million people could not afford to keep their homes adequately warm even before energy prices started to soar. Furthermore, 16.4 per cent of those at risk of poverty were unable to maintain an adequate home temperature, while in Greece, Bulgaria and Cyprus up to 50 per cent of poorer households suffered energy poverty. Allianz Research (Holzhausen 2022) has calculated that the number of households in energy poverty in the EU27 had increased by more than 50 per cent as of June 2022. While exact numbers were not presented, this would mean that by mid-2022 more than 45 million people in the EU were living in energy poverty. According to Allianz estimates the share of the population facing energy poverty was expected to double by the end of 2022 compared with 2021. This forecast would mean that more than 60 million people in the EU face energy poverty.

Most EU Member States have implemented tax cuts on energy and have also introduced price reductions or control measures on retail energy prices. Most Member States have also targeted measures on vulnerable (low income) groups, although often as an afterthought and not to any great extent. Available overviews of national policies (Sgaravatti et al. 2022; Eurelectric 2022) indicate that broad-based measures have been dominant, which does not benefit either climate and environment policy or equity objectives.

Member States have very different fiscal capacities to pursue such measures, posing a risk of widening disparities and raising important questions about European solidarity.

With regard to the multiple dimensions of inequality, in the absence of a robust social dimension we face a triple injustice: those least responsible for causing climate change and most vulnerable to its effects are likely to be more affected by necessary mitigation policies (in terms of employment and distributional effects) *and* can least afford low carbon technologies to end their reliance on fossil fuel.

3. Clean energy investments and inequality

This section presents a case study of the mobility transition to demonstrate how the lack of a properly balanced regulatory framework in the course of an essential transformation can exacerbate inequalities. It is a fundamental challenge for the green transition to determine the policy mix that can achieve its climate and environmental objectives in an equitable way. Technology is certainly part of the solution, but it is inherent in technological change that those who can afford new – in this case, low-carbon – technologies are likely to derive the initial benefits. Also key to the policy mix are market-based signals and incentives, from emissions trading systems to the price of energy, fuel or organic food. These also exacerbate existing inequalities.

Here we present the case of technology-driven clean mobility and show how it creates new divisions.

Until 2014, investments in clean energy were almost synonymous with investments in renewable energy, as the energy transition was concentrated in the power sector. Investments in electromobility were a negligible part of the global energy transition. This picture has changed dramatically in the past couple of years, and this also has important consequences for inequality. By 2021/22 investments in electromobility became the driving force of the energy transition. While the whole of society benefits from expanding renewable energy generation capacities in terms of both CO₂ reductions and affordability, investments in electromobility, while certainly essential and beneficial for CO₂ reductions, tend to benefit higher income people and countries.

According to BNEF (2022), in 2021, global investment in the low-carbon energy transition totalled USD 755 billion, up from USD 595 billion in 2020. This includes investment in projects such as renewables, storage, charging infrastructure, hydrogen production, nuclear, recycling and Carbon Capture and Storage (CCS) projects, as well

as end-user purchases of low-carbon energy devices, such as small-scale solar systems, heat pumps and zero-emission vehicles. From the standpoint of broad economic sectors, the largest sector in 2021 was still renewable energy (USD 366 billion) with an increase of 6.5 per cent from 2020. The most dramatic change, however, has been in the electrified transport sector, which showed a 77 per cent increase and came a close second after renewables with investments of USD 273 billion.

BNEF data also show that it is particularly in Europe that clean energy investments shifted most from renewable energy generation toward electromobility, and by 2021 the latter made up the bulk of its USD 154 billion total energy transition investments.

3.1 Clean mobility progress also drives inequality

According to ACEA (2022a), in the second quarter of 2022, sales of battery electric vehicles (BEV) continued to expand in the EU, accounting for 9.9 per cent of total passenger car registrations, while plug-in hybrid cars accounted for 8.7 per cent. East–west divisions were enormous, as 96 per cent of fully electric vehicles were sold in the 14 Member States that were EU members before 2004 and only 4 per cent – 17,700 vehicles – in Member States from central and eastern Europe (although there was a dynamic increase there, too).

From a global perspective the unbalanced nature of the mobility transition is striking. Global passenger EV sales keep on climbing, and in 2022 they were expected to reach a record 10.6 million, an increase of over 60 per cent from 2021 (BNEF 2022b). China has been the main driver, with battery electric vehicles accounting for one in five passenger cars sold in the second quarter of 2022. Electric car sales in China are forecast to hit 6 million in 2022 to make up 60 per cent of global sales. Electric car sales (BEVs and PHEVs) have also exploded in Europe in recent years, totalling to 920,000 vehicles sold in the first half of 2022 (BNEF 2022b). China and Europe accounted for 84 per cent of EV sales in this period, and with the United States, these three regions made up 95 per cent of worldwide sales. This also shows that the bulk of the world population is still excluded from this development (BNEF 2022b).

Inequality is further exacerbated by the fact that cars are becoming bigger, faster, heavier and more expensive. Electromobility is not only unaffordable for most people, but it is getting ever more unaffordable. In part due to EU regulations on car emissions standards that allow higher CO₂ emissions for larger cars (weight-adjusted CO₂ standards) new cars sold in Europe in the past decade have been getting heavier, more powerful and more expensive (see more in Pardi 2022). Ever bigger electric and plug-in hybrid cars also need bigger and heavier batteries, which depletes material resources and may trigger increasing geopolitical conflicts and exploitation of vulnerable populations, mainly in the Global South.

There are two main reasons why unaffordable electric vehicles may be a serious problem. First, it might create a two-class mobility system, as only those who can afford the high entry costs can benefit from individual mobility, with public transport becoming

the default option for the less well-off. This is all the more worrying as investments in public transport infrastructure had been neglected for decades (Greenpeace 2022). European transport networks are fragmented, in particular the railways (European Commission 2018). Secondly, under these conditions, changes to the vehicle fleet in the EU that would involve the replacement of tens of millions of polluting cars with electric ones within a limited period of time do not seem achievable.

4. How have climate, environmental and social inequalities been addressed by social movements and 'just transition' policies?

Social movements, NGOs and trade unions have tended to focus on one particular form of inequality, while neglecting others and the interlinkages between them. Some have focused on vulnerability and exposure to environmental hazards in seeking environmental justice, while others have thematised climate justice in the global context. Trade unions have focused mainly on jobs in the context of restructuring as a result of necessary decarbonisation and have contributed decisively to the emergence of the concept of just transition. In the absence of an integrated 'just transition' policy framework with an active role for the state, multidimensional and interlinked inequalities in the climate–environment–social nexus cannot be addressed properly. As demonstrated below, what remains is a fragmented patchwork of 'just transition' initiatives.

4.1 Advocacy groups

4.1.1 Environmental justice

From early on, the concept of *environmental justice* focused on various equity issues related to local population exposure to environmental hazards. Research addressing 'environmental equity', for example, claims that hazardous waste facilities are located disproportionately in minority areas. While the predominant issues of the Environmental Justice movement in the United States are race and environmental inequality (Mohai and Saha 2015), in Europe the focus has been on poverty, health inequalities and social exclusion (Wilkinson and Pickett 2018). A recent UN report (Achiame 2022) claims that the devastating effects of ecological crisis are borne disproportionately by racially, ethnically and nationally marginalised groups, in other words, those facing discrimination, exclusion and conditions of systemic inequality because of their race, ethnicity or national origin and are disproportionately concentrated in global 'sacrifice zones'. From the beginning the trade union movement has had a core interest in health and safety issues in and around the workplace (Rector 2017), but their focus on local environmental hazards with less emphasis on broader planetary dimensions has also met some criticism (Mandelli 2022).

4.1.2 Climate justice

Interpretations of ‘*climate justice*’ draw on the legacy of ‘radical environmentalism’ and focused initially on the Global South–North perspective (Labour Network for Sustainability 2017), recognising the asymmetry between responsibility and vulnerability in the context of climate change (Gore 2015).

Over time the ‘climate justice’ narrative – predominantly in the Global North – has been extended to cover also the unequal effects of policies set up to control climate change, although with some inconsistency in both the literature and policy documents. Distributional effects of climate policies have been addressed in theories of climate justice and in models of burden-sharing between different actors (Koch and Fritz 2014).

There is a complex relationship between climate and environmental justice, with overlapping interpretations. They are often even used as synonyms. Environmental justice concerns and actions often act as a catalyst for climate action, as protests at coal mines (Bergfeld 2019) or actions against air pollution in cities show. The latter played a key role in sparking the ‘Diesel scandal’ that kicked off the fast-track transition to electromobility.

4.1.3 Social justice

Trade unions have been the main advocates of social justice, fighting for a fair share of created wealth for workers. In the early twentieth century the welfare state was established as an institution that favours economic growth and the maintenance of income and therefore consumption. Its aim was not to change behaviour but to maintain it, with a focus on redistribution.

The critical environmentalist approach of the traditional welfare state claimed that social reconciliation between capitalists and the working class became possible based on the high level of wealth created through ever-increasing material flows and the exploitation of natural resources (Schepelmann et al. 2009).

Consequently, in an analysis of the link between the welfare state and climate change, it must be seen not only as a buffer (shock absorber), which is its stability function, but also possibly as an enabler, allowing behaviour to be adjusted (Mandelli 2022).

4.1.4 Addressing different dimensions of inequality

The climate crisis confronts us with a unique constellation of inequalities that is genuinely different from former manifestations. Unlike previous crises, cause and effect are distant from each other both in time and space and the link between collective and individual risk is not clearly visible. While climate change will have dramatic effects on future generations, and on vulnerable regions and people, it is not perceived as an imminent danger by those responsible for the emissions. There is no direct link between a coal mine in Australia and floods in Europe, unlike in the case of local pollution (air, soil or water), where terminating the source has an immediate

effect. With climate change, only coordinated and coercive action can bring results and only within a few decades; the effects of climate policies on jobs, by contrast, are felt here and now.

The challenge is that the much greater threat to peoples' livelihoods and to equity – climate change itself – seems distant and therefore less important than the more immediate impact of climate policies.

At the same time, academic research and civil society activism have developed concepts in separate silos that do not really relate to each other (Wang and Lo 2021). This is one reason why the concept of just transition that has developed over the past 40 years is so heterogenous, diverse, often even ambiguous and confusing.

4.2 Just transition: an integrative concept to deal with inequalities in the climate–environment–social nexus?

The concept of a just transition dates back to the 1970s and has been applied by activists and labour unions, while related scholarly debates appeared in the 2000s. According to McCauley and Heffron (2018), just transition is a new framework of analysis that brings together climate, energy and environmental justice scholarship. This might be the case as a 'framework of analysis', but this is not what is happening in most of its practical implications. When addressing the political economy of just transition, Newell and Mulvaney (2013: 134) described its complexity by pointing out that the goal is 'to achieve zero-carbon while maintaining equity and justice, in pursuit of "climate justice" to current and future generations and manage also the potential contradictions that might flow from doing these simultaneously'.

The very idea of 'just transition' emerged from an environmental justice context highlighting the 'jobs versus environment' dilemma in a rather transparent case. It was not about climate change: a highly toxic and polluting plant had been ordered to close down in the United States with no transitional help foreseen for the workers. Mazzocchi (1993), a trade union leader, argued that dangerous jobs that produce products which threaten community health and the environment should not be preserved, but workers who lose their jobs should be protected.

The concept of just transition concerns how social justice with fair burden-sharing can be applied in the context of controlling climate change, taking climate, environmental and energy justice into account, with all their dimensions. This sounds simple at the abstract and general level and is commonly shared not only in the academic community but also at different policy levels (UNFCCC 2020; ILO 2015; Council of the European Union 2022) where there are comprehensive policy frameworks and integrated concepts. In practical terms, however, the fragmentation of just transition policies has even worsened. While concrete just-transition policies are fragmented and one-dimensional, inequality challenges are multi-dimensional (for a detailed critical discussion and typology of just transition policies, see Galgóczi [2022], while for a critical analysis of the current EU just transition framework, see Akgüç et al. [2022]).

While facilitating labour market transitions is a key element of the just transition concept, the interlinkages between the welfare state and labour market policies are not clarified, in particular as regards active labour market policies. More importantly, the responsibility of the (welfare) state in dealing with the labour market effects of the green transformation is not defined.

This shortcoming became evident with the announcement of the ‘Fit for 55’ package in July 2021. The EU now has a Just Transition Fund (JTF) with limited resources, dedicated mostly to helping coal regions manage the social and employment effects of phasing out coal. This is very important but reaches only a small fraction of those affected by decarbonisation. It is important to note that the only policy tool with regard to which the state acknowledges its role in actively supporting labour market transitions is the Just Transition Fund, but as it is directed to carbon-intensive sectors (coal regions) it covers less than 0.25 per cent of EU employment (Alves Dias et al. 2021). The Social Climate Fund (SCF), starting from 2026, has a very specific target: namely, to alleviate the detrimental distributional effects of a new emissions trading system for buildings and transport (Galgóczi 2022). Based on the agreement of the Council and the European Parliament reached in December 2022, the resources of the SCF will now be raised by around 14 billion euros but, given the scale of the energy crisis, this is rather symbolic. The Council Recommendation on ensuring a fair transition is a toolbox for Member States to manage the outlined employment and social effects, but is based on tools that already exist.

While decarbonisation itself is a common objective of humanity, concrete transitions are taking place in work environments that are determined by the capital–labour relationship. The resulting restructuring process – even under cooperative industrial relations – may well be conflictual. Just transition policies have focused on certain groups (‘just transition for us’), but without taking into account the broader perspective of an inclusive ‘just transition for all’, policies cannot meet the challenges posed by multi-dimensional inequalities. For this to happen the role of the state needs to be rethought.

5. Conclusions

This chapter has shown that inequalities in the climate–environment–social nexus are complex, with several dimensions and layers, including some conflicting ones. This new combination of inequalities that are also interrelated in many ways makes any policy response particularly challenging as the forces that drive them have different time horizons and geographical spread. Historically, social movements, NGOs and trade unions have tended to focus on one particular form of inequality and concepts of environmental and climate justice, as distinct from approaches to social justice, and industrial relations research has developed along different pathways. Until recently, social policies and welfare systems were disconnected from ecological policies. While one of the core mandates of the just transition concept is managing labour market transitions, for the welfare state the original interpretations included income support for the unemployed only in a passive manner. It is not only that the concepts of the

welfare state are not entirely in line with just transition concepts but they are also inherently ambiguous about the role of the state in employment transitions. Therefore, the epochal transformation to a new – zero-carbon – economic model requires an overhaul of the traditional welfare and employment policy framework, and the role of the state needs to be reconsidered. To implement this in the real world, an integrated and holistic policy framework is necessary, ideally in the form of an ‘eco-social state’.

The discipline of ‘environmental labour studies’ has attempted to create intersections between social and environmental justice, climate change and working conditions (Stavis et al. 2018). An enabling state, often referred to as the ‘eco-social state’ (Jakobsson et al. 2017), can link labour and the environment in a *strategic* manner with a new integrated welfare concept (see also Galgóczi and Pochet 2022).

Instead of proposing a grand transformative idea, a less ambitious and practical approach could be to flag up possible policy options and raise further questions for future research.

As we are stumbling from one crisis to another, in the course of which ad hoc responses are being implemented urgently to fend off the most imminent effects (as seen in the Covid crisis and now in the energy crisis), the result seems to be that entrenched inequalities are aggravated, while new ones are being created. A patchwork approach to just transition does not seem to be working and the dominance of a technology-based market-driven green transition has also shown its limits. Reducing the carbon and material footprints of human activities (consumption, production and mobility) is unavoidable. Doing this while reducing inequalities (and not creating new ones) is a huge challenge. There is consensus about the need to abandon an ‘imperial mode of living’ in the rich world (Brand and Wissen 2018) and that human needs can be satisfied more effectively through the principle of ‘public luxury, private sufficiency’ (Gough 2019), with the emerging idea of universal basic services (Büchs et al. 2021; see also the contribution by De Schutter et al. on post-growth economy and Guy Standing on eco-fiscal policies, in this volume). Embarking on an economic model that could bring less resource and material use with more technological solutions to well-being issues and green growth will not deliver adequate results. Deep societal and behavioural change is needed to put consumption and mobility patterns on a sustainable basis. Buch-Hansen and Nesterova (2022) suggest deep societal change and changes in ‘our inner being’ to become ‘less egoistic, egocentric, possessive, hedonistic and materialistic and more capable of transcending their narrow ego/self, more capable of seeing themselves as part of the broader existence’. But that seems a tall order within a limited timeframe, and with a need to manage it in a democratic and equitable manner.

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