

Degrowth: a path to transformative solutions for socio-ecological sustainability

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Abstract

Non-technical summary. Engaging with economic questions is crucial for sustainability science to maintain its transformative potential. By recognizing the impact of continuous economic growth on environmental problems, the concept of degrowth proposes a practical approach to achieving sustainability. It urges experts in sustainability to think carefully about the impacts of economic growth, echoing recent scientific findings that question the need for endless growth. Therefore, this article highlights the potential of degrowth as a transformative approach that can expand capacities necessary for socio-ecological sustainability.

Technical summary. This article highlights the potential of degrowth as a transformative approach that can expand capacities necessary for socio-ecological sustainability. By addressing economic growth as a fundamental driver of unsustainability, degrowth offers a concrete pathway toward achieving sustainable outcomes. It calls for sustainability scientists to explicitly consider the role of economic growth, aligning with recent scientific assessments that support a critical stance on growth. Although degrowth and sustainability share common goals such as respecting biocapacity and equitable distribution of ecological budgets, degrowth approaches differ by placing emphasis on national and local solutions and exploring aspects such as technology, time, work, commodity, and property. Engaging with economic questions is crucial for sustainability science to maintain its transformative potential. Growth-critical perspectives such as degrowth and post-growth have the potential to propel sustainability discourses into new, more impactful realms of development.

Social media summary. Engaging with economic questions is crucial for sustainability science to maintain its transformative potential. Degrowth proposes a practical approach for achieving sustainability.

The degrowth scholarship argues for a multi-scalar transformation beyond the growth-oriented economic paradigm to achieve socio-ecological sustainability. Since its emergence in the early 2000s, degrowth has conceived the broad values of sustainability and justice as inseparable, requiring integrated strategies (Barlow et al., 2022). Recent studies show that a growth-oriented economy does not lead to increasing levels of sustainable and equitable development because there is ‘diminishing social returns with higher resource use’ (O’Neill et al., 2018). This implies that in a growth-oriented economy, welfare or well-being ceases to increase after a certain level of growth. Instead, it just continues to further exceed planetary boundaries having direct implications on sustainability. In the light of recent research, the concept of degrowth is increasingly recognized as an alternative to our current system and defined as a proposal for a radical voluntary reorganization of society that leads to a drastic reduction in the use of energy and resources (Schmelzer et al., 2022).

Often in sustainability science, discussion of consumption and production relationships is limited to the context of sustainable development goals (SDGs) where different solutions from circular economy to green growth are grouped under one umbrella such as ‘sustainable consumption and production’ (Kates et al., 2001). However, adopting a critical approach to growth as a solution aligns with recent scientific assessments that advocate for the necessity to question our current economic systems. For instance, the terms ‘degrowth’ and ‘post-growth’ are mentioned several times in the AR6 IPCC report. In the adaptation report, it is described as ‘a solution for achieving environmental sustainability and socio-economic progress’ and as a ‘deliberate response to concerns about ecological limits to growth and the compatibility between growth-oriented development and sustainability’ (IPCC, 2022a, 2022b, WGII, Ch. 18, p. 80). The mitigation report mentions ‘GDP non-growth/degrowth or post-growth’ as approaches allowing climate stabilization below 2°C (IPCC, 2022a, chapter III, p. 86). In addition to that, Values assessment of the Intergovernmental Panel for Biodiversity and Ecosystem services (IPBES, 2022) also identifies degrowth as one of the suggested pathways to achieve just and sustainable future defining it as a strategy that reduce the material throughput of society,

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protecting human well-being through equitable distribution of material wealth rather than economic growth. Within the same report, the environmental values associated with degrowth are presented as being based on the principles of strong sustainability where biodiversity, nature's contributions to people, and core ecological processes are seen as irreplaceable by technology and built infrastructure. Based on these assessments, current models of societal progress that prioritize economic growth at the expense of biodiversity and ecological life support systems are incompatible with sustainability.

According to Clark and Harley's (2020) comprehensive review on sustainability science, there are six capacities necessary to support development pathways toward sustainability. These are capacities to (a) measure sustainable development, (b) promote equity, (c) adapt to shocks and surprises, (d) transform the system into more sustainable development pathways, (e) link knowledge with action, and (f) devise governance arrangements that allow people to work together in exercising the other capacities. In the light of these recent scientific recognition of degrowth as a solution to unsustainability, in this paper, we aim to show how degrowth contributes to debates on sustainability and sustainable development by offering radical solutions to emancipate social systems from their dependency on growth. We expand our analysis by putting degrowth into conversation with Clark and Harley's review on capacities and explain how degrowth solutions can deepen capacities necessary to inform socio-ecological sustainability.

1. Degrowth and capacity to measure sustainable development

Clark and Harley's review on sustainability science identifies measuring well-being as one of the ways to expand the capacity to measure sustainable development. We argue that degrowth can contribute here by historicizing and unpacking the taken for granted relationship between sustainable development and well-being. The critiques of development that arose in the latter part of the 20th century served as the foundation for the concept of degrowth. In other words, degrowth emerged as a response to the strong association between the notion of sustainable development and economic growth. The Brundtland report (1987) advocated for 'a new era of economic growth – growth that is forceful and at the time socially and environmentally sustainable' (p. 7). It further emphasized the need for revitalizing global economic growth to prevent economic, social, and environmental crises, asserting that 'more rapid economic growth in both industrial and developing countries' was crucial (*ibid.*, p. 72). Similarly, SDGs also engage with economic growth. For instance, SDG 8 aims to promote sustained, inclusive, sustainable economic growth, full and productive employment and decent work for all. Its first target aims to sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7% gross domestic product (GDP) growth per annum in the least developed countries. In the SDG framework, this growth strategy is made sustainable by a single target (SDG 8.4): 'endeavor to decouple economic growth from environmental degradation'.

Much has been learned on the relation between GDP and environmental pressures since the emergence of the empirical literature on decoupling in the 1990s (for reviews, see, Haberl *et al.*, 2020; Hickel and Kallis, 2020; Parrique, 2019; Vadén *et al.*, 2020). The mitigation report of the IPCC AR6 provides one of the most

recent syntheses of this body of research. In the report, decoupling is described as 'insufficient' (Hubacek *et al.*, 2021), 'not sufficient' (IPCC AR6 WGIII, Ch. 2, p. 39), with rates that 'fall a long way short' (Le Quéré *et al.*, 2019), which makes green growth a 'misleading' (Ward *et al.*, 2016), 'misguided' (Hickel & Kallis, 2020) strategy which 'rests partly on faith' (Vadén *et al.*, 2020).

To make economic growth truly sustainable, we would need to (1) absolutely decouple production and consumption (relative decoupling is not enough) (2) from all environmental pressures (not only carbon) (3) wherever these happen (taking into account imported impacts) (4) at a pace that is sufficiently fast to avoid ecological collapse, taking into account science-based targets (Anderson *et al.*, 2020) in line with equity (Robiou du Pont *et al.*, 2017) (5) by keeping that decoupling over time (as to avoid recoupling). Such narratives of green growth have never been achieved and there is yet no convincing evidence showing that it could.

This is perhaps the most important contribution the degrowth literature had toward debates around sustainable development and its assumptions on well-being: the pursuit of economic growth in advanced capitalist countries are not compatible with the respect of global planetary boundaries. The need to produce and consume less is a consequence of the failure to decouple GDP from environmental pressures. If a specific country is overshooting its fair share of planetary boundaries, and if economic activities are still unavoidably correlated with ecological footprints, then sustainability necessarily requires a reduction of production and consumption. Although elements of social justice, well-being, and democracy are still actively debated among a variety of perspective, the need for a reduction of production and consumption for a social and ecological well-being has been stable since the emergence of the term in 2002 (for a history, see, Parrique, 2019).

2. Degrowth and capacity to promote equity

For a just and equitable transition toward sustainability, it is vital to challenge and transform the unequal power dynamics which have persisted along capitalist, geo-political, colonial, gendered, and racialized lines (Dengler *et al.*, 2022). For several decades, scholars who work on inequality have challenged the growth model for its belief that steady levels of increasing GDP would tackle inequality through the 'trickle-down of wealth' from the richest to the poorest (*cf.* Breman, 1996). Instead, one of the consequences has been an ongoing cycle of highly unsustainable extraction of natural resources and labor to maintain the growth paradigm (Chertkovskaya & Paulsson, 2021). Exploitative logics of extraction and persistent inequality have been key components in the development of the Global North (*cf.* Amin, 1976; Grosfoguel, 2000; Mies, 2007). With widespread outsourcing of industrial production in the 1980s, the Global North largely relies on cheap labor from the Global South (*cf.* Dengler & Seebacher, 2019; Mies, 2007; Prentice and De Neve, 2017). For example, Hickel *et al.* (2022a, p. 10) calculate that 'the drain amounted to \$10.8 trillion in 2015, and \$242 trillion over the period from 1990 to 2015...' from the Global South to the North.

Colonial histories not only frame the contemporary relations of production and extraction, but the impact of climate change is also asymmetrical. High-income countries, such as Europe and the USA, are responsible for consistently overshooting several planetary boundaries (Fanning *et al.*, 2022; Hickel *et al.*, 2022b). However, the middle- and low-income countries of the Global

South are more vulnerable to numerous effects of climate change (Chen et al., 2015). Thus, universalized strategies of green growth continue within the legacy of neo-colonial means of prescriptive economic planning. Within degrowth scholarship, there is a recognition that these colonial modes of unequal exchange need to be addressed. However, it is important to critically explore what this implies. For example, a common argument proposed is that the Global North needs to ‘degrow’ to enable the Global South to ‘grow’ to gain higher standards of living (D’Alisa et al., 2015). Although these suggestions are well-intended and it is crucial to address discussions on redistribution and reparations, it is also pertinent to examine how degrowth in the Global North economies would inadvertently impact the Global South, especially when the global value and supply chains are complexly entangled (Matković, 2018). Yet, a degrowth lens becomes valuable to explore the multi-dimensionality of sustainable transitions, since it puts socio-economic and ecological justice at the core of the discussions of sustainability, instead of focusing on ‘greening’ growth or the markets. Degrowth offers alternatives on how to radically reduce inequality (e.g. wealth and income caps). Proponents have adopted the notion of ‘eco-social’ policies to reduce structures of inequality simultaneously with respecting planetary limits. To integrate both overarching goals, the literature (see Koch, 2022a, for an overview) suggests orienting public policies toward the upper (or planetary) and lower (or sufficiency) boundaries of the ‘safe and just operating space’ as defined by Rockström et al. (2009) and Raworth (2017). In relation to meeting basic needs or the ‘social floor’ of this space, proponents argue for the introduction of a universal and unconditional basic income, the expansion/introduction of universal basic services (UBSs), a voucher system, or a combination of the three (Bohnenberger, 2023). Concerning the upper boundary of the safe and just operating space, degrowthers build on relevant philosophical approaches that defend ‘limitarianism’ in an ecologically constrained world (Robeyns, 2019). More concrete economic proposals suggest the (re-)introduction of wealth taxation and/or the definition of maximum incomes as some quantitative proportion from minimum incomes (Buch-Hansen & Koch, 2019; François et al., 2023; Pizzigatti, 2018).

Degrowth scholarship has also engaged with feminist theories on care and social reproduction to examine the gendering of labor within growth-driven economies under capitalism (Barlow et al., 2022; Chertkovskaya et al., 2019; D’Alisa et al., 2015). Feminist conceptualizations of social reproduction offer analytical possibilities to acknowledge various scales of care – from everyday domestic work which is vital to maintain life – to structures of care provision through public welfare (Bhattacharya, 2017; Dengler et al., 2022; Koch & Buch-Hansen, 2020). There is, however, a further need to examine the intersections of gendered and racialized organization of the labor market. For example, in the current economic paradigm, the commodification of care work has resulted in the segregation, gendering, and racializing of the labor force (Fraser, 2013; Melamed, 2015; Mies, 2007; Parreñas, 2015). The transformation of industrial production is inevitable due to climate change, and care work is unlikely to decline and may even increase, as we observed during COVID-19. Thus, any vision of integrating the ecological and social aspects of an economy needs to reassess how paid and unpaid care work can be reorganized and how structures of care provision can be built for equitable forms of sustainability (Gomez-Baggethun, 2022). By locating ecological and equitable provisions of care at the center of sustainable transition, degrowth scholarship offers

a valuable space to critically engage with discussions on care to create more dignified spaces of work and life-making possibilities (Chertkovskaya & Paulsson, 2021).

3. Degrowth and capacity to promote transformations and governance

Much research on sustainability calls for a large-scale transformation to overcome path dependence. Indeed, the ability to destabilize existing regimes and overcome incumbency is a fundamental component of the capacity for transformation (Clark & Harley, 2020). This should thus be at the cutting edge of transformation research for sustainability. But the research on the governance of sustainability and the financing of transitions, tend to merely describe the difficulties with transformation and put a disproportionate large focus on the costs of a transition. Our argument, however, is that degrowth can offer a way out of path dependency and allow transformational change. It is therefore crucial to explore how governance and welfare financing may be decoupled from economic growth.

The degrowth literature has begun to address horizontal and vertical governance issues and specifically the role of the state (D’Alisa & Kallis, 2020; Koch 2020, 2022b). Although the modern state, including the welfare state, has co-evolved with the provision of economic growth, the emerging consensus is that it can nevertheless play an important role within degrowth transformations. In contrast to ecological modernization and ‘environmental state’ approaches (e.g. Meadowcroft in Gough et al., 2008) that all aim to gradually optimize ecological performances within wider ‘green growth’ strategies, degrowth notions of the state presuppose a break with what Hausknost (2020) calls the ‘glass ceiling’ of transformations, namely the policy priority of economic growth. If the growth provision were replaced by a sustainability provision, governments could build governance networks at various scales (European, national, local) and with various private, semi-private, and non-profit actors to ensure the respect of ecological limits in production and consumption patterns (Khan et al., 2023). In such multi-level and multi-scalar frameworks, higher level frameworks will be required to set ecological and social targets and to facilitate the sharing (re-)distribution of resources to reduce regional and social inequalities. Such redistribution mechanisms will be necessary at the global level, not least considering the enormous amount of climate debt owed by the Global North to the South (Hickel, 2021).

In existing welfare states economic growth is one of the necessary conditions for the maintenance of high employment levels and thus the government’s fiscal base. Lower levels of growth threaten to undermine this base precisely when the welfare state’s social functions to counteract economic downturns that may accompany social and ecological transformations are required the most (Bailey, 2015). To achieve ecological sustainability without undermining critical amounts of well-being it is necessary to make welfare systems independent of economic growth (Corlet Walker et al., 2021; Hirvilammi et al., 2023; Koch, 2022a). This relates to both the supply and demand aspects of welfare provision (Büchs, 2021). Reconsidering the supply aspects of welfare requires the transfer of funding sources to those that are less affected by economic fluctuations, such as taxes on property, land, wealth, and inheritance or necessitate the imposition of taxes on consumption practices with high-carbon emissions. Degrowth scholars have also suggested the introduction of caps on wealth and income (Buch-Hansen & Koch, 2019).

The demand for welfare could be reduced in an alternative political-economy context that would feature a more even distribution of work, resources and opportunities, greater economic security and improved community and family capacity for social support, care, and social participation (Chertkovskaya *et al.*, 2019). Büchs (2021) adds to this that a corresponding health policy could help prevent disease and maximize everyone's chances to lead healthy and fulfilled lives instead of generating productivity and profits for the health care sector. In general, any shift toward a post-growth economy would need to be accompanied by 'decommodified' social policies (Dukelow & Murphy, 2022) that contribute toward a reconfiguration of existing links between work, cash, and services including new kinds of 'sustainable welfare benefits' such as universal basic income, UBSs, vouchers, and/or participation income (Bohnenberger, 2020; Coote & Percy, 2020; McGann & Murphy, 2023).

Another aspect that degrowth can offer concrete insights into debates on transformations and governance is in the context of financing of public services without economic growth. Since degrowth entails both a slow-down in production and consumption, this can impact taxes and subsequently any government's capacity to implement needed reforms. Government revenue in most cases is derived from two primary streams: tax on income and tax on consumption. If fewer people work, there is less taxable income. If consumption slows-down, tax revenue does too. So, what would happen to these two revenue streams if society embarked on a degrowth trajectory? Well, if the total number of hours worked is lowered, for example through a work-time reduction reform, as has been proposed (e.g. Kallis, 2013), the tax base will decrease accordingly. However, should salaries be kept at the same levels as before the work-time reduction reform, this would imply a substantial salary-increase in real terms. Additionally, if the unemployed or the involuntary part-time workers are allowed to share the existing jobs, for example through a substantive job-sharing program, as has been proposed in degrowth scholarship (Alcott, 2013; Scarrow, 2018), then the total number of hours worked may very well increase. This would most likely lead to a growing tax base, although it depends on the number of unemployed, the share of involuntary part-time workers, and their levels of income.

Moving over to consumption, VAT and sales tax will probably decrease if consumption slows down. For example, widespread voluntary simplicity (Alexander, 2011) and re-use of products, combined with reforms to prevent planned obsolescence (see, e.g., Fitzpatrick *et al.*, 2022), the removal of advertising from public spaces (Lloveras *et al.*, 2022) and the introduction of a maximum income cap (Buch-Hansen & Koch, 2019), would most likely slow-down consumption and thus also reduce government revenue. Shifting the tax base from consumption to wealth will most likely then be necessary. A billionaire tax has been proposed both by wealthy people themselves (Neate, 2022) and by parties in many countries (Whitehouse, 2022). Scaling up inheritance tax could be another reform to cover the loss in revenue coming from a slow-down of consumption. Besides simply making up for the loss of revenue, taxing the wealthiest could also imply the greatest impact in terms of reducing environmental harm. After all, it is the wealthiest households that emit the largest share of carbon dioxide emission (Chancel, 2022).

How would government spending change under a degrowth trajectory? People will still need help and care. People should also continue to benefit from guaranteed pensions. Consequently, health care funding and pension savings are

essential. Yet, there are likely other care-related expenses that would be affected. For example, many of the so-called welfare diseases, which are generally linked to affluence, would probably diminish over time. This includes, for example, heart disease, stroke, Alzheimer's, diabetes, kidney diseases, and breast cancer. The list could be much longer. But the main point is clear: rather than being associated with costly reforms and a lowering of the tax base, degrowth itself could mitigate some of the escalating costs found in the core areas of today's health care systems (Borowy & Aillon, 2017). Arguably, degrowth would be self-financed over a longer period of time, around 10–20 years, as it would be built on a combination of reduced spending and increased revenue. Indeed, by shifting costs around and shifting the tax base, if only temporarily, revenues and expenses would be matched over time. Although we here only have sketched how the financing of public services without economic growth could be approached, more studies are needed to explore the fiscal details around tax reforms in full, and how such shifts in revenues and spendings could balance out.

4. Conclusion

In conclusion, this article highlights the potential of degrowth as a transformative approach that can expand capacities necessary for socio-ecological sustainability. By addressing economic growth as a fundamental driver of unsustainability, degrowth offers a concrete pathway toward achieving sustainable outcomes. It calls for sustainability scientists to explicitly consider the role of economic growth, aligning with recent scientific assessments that support a critical stance on growth.

Although degrowth and sustainability share common goals such as respecting biocapacity and equitable distribution of ecological budgets, degrowth approaches differ by placing emphasis on national and local solutions and exploring aspects such as technology, time, work, commodity, and property. Engaging with economic questions is crucial for sustainability science to maintain its transformative potential. Growth-critical perspectives such as degrowth and post-growth have the potential to propel sustainability discourses into new, more impactful realms of development.

For instance, in the context of equality and well-being, degrowth proposes a downsizing of production and consumption in Western extractive economies to free up ecological space for the Global South with a careful consideration to how such changes in the North will impact industries and labor in the South. Drawing upon critical feminist conceptualizations, degrowth highlights the importance of recognizing various scales of social reproduction and the need to reorganize and transform work and governance to create sustainable and equitable futures.

By integrating degrowth into sustainability science, we can enrich the discourse and explore alternative pathways that can move beyond mere technocratic approaches. Embracing degrowth as a transformative approach holds the potential to reshape our understanding of sustainability and foster more inclusive, equitable, and ecologically balanced societies.

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