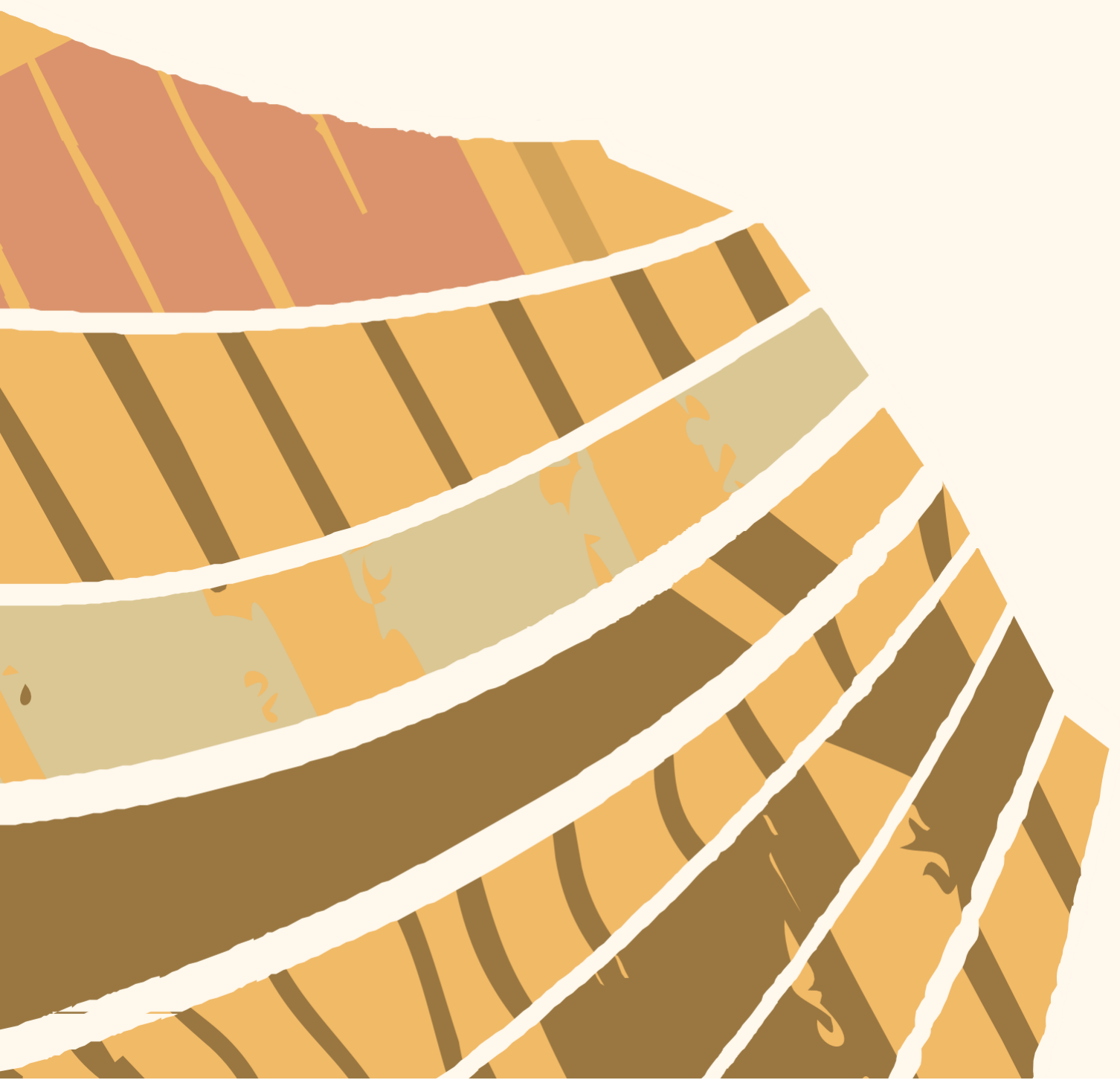


Appendix to Chapter 6

Climate governance: Political, legal, economic and societal aspects



Second Austrian Assessment Report on Climate Change | AAR2

Appendix to Chapter 6

Climate governance: Political, legal, economic and societal aspects

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6.A.1 Appendix to Cross-Chapter Box 8. Degrowth, green growth, and other beyond growth concepts: the desirability and feasibility of (limiting) growth

What is degrowth, in contrast to green growth?

The degrowth approach, a prominent growth-critical narrative, discusses the potentials of decoupling human wellbeing from aggregate material throughput to enable decent living for all within planetary boundaries (Kallis et al., 2018; O'Neill et al., 2018), by investigating “more of what, and less of what?” (Buch-Hansen and Nesterova, 2023). Degrowth is regularly framed as a climate mitigation strategy alternative to green growth (D'Alessandro et al., 2020; Hickel et al., 2021; Keyßer and Lenzen, 2021). Both strategies share key elements that need to be part of a desirable transition pathway towards climate stabilization, including strong efficiency improvements and the large-scale deployment of renewables (Li et al., 2023). However, while in standard economics, such conclusions are often reached by calculating “negative external effects” that need to be “internalized” (Muller et al., 2011; Anderson and Auffhammer, 2014), degrowth scholars, based on ecological economics, are critical of the concept of externalities due to (1) fundamental problems of valuing nature in monetary terms (Spash, 2000), (2) its reliance on “weak sustainability” that assumes commensurability between incommensurable ecosystems and between different forms of “capital” (human, economic, nature) (Ayres et al., 2001; Novy et al., 2023), (3) its understanding of nature as something external to society which reinforces a nature-society dualism that lies at the core of today's environmental crises (Görg, 2011; Bärnthaler, 2023), and (4) the democratic deficits of market-based mechanisms. Including environmental damages in policies such as carbon pricing and other environmental taxes are generally seen as conducive or necessary for reaching climate targets by all approaches when potential regressive effects are addressed, it is important to note that without concurrent policies, effective implementation may be threatened. For instance, “rebound effects” where higher efficiency induces more demand (Brockway et al., 2021) needs to be managed concurrently, for instance by promoting both “shift” and “avoid” strategies (or “sufficiency” strategies).

Focus points include shrinking less necessary and ecologically destructive sectors such as short-distance flights, SUVs, housing as asset, fast fashion, affluent energy overconsumption, and livestock production/consumption. Thus, the degrowth approach substantially valorizes “avoid”-strategies on both the supply- and demand-side, e.g., by embracing consumption and production corridors (Fuchs et al., 2021; Bärnthaler and Gough, 2023) that guarantee, strengthen, and expand necessary forms of consumption and production, while downscaling less necessary and ecologically destructive forms of production and consumption. The key question posed by the degrowth approach is thus not just “more or less?” but “more *of what* and less *of what*?” (Buch-Hansen and Nesterova, 2023), highlighting that it is not increasing aggregate production/growth that matters for human wellbeing but rather “*what* we are producing, whether people have access to the things they need to live decent lives, and how income is distributed” (Hickel, 2020), an argument that has also been put forwards by other scholars of (eudaimonic) wellbeing. Against this background, the degrowth approach embraces demand-reduction strategies for climate mitigation (Creutzig et al., 2018, 2022a; Grubler et al., 2018), starting in the global North and/or among the rich/wealthy sections of society. Crucially, this shift not only widened the policy space beyond orthodox supply-side measures (which mainly focused on eco-efficiency) but also went “beyond *orthodox* demand-side measures, which – in line with neoclassical behavioral economics – have focused on individual consumer behavior (e.g., via improving market transparency and nudging)” (Bärnthaler and Gough, 2023). Instead, more structural interventions to change framework conditions have gained importance to enable fair and effective demand-side measures, which imply prioritizing universal needs over consumer preferences in some circumstances (for Austria see Aigner et al. (2023)), setting “minimum and maximum standards of consumption”, and making “a distinction between necessities and luxuries” (Creutzig et al.,

2022b). Thus, the degrowth approach emphasizes the undesirable effects of (compound) growth-oriented economies detached from the satisfaction of human needs, exposes growth-dependencies of current (sub)systems (e.g., Mattioli et al., 2020), highlights cases where aggregate economic growth does not improve environmental or social conditions (Vogel et al., 2021), and shows that undifferentiated economic growth and profit-oriented forms of provisioning are linked to lower need satisfaction and higher energy requirements compared to collective forms of provisioning, such as public services (ibid.). In so doing, it provides evidence of the challenges to reach climate and other environmental goals without changing the relationship between social provisioning and economic growth.

Finally, degrowth scholars emphasize that degrowth must not be confused with austerity but, on the contrary, creates “radical abundance” by eliminating artificial scarcities that are imposed by current social and economic systems that increase “private riches” at the expense of “public wealth”, e.g., by enclosing the commons (also through ongoing “colonial” processes) and commodifying public services (Hickel, 2021). This understanding grounds the degrowth approach in the de-colonization of people, land and minds, de-enclosure of the commons, de-commodification of public goods, the re-relation between humans and of humans to nature, and the de-escalation of the ecological crisis.

What are degrowth policies and their expected effects?

Policy proposals in the degrowth literature have been categorized into 13 policy themes by Fitzpatrick et al. (2022), which are: food, culture and education, energy and environment, governance and geopolitics, indicators, inequality, finance, production and consumption, science and technology, tourism, trade, urban planning, and work. The paragraphs below only focus on a subset of these (mobility, housing, food, energy, finance, and work), highlighting especially elements that come on top of, or are potentially in conflict with non-growth-critical mitigation modelling strategies.

For mobility, the focus of the literature is on the identification of a production-consumption nexus with policies that aim at downscaling and converting production in mobility-associated industries with low provisioning efficiency and strong links to growth (Pichler et al., 2021a, 2021b; Arnz and Krumm, 2023). Most common examples are aviation and SUVs. Transport is a major driver of CO₂ emissions and resource use in Austria (see [Section 3.4](#)). Mobility patterns are seen as unsustainable and unjust (Büchs and Mattioli, 2021; Schwanen, 2021), yet firmly anchored in socio-cultural as well as economic structures and practices and locked into material infrastructures (Mattioli et al., 2020). Not only are these patterns largely fueled by fossil energy, they are also shaped by deep-rooted growth imperatives of modern capitalist societies (Haas, 2018; Manderscheid, 2020; Schwedes, 2021; Keil and Steinberger, 2023). This makes decarbonization notoriously difficult, as efficiency gains are often offset by growing transport, which may even be induced by the efficiency gain in the first place (Moshiri and Aliyev, 2017; Eckersley, 2021; Raimund, 2023). Switching to renewable energy (e.g., electric vehicles) in this context may additionally drive-up demand of certain minerals, displacing some ecosystem degradation and human rights violations (De Blas et al., 2020; Owen et al., 2023). What is needed from a degrowth perspective is a paradigm shift towards policies that foster mobility sufficiency (Ruhrt, 2023). This entails an absolute reduction in overall transport compatible with high levels of wellbeing, which requires a transformation of production and consumption norms and a reorganization of built environments such as cities (“compact cities”, “cities of short distances”, etc.). It also calls for a modal shift towards eco-friendly alternatives such as public transport, active (bicycle, walking) and shared mobility (Cattaneo et al., 2022; Cox, 2022; Creutzig et al., 2022a; Winkler et al., 2023).

Degrowth literature highlights the housing sector as a key example of simultaneous environmentally harmful “overproduction” and socially harmful “underconsumption”, where economic growth rather than basic needs-satisfaction has guided policy (zu Ermgassen et al., 2022). Literature on degrowth housing policies on different

scales (i.e., local, regional, national) and different foci (i.e., urban planning, land use, taxation, education) has focused on (i) tackling housing inequality and underconsumption for wellbeing and human needs-satisfaction, including through basic services (Cucca and Friesenecker, 2022), (ii) providing for housing needs within environmental limits, including policies and measures for sufficient housing provisioning, limiting per capita floorspace and limiting further construction (Fitzpatrick et al., 2022; Mete, 2022; Mastrucci and Ruijven, 2023), (iii) the materials and energy-use aspect of housing, including reuse and retrofitting of existing building stock (Xue, 2015), (iv) policies for sustainable synergies between different needs (housing, nutrition, mobility) (Fitzpatrick et al., 2022), and (v) bringing change in the wider socio-cultural aspects of housing towards, i.e. towards voluntary simplicity (Cucca and Friesenecker, 2022; Mete, 2022). While retrofitting and circularity in the building sector are also policies widely supported by mainstream environmental economics or eco-modernist approaches, sufficient housing, cohousing, limits to floorspace and further construction set degrowth housing policies apart from the mainstream.

Degrowth strategies in the food sector represent a fundamental shift in how societies approach food production, consumption, and distribution. Degrowth strategies thereby contrast “[...] the just-in-time supply chain of the agrifood sector characterized by capitalist logic, production for trade, market dynamics, profits and state regulations” (Nelson and Edwards, 2020). However, as (Bodirsky et al., 2022) outline, a mere reduction and redistribution of GDP does not necessarily lead to the reduction of environmental impacts of food systems. Instead, a degrowth food system requires qualitative changes, with the reduction of economic growth being rather a consequence than a cause of a sustainable food system. With regard to food production, degrowth strategies follow a diversity of production techniques (e.g., permaculture, self-provisioning, agro-ecology, community gardens, Nelson and Edwards (2020)). As such, degrowth food initiatives (Kallis and March, 2016; Brossmann and Islar, 2020; Nelson and Edwards, 2020) aim at building locally-anchored alternatives to capitalist market provision that tend to remain small-scale, niche projects (Plank, 2022). Since 2011, the number of community supported agriculture initiatives has continuously increased in Austria, with the broader framework fostering large-scale, conventional farming practices contributing to this development (Plank et al., 2020). Degrowth consumption and distribution networks center around aligning farmers with consumers as directly as possible thereby minimizing the carbon footprint associated with the long-distance transportation of food (Li et al., 2022). This practice fosters alternative provisioning systems that operates outside the market logic of large-scale food retailers and supermarkets. In addition, alternative consumption practices include foraging and dumpster diving to consume food discarded as waste (Edwards and Mercer, 2012). Against the background of degrowth food initiatives operating mainly within small niches, the question of how to scale up such innovative approaches to transform the food systems becomes imperative (Nelson and Edwards, 2020; Aramyan et al., 2021). On a policy level, however, “[...] degrowth has so far not been used for developing alternative food policies, and concrete suggestions for how to transform and dismantle food policies are absent in the literature.” (Plank, 2022).

Degrowth policy strategies in the field of energy focus on meeting energy needs for wellbeing within planetary limits, though efficiency and sufficiency increases, a focus on overall demand reduction, the deployment of renewable energy, and decentralized local energy provisioning (Tsagkari et al., 2021). Currently, global final energy use is still rising due to economic growth, not need-satisfaction or human welfare considerations. The carbon intensity of the energy system globally is falling, but this is not enough to fully and rapidly decarbonize energy systems due to growing demand, serviced by fossil fuel energy sources (Barrett et al., 2022; Espinoza et al., 2022). The existence of a possible Wellbeing Turning Point for high energy footprints (Akizu-Gardoki et al., 2020) suggests that limiting further escalation in energy consumption by globally high energy footprint groups and a focus on sufficient and equitable provisioning can actually increase overall societal wellbeing within planetary boundaries (Grubler et al., 2018; Kikstra et al., 2021; Oswald et al., 2021; Barrett et al., 2022; Gaur et al., 2022). In order to shift the priority of energy provision to enable human and ecological wellbeing within ecological limits as a form of social provisioning (Vogel et al., 2021), the set of comprehensive degrowth policy

measures related to energy reported in the review article by Fitzpatrick et al. (2022) focuses on (1) the reduction of environmental and ecological pressures from the energy system. This could be implemented by declining caps on resource use, emissions and pollution, ecological tax reforms placing high costs on emission (e.g., CO₂ tax) and/or extraction via sufficient internalization of external costs, as well as moratoria on big infrastructure construction and the prohibition of certain harmful chemicals. An emphasis remains on the (2) reduction of energy consumption, consisting both of sufficiency and efficiency measures (e.g., taxing industrial energy consumption as well as retrofitting buildings and other technological improvements). Additionally, degrowth calls for a complete (3) elimination of fossil fuels globally including (4) the complete phase-out of nuclear energy. This can be co-achieved using the measures (1) and (2) given above, in addition to the abolishing of all fossil-fuel subsidies and phase-outs determined by direct government regulation. (5) Energy democracy is a primary goal, creating convivial, community-owned and -operated zero emission energy systems. (6) To restore and preserve biodiversity, degrowth proposes to create ecological sanctuaries, limiting the amount of land available also to the energy system, and to give constitutional rights to nature. (7) Stable demography is another goal, in particular by the empowerment of women to control their reproductive rights and by opposition to pro-natalist policies. Finally, degrowth calls for all of these aims to contribute to the (8) de-colonization of the socio-economic system to reach environmental justice - acknowledging that ecological sustainability is often framed within a class-, gender-, and culturally-specific context that might that might not pay enough tribute to other visions of justice unless these are explicitly taken into account.

As summarized by Fitzpatrick et al. (2022), the monetary and financial system the degrowth literature is centered around two major targets. The first aim, a (1) less predatory financial system - i.e., less, speculation and societally detrimental profit seeking activities by the financial industry - is primarily seen to be achieved by financial/monetary democratization and decentralization. This involves moving the power of decision-making from the management and owners of financial institutions to local stakeholders, communities and employees (Fitzpatrick et al., 2022). Particular examples to reach this goal are the (partial) nationalization banks for social and ecological purposes, the institutionalization of the separation between investment and commercial banking (e.g., by full reserve banking), more regular debt auditing, creating an independent public authority to oversee money creation (the “monetative”), (more) progressive taxes on profit and capital accumulation from all sources, a zero-interest loan policy, and a more active role of the public when it comes to providing loans and subsidies to community-owned enterprises (Kallis, 2011; Perkins, 2015; Petridis et al., 2015; Garcia et al., 2016; Buch-Hansen, 2018; Chertkovskaya et al., 2019; Hickel, 2020; Mulvale, 2020; Mastini et al., 2021; Miess and Ornetzeder, 2023). A more just and socio-ecologically sustainable tax system, in particular, is seen to be promoted by the implementation of a financial transactions tax, international tax justice (e.g., shutting down tax havens), and the breakup of too-big-to-fail banking/financial institutions into smaller, local, and more democratic entities (Latouche, 2009; Kallis, 2011; Assadourian, 2012; Alexander and Burdon, 2017; Hickel, 2019, 2019, 2020; Perkins, 2019; Miess and Ornetzeder, 2023). The second aim (2) is the implementation of a financial framework and practices for an alternative financial and monetary system to sustain a more cooperative, less profit-oriented post- or degrowth economy (Fitzpatrick et al., 2022). Proposed measures include more sustainable and democratic financial structures like environmentally beneficial local and regional currencies, time banks, reciprocity networks and trading systems, self-managed credit unions, cooperative banks, and public debt-free money (Latouche, 2009; Eisenstein, 2011; Lietaer, 2012; Perkins, 2015; Petridis et al., 2015; Garcia et al., 2016; Andreoni, 2017; Chertkovskaya et al., 2019; Trainer, 2019, 2020; Ajulo et al., 2020; Balaguer Rasillo, 2021; Koch and Buch-Hansen, 2021; Fitzpatrick et al., 2022). Lastly, investment behavior itself should be modified by divestment and corresponding ethical investment codes and practices (Eisenstein, 2011; Perkins, 2015; Garcia et al., 2016; Alexander and Burdon, 2017; Hickel, 2020, 2021; Mastini et al., 2021). A large section of the degrowth literature - in line with its general paradigmatic critique of the financialization of nature - promotes the de-commodification and de-monetization of nature (Sullivan, 2014; Perkins, 2015, 2019; Hache, 2019; Hickel, 2019, 2020, 2021; Kemp-Benedict and Kartha, 2019; Bracking, 2020, p. 202; Maechler and Graz, 2022). In particular, many scholars advocate actively against the inclusion of biodiversity and ecosystem

services (e.g., ecosystem valuation, biodiversity banking) under the mechanisms of current financial markets (McCauley, 2006; Sullivan, 2013; Cavanagh and Benjaminsen, 2014; Hache, 2019; Bracking, 2020; Spash, 2020, 2021).

Following the Degrowth literature, work institutions are a key determinant of the dependence on economic growth of modern economies and societies (Antal, 2014; Jackson and Victor, 2020; Hickel et al., 2022; Kreinin and Aigner, 2022; Gerold et al., 2023). Further, degrowth highlights the links between employment and material/energy use (Fitzgerald et al., 2018) (see also [Section 4.7.3](#)), currently high levels of dissatisfaction with work (Graeber, 2018) and the limited value assigned to the product of work by the workers themselves (Bohnenberger, 2022). Degrowth policies aim on re-evaluating care and acknowledging its key role in the provisioning of goods and service (Dengler, 2022; Smetschka et al., 2023). In addition, the volume of work in formal employment should be reduced, depending on the respective studies proposals are made on annual (Fitzgerald et al., 2018; Gerold and Nocker, 2018), weekly (Kallis et al., 2013) but also organizational levels (Gerold et al., 2017). A key argument for working-time reduction is the work-spend circle (Schor, 2005, 2008; Gerold et al., 2017; Fitzgerald et al., 2018), which outlines that only in times and places of strong unionization productivity increases are used for working-time reduction instead of GDP-Growth. Due to that insights (i) several modelling studies show alternative trajectories that would allow to reduce working time on a national scale (Jackson and Victor, 2020) and (ii) Degrowth scholars investigate how labor movements can adopt stronger climate policies which challenge economic growth in particular in the context of industries (Pichler et al., 2021a, 2021b, p. 20; Keil and Steinberger, 2023). Nevertheless, due to data limitations the literature so far refrains from drawing a final conclusion to which approach of working time reduction is most efficient in reducing environmental impacts (Antal et al., 2020; Lukács and Antal, 2023). Working time reductions, however, are not only about the volume of work, but also about less work in areas of less-necessary production (Hickel et al., 2022). Further, to reduce the dependency on work degrowth scholars also argue for a job guarantee (Parrique, 2019; Hickel et al., 2022), improved public services (Hickel et al., 2022; Bärnthaler and Dengler, 2023), social rights for workers (Kreinin and Aigner, 2022), increased equality in income distribution (Kreinin and Aigner, 2022) and challenging the imperative of the work-ethic (Hoffmann and Paulsen, 2020). Other research, however, also critically assess the environmental impacts of consumption in relation to working time (see [Section 4.7.3](#)). Further, leisure as such is a key concern in research scholarship, in particular with regard to concerns about mass tourism (Canavan, 2014; Adityanandana and Gerber, 2019; Blázquez-Salom et al., 2019; Higgins-Desbiolles et al., 2019) and mass consumption (for the case of fashion see Niinimäki et al. (2020)).

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