



A Global Economy that Works for People and the Planet

Green Growth or Post-Growth?

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A global economy that works for people and the planet: how do we get there?

Economic systems are embedded in – and fundamentally dependent on – nature. A key implication is that there are hard limits or boundaries for the kind of economic activities the planet can sustainably support. These boundaries are set by the scarcity of natural resources as well as the need to preserve the integrity of biophysical subsystems and processes that support life on this planet (Rockström et al. 2009). Concerns over the implications of finite material resources and environmental capacities are by no means new (Meadows et al. 1972; Schumacher 1973). However, they have become increasingly acute in light of accelerating global warming, land-use change, pollution, wildlife exploitation and other direct and indirect pressures on planetary and human wellbeing, all of which are intimately linked to economic activities. Although complex Earth systems dynamics make it difficult to establish exact boundaries, recent studies indicate that humanity might already be operating beyond the safe regenerative capacity of the planet (Steffen et al. 2015; Persson et al. 2022).

Business-as-usual approaches to economic growth and human development are therefore dangerously inadequate. Our future economies must respect environmental constraints while

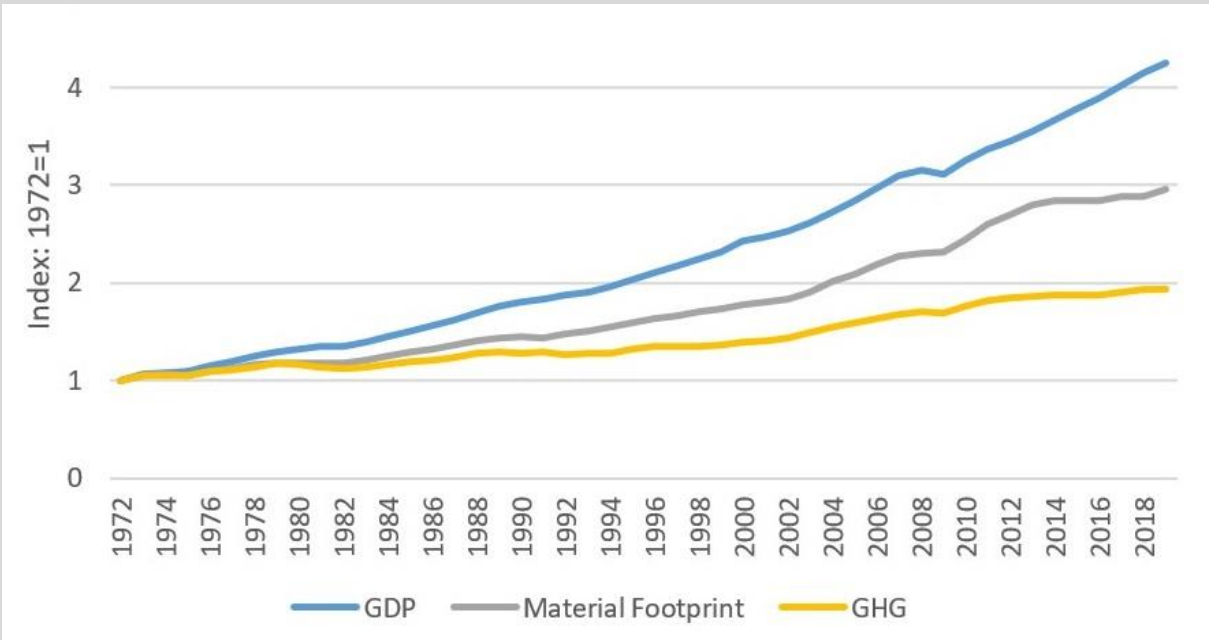
also providing minimum standards for social wellbeing (Raworth 2017). However, opinions differ on the direction of change required, including the question of whether economic output, commonly measured as gross domestic product (GDP), can and should continue to grow within the boundaries of finite natural systems. Uncertainty surrounding this quandary challenges us not only to clarify the practical feasibility of and conditions for sustainable economic growth; it also invites us to explore the sources of human prosperity and wellbeing, both on an individual and a societal level.

This paper maps, in broad strokes, the debates surrounding the question of GDP growth in a global economy that works for people and the planet. It draws upon a workshop on the same topic, hosted virtually on 1 June 2022 by researchers from the UCL Institute for Sustainable Resources (ISR) and the UCL Global Governance Institute (GGI), with support from UCL Grand Challenges. The workshop convened an interdisciplinary group of experts who brought a diversity of perspectives to the discussion. Mirroring the format of the workshop, this paper is divided into two parts which interrogate, in turn, (1) the relationship between GDP growth, environmental sustainability and human prosperity, as well as (2) the practical and political feasibility of degrowth and other post-growth proposals, in terms of policies as well as underlying governance pathways. It aims to explore not only key differences between green growth and post-growth perspectives; but also potential areas of agreement and pragmatic engagement, especially when it comes to concrete policy options. A key challenge, as this paper emphasises, is not just the scale and scope of transformation required but also the rapidly shrinking time frame for effective action. Ultimately, this may compel us to step back from grand visions of a future economic system and put the focus squarely on the concrete constraints required to dematerialise, decarbonise and depollute the economy while keeping multiple futures open.

Sustainable prosperity with or without economic growth?

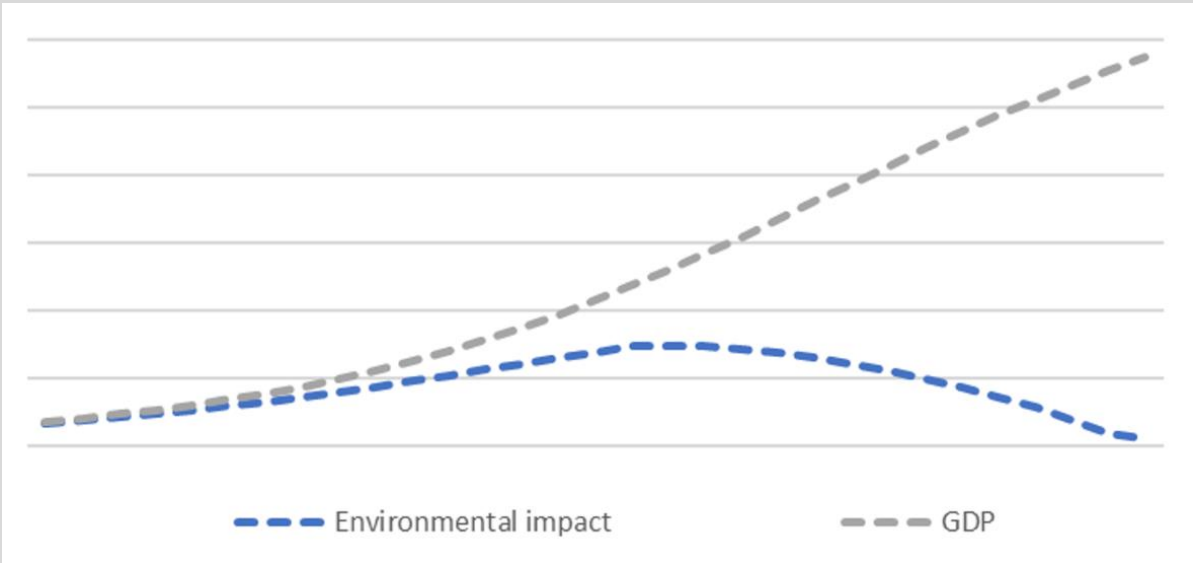
Historically, economic growth has been closely linked to the intensified exploitation of natural resources as well as increasing environmental degradation. For some indicators, including greenhouse gas (GHG) emissions and material extraction, there is evidence to suggest that some economies have succeeded in significantly weakening this link over the past decades, driven primarily by improvements to resource use efficiency, tighter regulations and shifts to renewable energy technologies. At the global level such evidence can be harder to materialise. However, as Figure 1 (below) shows, current best available data does suggest that relative decoupling – whereby GDP grows faster than material and/or environmental depletion – may have occurred at the global level both for greenhouse gas emissions and material footprint. Nevertheless, the global community is not on track to comply with key policy commitments, such as those enshrined in the Paris Agreement and the Sustainable Development Goals (SDGs). Thus, a vital question is whether economic productivity can be decoupled from resources use and environmental impact in *absolute* terms, and at a speed that allows us to avoid ecological tipping points, which could result in sudden and irreversible changes to life-supporting Earth systems (Lenton et al. 2019; Armstrong McKay et al. 2022).

Figure 1: Trends in global GDP, material footprint and greenhouse gas (GHG) emissions, 1972-2019



Source: Dr Nick Hughes, UCL Institute for Sustainable Resources (ISR). Material footprint data from the International Resource Panel’s [Global Material Flows Database](#); GHG data from PIK PRIMAP-hist dataset via [Climate Watch](#); GDP data from World Bank World Development Indicators.

Figure 2: Illustration of what absolute decoupling of GDP from environmental impact would look like (relationship between GDP growth and environmental impact reverses)



Source: Dr Nick Hughes, UCL Institute for Sustainable Resources (ISR).

Below, we explore different perspectives on the role of economic growth in supporting socially and environmentally sustainable societies, with a focus on green growth on the one hand and degrowth / post-growth agendas on the other. We also discuss perspectives that lie somewhat between these positions, recognising that there is a diversity of views on the feasibility, necessity and desirability of continued GDP growth and possible alternatives.

Green growth

The notion of green growth has been endorsed as a core policy objective by many countries and international organisations, such as the World Bank or the Organisation for Economic Co-operation and Development (OECD). It also underpins most models and scenarios that aim to explore sustainability pathways, including those used by the Intergovernmental Panel on Climate Change (IPCC) (Keyßer and Lenzen 2021). The OECD defines green growth as a way of “fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies” (OECD n.d.). Technological and institutional innovation – driven by major shifts in public and private finance flows as well as regulatory changes – are at the heart of green growth. This implies a massive change in scale and scope of green policies and investments across all sectors of the economy, alongside interventions to ensure an equitable distribution of the costs and benefits of the transition.

There is no single model for achieving green growth, and existing definitions and approaches differ, for example, in terms of their emphasis on complementary social objectives or the degree of state intervention they envisage (Bowen and Hepburn 2014). However, economic growth is important to all these approaches, not only as a means to generate the funds and investment opportunities needed to drive green innovation, but also because it is seen as vital to improving people’s lives through lower unemployment, higher average incomes as well as improved public services and welfare systems.

This is not to say that GDP growth is assumed to be the only, or the most important, contributing factor to human welfare. Many supporters of green growth recognise the shortcomings of GDP as a metric and the need to consider additional indices to get a more accurate picture of a country’s prosperity. However, given the devastating effects of previous economic downturns, which have typically been associated with rising unemployment, financial hardship and social insecurity, green growth supporters remain unconvinced that an intentional shrinking of the economy could produce positive welfare outcomes. They also do not consider GDP growth and environmental sustainability to be mutually exclusive long-term policy objectives. Indeed, ‘strong’ interpretations of green growth expect that positive feedback and co-benefits from the green transition could immediately increase GDP growth, eliminating trade-offs between environmental protection and economic productivity (Hepburn et al. 2018; Jacobs 2013). ‘Weaker’ interpretations are more careful about such predictions, acknowledging that green policies and regulations might unleash conflicting trends, especially in the short term, e.g. GDP-boosting investments on the one hand and higher food and commodity prices on the other.

There is ample evidence that economic growth is already becoming greener – at least in relative terms – in some parts of the world. In the EU, for example, GDP grew by more than 60% between 1990 and 2018 while GHG emissions decreased by almost a quarter (EC 2019).

Relative decoupling of GHG emissions and economic growth can now be widely observed, at least in high-income countries (Haberl et al. 2020; Wang and Su 2020). According to Hubacek et al. (2021), absolute decoupling has also occurred, albeit only temporarily in some cases, in more than 30 countries. In almost half of these cases, this has included consumption-based emissions, meaning that absolute decoupling could not be explained simply by the outsourcing of manufacturing activities to third countries. These achievements have been made possible by stronger environmental regulation (Naqvi 2021) as well as rapid technological change, which has facilitated improvements in energy efficiency and a shift to cleaner energy sources. Indeed, as Ekins and Zenghelis (2021) note, renewable energy technologies have become competitive with fossil fuels faster than economists expected. Solar and wind power is now the cheapest source of new electricity generation in most markets (IEA 2021), although it is important to stress that such calculations may not account for the full costs of switching to renewables, which requires a fundamental reshaping of energy infrastructures (Smil 2014). In addition, structural changes to the economy are seen to help reduce emissions and other environmental impacts in many high-income countries by shifting the focus from material to knowledge- and service-based resources. In the UK, for example, the contribution of pollution-intensive manufacturing sectors to GDP growth has decreased substantially since the mid-20th century, with the services sector now contributing to about 80% of total GDP (ONS 2019). However, whereas clear emissions reductions from structural changes might be observed when measuring on a production basis, emissions reductions may be much less clear or non-existent when measured on a consumption basis, depending on levels of material demand and the carbon-intensity of processes in the countries from which goods were being imported.

Most green growth scenarios anticipate a rapid acceleration of technological innovation and commercial-scale roll out of technologies, including in the area of negative-emission technologies, in order to deliver emissions reductions at the scale and pace required. However, notwithstanding examples in specific countries as noted above, absolute decoupling at the global scale remains elusive (Hubacek et al. 2021). As a result, global greenhouse gas emissions are still failing to peak and decline at the pace urgently required. This situation could generate scepticism about the potential for rapid technological change, including negative-emission technologies, reliance on which some critics have described as “an unjust and high-stakes gamble” (Anderson and Peters 2016, p. 183).

Some workshop participants also voiced concerns that current efforts to promote green growth are focused disproportionately on climate change, with data collection and modelling efforts geared primarily towards scrutinising the relationship between GHG emissions and GDP. Policy interventions, too, have focused overwhelmingly on energy, where innovation can partly rely on non-material and ‘outer-planetary’ resources, such as solar and wind power. Yet, staying within planetary boundaries will also require significant reductions of other important input and impact variables, including pollution, biodiversity loss, or the use of raw materials, land and water. For many of these variables, the potential for absolute global-level decoupling is even more contested and less well understood (e.g. Otero et al. 2020). Siloed technological solutions to one environmental challenge may even exacerbate problems in other areas. For example, the shift towards electric mobility has raised concerns about how to meet the growing demand for car batteries that rely on raw minerals, such as lithium, nickel

and cobalt, mining for which has been linked to environmental damages and human rights violations.

However, proponents of green growth warn of self-fulfilling pessimism about future progress (Ekins and Zenghelis 2021). As the example of renewable energy suggests, innovative technologies might require strong regulatory interventions and public investments at first but can spread very rapidly once positive tipping points are reached (Lenton et al. 2022). As one workshop participant suggested, this might resolve the above-mentioned problem of rising demand for electric car batteries, as economies of scale could make battery recycling more efficient and financially attractive in the future. Similarly, people might need nudging to adopt more sustainable behaviours, yet, over time, these behaviours can become self-reinforcing through positive social feedback. Such dynamics are also expected to foster public buy-in and political will, provided active management of the transition ensures that costs and benefits are fairly distributed (Stern and Valero 2021). Thus, proponents of green growth advocate for “conditional optimism,” which recognises the scale and systemic nature of the required transition but suggests that past trends are not necessarily a good guide to the future (Romer 2018). GDP growth is both a driver and an outcome in green growth scenarios: it is needed to catalyse unprecedented levels of investment to stimulate innovation in clean and green technologies, which in turn contributes to GDP growth and further investment, thus resulting in a virtuous cycle of innovation that is expected to deliver exponential improvements over time.

Degrowth and other post-growth perspectives

Although the ideas behind it have older roots, the concept of degrowth is relatively new. First used as a political slogan in the early 2000s, degrowth has evolved into a small but quickly expanding research agenda (Weiss and Cattaneo 2017). Like green growth, degrowth is not a unified concept. However, its basic premise is that continuous economic growth in high-income countries is not compatible with environmental sustainability and not necessary to support human wellbeing. Thus, degrowth calls for “a planned reduction of energy and resource throughput designed to bring the economy back into balance with the living world in a way that reduces inequality and improves human well-being” (Hickel 2021, p. 1106). It is expected that reducing throughput cannot be achieved without “a reduction in the rate of GDP growth, or even a decline in GDP itself” (ibid). As the word ‘planned’ suggests, degrowth is intentional and thus different from a recession or unmanaged collapse. Nor is it the same as fiscal austerity. While degrowth does imply living with less – at least for the populations of high-income countries – its advocates suggest that “[m]ore isn’t necessarily better” (Jackson 2009). As such, degrowth is not just an economic concept but a wider societal project aimed at redefining the good life.

Degrowth starts from the assumption that absolute decoupling of GDP growth from environmental impact as well as energy and material use is highly unlikely to be achieved on the global level, at least not in the timeframe required to prevent planetary system collapse. Whilst recognising the importance of technological innovation, degrowth supporters maintain that efficiency gains cannot forever outrun scale, especially in the context of continued population growth, as there will always be minimum requirements for non-substitutable natural resources (Ward et al. 2016). Degrowth does not expect these contradictions to be

solved by structural changes in the economy, arguing that shifts to service-based industries in high-income countries have been facilitated by the outsourcing of energy-intensive industrial production to third countries, and not yet delivered substantial levels of dematerialisation. One workshop participant also raised the issue of additionality of service-based activities, whereby immaterial activities (such as internet-based entertainment) still rely on material infrastructures (such as computers and servers). Indeed, some studies suggest that “a larger service sector is associated with *greater* use of fossil fuels and *greater* carbon emissions per person” (Fix 2019, p. 1). Degrowth also is also highly sceptical of the promise of negative emissions technologies, such as BECCS (Bioenergy with Carbon Capture and Storage), given that these technologies are largely untested and would require significant amounts of land for biomass production (Dyke et al. 2021). Consequently, economic slowdown is seen as a physical necessity, the main question being whether it will happen by choice or as a result of disaster (Victor 2008).

Redistributive justice – both across geographies and generations – is a central tenet of degrowth. Most degrowth supporters advocate for an end to GDP growth in rich countries, which have historically benefited from the exploitation of the environment, but not in poorer countries, where economic growth is seen to still be required to increase material living standards (Jackson 2009). To allow rich countries to shift away from growth-centric economic models, the degrowth agenda calls for a variety of policies aimed at reducing inequality and increasing wellbeing, e.g. progressive taxes, a basic income, shorter work weeks, and universal access to services such as healthcare, education, and transportation. There is also an understanding that such policies cannot be implemented without broad social consent. Although there are diverging views on the extent to which existing democratic institutions would need to be reformed or replaced to deliver degrowth, a deepening of democracy is generally seen as a core objective (Asara et al. 2013; Demaria et al. 2013). However, as we explore further below, some have pointed to tensions and inconsistencies in the literature, as many degrowth policies would require top-down state-led interventions despite often-voiced preferences for community-driven bottom-up approaches (Cosme et al. 2017). Relatedly, much of the degrowth literature focuses on the local as the most appropriate arena for radical transformation, often failing to convincingly demonstrate the scalability of such experiences and/or account for their embeddedness in global-level dynamics (Mocca 2019).

In contrast to some other currents of post-growth thinking (explored below), “degrowth is not soluble in capitalism” (Gerber 2020, p. 239). This is due to anticipated rebound effects, whereby capitalist systems encourage any savings from efficiency gains to be invested or spend, increasing production capacity further and resulting in more goods to be consumed (and, in turn, thrown away). As a result, Jackson (2009, p. 95) argues, “*relative* decoupling sometimes has the perverse potential to *decrease* the chances of *absolute* decoupling.” Others have pointed to fundamental contradictions of trying to solve environmental problems through markets (Stuart et al. 2017). On a more normative level, degrowth embodies a critique of what it would characterise as the coercive structures of capitalism, which are supported by a commodification of people and nature. This is seen to increase societal inequality, indebtedness and insecurity while decreasing wellbeing. In line with critiques made by feminists, ecological economists and others, degrowth maintains that capitalist systems chronically underappreciate unpaid work, much of which provides the essential

basis for societies to function, and the extent to which our economies are embedded in nature (Mair et al. 2020).

Criticism levelled against degrowth typically addresses both the feasibility and the desirability of such an alternative agenda – issues that also featured prominently at the workshop. Many doubt that the degrowth project is politically palatable and able to garner widespread public support. A major concern is that shrinking economic output could lead to mass unemployment, potentially threatening both economic and social stability (Richters and Siemoneit 2019). There are also fears that it could inadvertently serve to delay climate action, as there is less money to invest and thus fewer incentives to innovate in a contracting economy (Ekins and Zenghelis 2021). Degrowth supporters recognise the material and ideological barriers to abandoning the pursuit of economic growth. However, not unlike green growth proponents, they argue that past experiences and knowledge paradigms should not constrain efforts to imagine and strive for an alternative future. As Jackson (2009, p. 64) argues, “in a growth-based economy, growth is functional for stability,” yet, this does not prevent us from striving for a different and more resilient kind of economic structure. Still, as we discuss further below, the question of how the transition to such an alternative structure could be brought about democratically poses a significant challenge to the degrowth agenda.

There are a range of other concepts and frameworks that are complementary with degrowth to different degrees. All of these reject a fixation on GDP growth but vary in terms of overall priorities and the extent to which they emphasise the need to reduce or stabilize economic output. Building on Gerber and Raina (2018), we use the umbrella term ‘**post-growth**’ when referring to all these different currents, including:

- **Degrowth**, which expects planned, rapid and substantial reductions in material throughput in high-income countries to go hand in hand with GDP reductions. It is important to emphasise that the degrowth literature is not always explicit or consistent when it comes to the question of what exactly should degrow or by how much (van den Bergh 2011). Rather the main emphasis is on wider “civilizational change” towards a post-capitalist society, “aimed at enhancing localised, democratic and equitable economies, where material accumulation is no longer a leading social value” (Gerber and Raina 2018, p. 353).
- **Steady-state economics**, which aims at stabilising major stocks and flows in the economy (Daly 1991). A steady-state economy and degrowth can be seen as complementary concepts, as degrowth might be initially required to bring economies into a stable state where throughput can be maintained within ecological limits (O’Neill 2015). However, there are important differences in emphasis, with degrowth advocates more critical of market-based solutions and more invested in social outcomes (ibid). In turn, steady-state economics has also raised the problem of population growth, an issue which is often avoided in degrowth discussions.
- **Agrowth**, which is agnostic towards GDP growth. In line with related concepts, such as the wellbeing economy (Fioramonti et al. 2022), it suggests placing the emphasis firmly on specific environmental and social policy goals and “[r]emoving GDP information from the center of macroeconomic and political debates,” which essentially means “that one cannot judge whether we grow or not” (Van den Bergh 2011, p. 885).

In terms of concrete policy proposals, agrowth often aligns with degrowth; however, it is more pragmatically focused on mainstreaming these proposals into existing policy debates rather than advocating for radical post-capitalist system change (Van den Bergh and Kallis 2011; Fioramonti et al. 2022). While this makes agrowth more likely to receive broader societal and political support, some have voiced concern that it could lend inadvertent support to conventional growthist economic assumptions (Victor 2021).

- **Post-development**, which brings an important Global South perspective to the otherwise Western-centric post-growth debate. Gerber and Raina (2018) identify several currents of thinking that are relevant to the broader post-growth discourse, including post-extractivism and concepts such as *Buen Vivir*, which provide alternative interpretations of the good life (Gudynas 2011). A common thread of these perspectives is a rejection of pro-market and Western-led sustainable development paradigms. Importantly, post-development also challenges narrow assumptions about the link between income and wellbeing, emphasising the need to consider a much wider range of factors that determine prosperity (Moore 2015; Gerber and Raina 2018), as well as the problems that unfettered economic growth can pose in emerging economies (Shrivastava and Kothari 2012). These perspectives also call our attention to already existing alternatives to the economic growth paradigm, such as principles of sufficiency and shared ownership practiced by indigenous communities. As some workshop participants pointed out, many of these communities are based in the Global South, challenging assumptions that post-growth ideas must first emerge in high-income countries to be eventually ‘transferred’ to the rest of the world.

These different strands of post-growth thinking are often difficult to unpick in practice. Workshop discussions indicated that there is considerable confusion over what exactly degrowth supporters are (not) saying about GDP. While some maintain that degrowth should focus squarely on lowering GDP (Czech 2020), most degrowth supporters insist that “degrowth is *not* about reducing GDP, but rather about reducing throughput” (Hickel 2021, p. 1106). From this perspective, reductions in GDP are neither a means nor an end but rather an inevitable consequence of degrowth measures – a position that, in effect, could be seen as largely compatible with some strands of GDP agnosticism. Indeed, reducing the material throughput of the economy and associated environmental impacts is also the primary concern of green growth supporters, even though they draw very different conclusions on the empirical and policy implications of this goal.

As Likaj, Jacobs and Fricke (2022) suggest, much of the disagreement in the debate stems from different views on the most appropriate political strategy. Green growth supporters believe that achieving sustainable economic growth is not just possible but also politically necessary given its paradigmatic importance and stabilising role in current socio-economic systems. In contrast, degrowth advocates aim to actively *destabilise* the growth paradigm in order to encourage the emergence of people-led, widely endorsed post-capitalist alternatives. And finally, those taking a growth-agnostic position argue that both positions are perpetuating our obsession with growth, thus distracting us from more urgent political debates and concrete policy decisions.

These fault lines are also reflected in semantic preferences, an issue which surfaced at several points during the workshop. While some find the idea of degrowth divisive and misleading (Raworth 2015), given that its main concern is not in fact the monetary size of the economy, others value its power as a “missile concept” that challenges conventional views on the economy head-on (Jackson 2017, p. 162). Similarly, some support the notion of a wellbeing economy, precisely because it avoids talking about growth and invokes a universally shared concern while allowing for a plurality of meanings (Positive Money et al. 2021) but others are concerned that the focus on wellbeing is too fuzzy to convey a coherent political and policy direction. In practice, as Helne and Hirvilammi (2017, p. 40) note, the word ‘wellbeing’ is often employed to mean ‘well-having’ in policy discourses and media reports, implying a continued focus on GDP and formal incomes.

These discussions raise important questions about what it is that people ultimately want, need and care about. As we discuss in the next section, while GDP remains the dominant yardstick for prosperity in practice, momentum is building to move towards more nuanced frameworks and redefinitions of societal progress.

Alternative measures of prosperity: exploring common ground?

Gross Domestic Product (GDP) is the most widely used indicator of economic productivity. It measures the monetary value of all final marketed goods and services produced in an economy over a given period of time. As such, it gives an indication of how ‘busy’ the economy is, albeit with important limitations. For example, GDP does not account for unpaid productive activity, such as domestic work, caring responsibilities, subsistence farming, or voluntary activities. For those goods and services that are included, GDP attributes monetary value only, without taking into account ethical, social or environmental factors. In practice, this means that goods and services associated with activities that are clearly detrimental to human welfare and the planet, such as oil spills, deforestation, natural disasters, or military conflict, may all contribute to GDP. Conversely, welfare-enhancing but free resources, such as social capital or ecosystem services, are not accounted for in GDP.

These and other shortcomings of GDP are well-known and widely acknowledged, including by leading economists (e.g. Stiglitz 2020). It is important to emphasise that GDP is not and never was intended to be a comprehensive measure of societal wellbeing. However, it provides information on one key component of economic prosperity, namely monetary income. A growing GDP is usually correlated with higher employment and (formal) income levels, which in turn are associated with improvements in general living standards. A booming economy may also allow countries to invest more money in welfare-enhancing services, such as healthcare. Historically, economic growth has played a key role in alleviating extreme poverty in many countries (Roser 2021) and it remains a central pillar of sustainable development efforts (UN 2015). On the individual level, too, monetary income is certainly no trivial matter as it often determines material welfare while also enhancing non-material determinants of wellbeing (e.g. sense of security or social status).

However, an important concern is that GDP, despite its relatively narrow focus on formal income, “continues to be misused as a scorecard for national well-being” in policymaking and popular discourse (Costanza et al. 2009, p. 4). In this context, questions have also been raised about how much overall income levels can tell us about people’s wellbeing, with

research suggesting that the relationship between money and subjective wellbeing is not straightforward once basic needs are covered (Easterlin et al. 2010; Kahneman and Deaton 2010). In addition, GDP does not capture the distribution of incomes within the economy. Inequality has long been expected to follow the so-called Kuznets curve, whereby income disparities first increase but subsequently decrease in the process of economic development (Kuznets 1955). Yet, more recent empirical evidence shows that we cannot expect socio-economic inequality to automatically decrease as countries reach a more mature stage of economic development (Piketty 2014). Indeed, in recent decades, some of the richest countries in the world have seen growing income and wealth inequality, even during periods of stable economic growth. Importantly, however, there is also no evidence that a shrinking GDP would reduce inequality absent “strong and deliberate policy action” (Likaj, Jacobs and Fricke 2022, p. 14).

Critics have pointed out that the widespread use of GDP as a policy objective and development tool was not a consensus-based project (Fioramonti 2013; Schmelzer 2016). Rather, its rise to prominence as a yardstick metric in economic governance was the result of the consistent promotion of growth-boosting policies since the end of the Second World War by Western-led institutions, such as the International Monetary Fund (IMF), the World Bank and the OECD. Some have compared society’s continued obsession with GDP growth to an addiction, whereby the chase for short-term rewards results in detrimental long-term outcomes (Costanza et al. 2016).

If that is the case, ending our infatuation with GDP will require the uptake of societally attractive, politically viable and practically workable alternatives. As several workshop participants highlighted, the search for new progress indicators to complement or replace GDP must start with the recognition that human wellbeing is multidimensional, with formal income being an important but not the only contributing factor. It must also account for the extent to which the economy is embedded in nature. A key concern raised by some workshop participants is that GDP, as it stands, treats the economy largely as a self-contained system, not considering the continuous flow of matter and energy derived from natural systems that economic activities depend on and the waste created in this process (e.g. in the form of emissions or pollution).

An active search for viable alternatives is already underway. An example is the Genuine Progress Indicator (GPI), which uses a variety of indicators to adjust GDP for the environmental and social impacts of economic activities (Kubiszewski 2019). Another well-known example is the Human Development Index (HDI), which assesses a country’s performance across several development indicators, with a focus on health, education and living standards. A variety of other alternative metrics have been proposed, including some that include assessments of subjective wellbeing and life satisfaction, such as the Bhutan’s Gross National Happiness (GNH) index or the Happy Planet Index. Much recent discussion has also focused on the need to bring the depreciation of natural assets into national balance sheets (Dasgupta 2021), although some are concerned that such efforts reinforce mainstream economic treatment of nature as an ‘externality,’ thus putting the primary focus on protecting economic growth rather than the finite natural systems in which the economy is embedded (e.g. Raina 2021; Spash and Hache 2022).

While this diversity demonstrates a growing commitment to thinking beyond GDP, it also shows that there is currently no agreement on what exactly an alternative metric would ideally look like (van den Bergh 2022). Arguably, diversity is not a problem in and of itself as we cannot assume visions of prosperity to be the same across time, place and context. Indeed, some reject the notion that we can derive a single universal metric through top-down, expert-led approaches, calling instead for community-led redefinitions of prosperity (Moore and Mintchev 2021). However, a key challenge for those in favour of going beyond GDP will be to convince policymakers of the need to de-emphasise or even abandon GDP in favour of more nuanced, but less straightforward, indicators and metrics. GDP is deeply ingrained in public discourse since formal income remains a primary concern for most people in the current economic system, not least those at the lower end of the income scale. As such, efforts to refocus attention on other wellbeing indicators must be conscious of the jobs and livelihoods that depend on GDP-enhancing activities, including those associated with social or environmental ills, and ensure that the costs and benefits of addressing these ills are shared fairly across society.

Despite these challenges, momentum is building up to redefine what exactly it is we mean by ‘growth’ – a discussion that could help identify common ground between green growth and degrowth agendas. As we explore in the conclusion of this report, taking a step back from GDP might allow us to refocus attention on the broad objectives that both sides can agree on, namely the necessity of decreasing material throughput and environmental impact while safeguarding basic needs. To explore the practical implications of these shared ambitions, we need a better understanding of the concrete policies and governance frameworks that have been put forward. While the policy pathways to support green growth are relatively well-known, given that they have already been widely endorsed, the post-growth agenda is less understood and therefore explored in more detail below.

Envisioning post-growth – policy pathways, politics and social change

The post-growth – specifically the degrowth – agenda has been accused of being vague and ambiguous (van den Bergh 2011), “economically illiterate and politically infeasible” (Terzi 2022, p. 6) and promoting dangerous “climate despair” (Krugman 2014). Clarifying what abandoning the growth imperative would actually look like in practice – and how we would get there – is therefore an important task for those advocating for an alternative economy. A key question is what policies would support people’s livelihoods and wellbeing in a stationary or shrinking economy. Another important concern is how these policies might garner broad-based political and public support, especially when they explicitly challenge existing power structures and distributive arrangements. Below we provide a brief, and by no means complete, overview of possible policy pathways that might be compatible with post-growth objectives and the challenges they face.

Post-growth policy pathways

Post-growth supporters call for comprehensive changes in socially embedded production and consumption patterns to reduce the material throughput and environmental impact associated with economic activities. There are already a number of policy instruments that might help enforce absolute limits on throughput, e.g. regulations and restrictions, taxes, or carbon caps and budgets. However, from a post-growth perspective, current applications of these mechanisms are problematic, often geared towards encouraging efficiency gains (e.g. lower carbon intensity) rather than absolute reductions and creating complex offsetting schemes with questionable environmental integrity (Victor 2008). Another concern is how the costs and benefits of using scarce resources could be more equitably shared. For example, some are advocating for a supranational 'cap and share' mechanism, governed by a Global Climate Trust, that would provide every individual with an equitable annual share in the capped global carbon budget, which they could then sell on to fossil fuel companies via financial intermediaries (Douthwaite 2011). However, the feasibility of this proposal has been met with scepticism given the complexities of implementing such a reform at global or regional level and against incumbent interests and infrastructures (Kallis et al. 2012).

Post-growth advocates recognise that strict limits on material throughput must be accompanied by other measures that promote sustainable economies and allow people to live well with less. The future of work has captured particular attention in this discourse. One of the most frequently discussed policy proposals is a reduction of average working hours, which is expected to improve workers health and wellbeing and provide them with more time to invest in their communities, whilst preventing a rise in unemployment as output slows (Kallis et al. 2020; Victor 2008). Cutting working hours is also expected to have benefits for the environment and the climate, for example through electricity savings, reduced commuting needs, and shifts in household consumption patterns (e.g. Knight et al. 2012; Antal et al. 2020; Mompelat and Minio-Paluello 2021). However, more data is required to provide robust insights into the environmental benefits of working time reductions, likely to be contingent on complementary policies to ensure that additional leisure time does not increase the consumption of resource-intensive and environmentally harmful goods and services (Kallis et al. 2013). Others have suggested that reducing labour productivity does not necessarily imply fewer working hours but rather a re-assessment of productivity. This could mean that, in a post-growth scenario, "we work more, but radically differently," shifting the focus from profitable activities to those that are beneficial to society (Mair et al. 2020, p. 2).

Another important concern for post-growth supporters is the need to disrupt the mutual interdependence between economic growth and modern welfare systems (Bohnenberger and Fritz 2020; Büchs 2021a; Corlet Walker et al. 2021). As workshop discussions highlighted, currently, the provision of pensions, unemployment benefits, healthcare, education and other social services is largely financed through sources that are supported by GDP growth (e.g. income taxes or social insurance contributions). Conversely, many of these services are geared towards supporting economic growth. For example, healthcare and education systems help maintain a productive working population while unemployment benefits and pensions stabilise consumer demand. Thus, a key policy goal of the post-growth agenda is to decouple welfare provision and economic growth (Büchs 2021a). This would involve a range of policy changes, including preventative interventions to ease the strain on

the welfare system and equality-promoting regulations (e.g. a minimum and/or maximum income) to lower the risk of people becoming dependent on state support or expenditure cascades driving up the prices of housing and other essential commodities (Bohnenberger and Fritz 2020). Most importantly, it would require the unlocking of new revenue streams for the welfare state – such as wealth, land or capital taxes or taxes on environmental damages – that are less dependent on GDP growth. However, reforms to taxation are likely to be fiercely resisted given their redistributive effects. They also pose other problems. For example, ecological taxes might prove fiscally insignificant and/or unsustainable in the long run “as environmentally harmonious behaviour becomes normalised” (Bailey 2015, p. 801). In turn, an annual wealth tax may end up penalising middle class savers while the wealthiest find loopholes or shift their money to other jurisdictions (Adam and Miller 2021).

In the context of reimagining social welfare provision, the post-growth literature has also discussed proposals for a Universal Basic Income (UBI) and/or Universal Basic Services (UBS) (Büchs 2021b). While the former would guarantee a minimum income floor for everyone, the latter would enable affordable or free access to basic services such as health, education, transport, housing or food. Based on this definition, UBS is already being implemented in many countries, at least in areas such as healthcare and education. UBI, too, has already been piloted in a variety of contexts. A prominent example is a nationwide experiment in Finland, running between 2017 and 2018, which provided 2000 randomly selected unemployed people with an unconditional monthly flat payment (Kangas et al. 2021). A post-growth world could see a significant expansion of these applications. It should be noted, however, that neither would automatically yield environmental benefits but would have to go hand in hand with wider changes in socio-economic infrastructures and cultural belief systems (Büchs 2021b). Moreover, there is no agreement in the literature on whether UBS and UBI should be treated as complementary policies or as financially and ideologically competing alternatives. Those favouring UBS, for example, are concerned that unconditional cash-based benefits would be too expensive, too individualistic in focus, and less effective at addressing inequality and other social and environmental ills (Gough 2019; Coote and Percy 2020). Others have warned that focusing solely on UBS could also pose problems, for example, by restricting people’s autonomy and choice and enhancing the risk of excessive bureaucratisation (Thompson 2022). Therefore, UBI and UBS are increasingly discussed as policy options that could be mutually supportive (Büchs 2021b; Coote and Lawson, 2021).

In public and political discourse, however, the radical extension and redesign of welfare provision remains highly controversial due to the expected high costs and increased role of the state as well as concerns that it would weaken individuals’ incentives to work, invest and innovate. In response, some workshop participants argued that a better and more equitable provision of basic services would actually slash spending as a happier, healthier population puts less strain on public welfare provision. Policies such as UBI and UBS are also seen to remove the stigma and bureaucracy associated with existing welfare systems, reducing the need for a ‘big state’ as well as the material and social pressures that keep people employed in jobs they do not find meaningful. An underlying assumption is that “if people are free to choose, they are likely to choose work they believe is socially useful” (Mair et al. 2020, p. 7). There is also an expectation that the unconditional supply of a basic income and essential services would promote entrepreneurship, learning and innovation, for instance, by lowering the financial risk of venturing into new projects or by allowing individuals to take a break from

work to receive further education and training (Bregman 2017). Nevertheless, political feasibility and the search for alternative funding sources for growth-independent social welfare provision remain formidable challenges for post-growth supporters (Corlet Walker et al. 2021).

Importantly, many of the above-mentioned policies entail a shift towards public or common ownership regimes (Parrique 2019). Implementing UBS, for instance, implies a greater role for the state in ensuring basic needs are met. This could allow service provision to be explicitly designed in a socially just and environmentally sustainable way (Büchs 2021b). In the area of work, post-growth policy proposals require a change in the balance of power between employers and employees (Stratford 2020). This could mean reforming the ownership structures of corporations, through a shift away from concentrated shareholding and towards employee stock ownership as well as greater democratic accountability. New forms of ownership and communal property management could also be employed in the context of the energy transition. For instance, moving towards decentralised forms of collective energy management could boost the agency of local communities, allowing citizens to become directly involved in defining sustainable energy production and consumption practices (Kunze and Becker 2015). It is estimated that there are already about 3500 so-called renewable energy cooperatives in Europe (Caramizaru and Uihlein 2020). However, not all of these initiatives facilitate genuine community participation and, so far, their proliferation has not yet challenged the hegemony of powerful multinational energy firms (Hewitt et al. 2019).

Beyond reforming basic services provision, a shift from ‘weak’ to ‘strong’ sustainable consumption governance would likely be needed to drive wider lifestyle changes (Lorek and Fuchs 2011). While the former focuses primarily on encouraging the production and uptake of more environmentally efficient goods and services, such as electric vehicles, the latter also aims to actively reduce or fundamentally redirect overall consumption, for instance by reducing vehicle ownership and usage. However, mechanisms of strong sustainable consumption governance – such as restrictions on commercial advertising – are likely to be highly controversial. Therefore, post-growth supporters emphasise that voluntary shifts in consumer behaviour will need to be supported by wider structural shifts in societal principles, towards a “logic of sufficiency” rather than a narrative of personal sacrifice (Princen 2005). From this perspective, we do not need ‘more,’ rather we need “institutions that will allow us to live with enough” (Kallis and March 2015, p. 8), i.e., institutions that safeguard basic needs whilst promoting non-material dimensions of wellbeing, such as belonging, community, participation, and equity. This could include, for example, novel forms of sustainable cohousing communities that facilitate “intentional sharing” (Jarvis 2017).

Critics, however, have cautioned against overly optimistic assumptions that people will voluntarily choose to reduce consumption of environmentally damaging products and services, even if encouraged and able to do so. An example discussed at the workshop included sport-utility vehicles (SUVs), which remain immensely popular, despite their environmental impact, bulkiness, higher running costs, and off-road features that serve no purpose in urban areas. The structures that support consumption of these vehicles – including social comparison, emotion-based advertisement, and car-centric imageries of urban life (Milman 2020) – will be challenging to dismantle. At the same time, reaching a democratic decision to ban SUVs from cities promises to be an enormous political struggle. The example of the SUV also raises interesting questions about freedom of choice and the

psychology of subjective wellbeing. While post-growth supporters can point to various studies indicating that happiness is not substantially enhanced by higher consumption levels once basic needs are covered (see Parker 2022), the fact remains that the desire for more income and consumption opportunities is a powerful motivating force, whether that is because people believe, rightly or wrongly, that it will increase wellbeing or because they are motivated by other psychological and social concerns (Ahuvia 2008).

Finally, several post-growth policy proposals focus on the transformation of financial systems and monetary institutions. Although there is some disagreement on whether or not the current financial system, based on interest-bearing debt, is principally incompatible with non-growing economies (Jackson and Victor 2015; Barmes and Boait 2020), monetary reform is widely seen as essential to supporting social and environmental sustainability and preventing system instability. Suggestions for reform range from stricter regulations aimed at ‘slowing down’ finance, curbing speculation and redirecting investment to socially and environmentally productive activities to more radical proposals whereby money is administered as a public resource for sustainable provisioning (Barmes and Boait 2020; Parrique 2019; Mellor 2010). However, most of these proposals aim to reduce power asymmetries in existing financial systems and are thus likely to encounter fierce resistance.

Governance challenges

Perhaps the biggest challenge to the post-growth agenda – and in particular calls for degrowth – is the question of how the transition would be governed. Some maintain that ex-ante planning for a world without growth is impossible given the uncertainties involved in intervening in complex socio-economic and ecological systems (Sorman and Giampietro 2013). Others fear that, as a political agenda, degrowth is “prone to appropriation to authoritarian ends” (Finley 2018, p. 1). Recent events such as the yellow vests protests in France have illustrated the challenge of securing broad-based support for stricter environmental policies and the need to carefully consider their distributive consequences. While a fairer distribution of available resources is a mainstay of the post-growth discourse, some argue that the movement has been insincere about the costs that (richer) populations in the Global North will have to bear in order to support the changes envisaged (Milanović 2018).

Much of the literature emphasises the need to depoliticise socio-economic relations and revitalise society, however, these visions often rest on “normative claims that are inaccessible to rigid scientific testing” (Weiss and Cattaneo 2017, p. 222). Of course, other visions of our future economy – including the green growth agenda – also make important normative assumptions. For example, cost-benefit analyses, which underpin much conventional economic policy advice, rest on the assumption “that all values can be reduced to individual preferences as expressions of utility,” and are thus amenable to monetary valuation (Spash and Hache 2022, p. 662). Nevertheless, the post-growth agenda could profit from clarifying why, how fast and under which conditions we might expect social norms to change.

Degrowth supporters themselves have recognised the need to clarify the question of governance for radical change, including the role of the state in bringing about growth-independent societies (D’Alisa and Kallis 2020). As Cosme et al. (2017) observe, despite a

strong commitment to bottom-up, community-driven approaches in the literature, the majority of degrowth policy proposals will require top-down interventions. Another challenge is that, while the need to move towards an alternative economic model is seen as urgent, the required structural changes and mindset shifts might take a long time to materialise (Romano 2012).

Developing a better understanding of the political, social, cultural and practical barriers that inhibit support for abandoning GDP growth – and how these might be overcome – is thus a crucial task for those supporting a post-growth agenda. Messaging will likely be an important part of the solution. For example, Kallis (2013, p. 94) highlights the importance of “[c]onstructing a positive vision of degrowth as an inspirational political project that mobilizes citizens.” Yet, others find that “[t]alking about “degrowth” or “post growth” triggers unproductive ways of thinking about the economy by shifting focus towards the economy itself and its internal functionings and away from its role and the wellbeing of people” (Positive Money et al. 2021). This raises the question whether the diversity of perspectives and the lack of common framing poses serious implementation challenges for post-growth agendas.

A major concern for many workshop participants was the need to encourage democratic public debate on these issues. As one speaker argued, such efforts must also serve to demystify economics, starting with the observation that the economy is ultimately governed by people and not the other way around. Büchs and Koch (2019) suggest that new forms of participatory democracy could facilitate dialogue and exchange on the role of (de-)growth in sustainable economic systems between different groups, including experts and citizens, poor and rich populations, as well as current and future generations. A key assumption in the post-growth literature is that “people want a new economy” but find it hard to envisage such an economy as long as the underlying systemic forces push for more growth (Hickel 2017). This implies that sequencing is a key question the post-growth agenda must grapple with: Is it necessary to first build widespread public support for an explicit ‘ex ante’ strategy aimed at moving beyond growth? Or should the focus lie on incremental policy changes, which might be more likely to obtain the necessary democratic support and could help gradually build public imaginaries of a radically different future?

What next? Focusing on the journey not the destination

Much of the debate between green growth and post-growth (especially degrowth) supporters has focused on the empirical relationship between GDP, wellbeing and environmental sustainability. While this is a fascinating debate, there are growing concerns that it does not chart a workable way forward (Barth and Jakob 2022). Green growth and degrowth advocates are unlikely to agree on a grand vision for a future economic system that fosters prosperity within planetary boundaries. However, this does not preclude more pragmatic, and potentially more productive, exchanges on overarching goals, principles and specific policies that could steer the economy in a more sustainable and equitable direction.

As a first step, this requires exploring common ground. A compelling reason to consider possibilities for consensus is the danger that the debate between green growth and degrowth

“is not going to be settled in a timeframe that is useful for maintaining a habitable planet” (Stratford 2020). What is clear is that the current economic order remains strongly associated with material extraction and associated impacts such as GHG emissions, notwithstanding evidence of relative decoupling of some environmental pressures. Thus, whatever direction we take, we will need to see major transformation in the way the economy works if we are to stay within ecological limits while also securing the basic foundations for a good life for all.

Taking a step back from GDP, we may find that the fundamental aims of green growth and post-growth approaches are not completely incompatible. Most green growth advocates do not argue that GDP growth will deliver sustainable outcomes on its own or that green technologies will allow us to live with more across all areas of the economy. Most post-growth and degrowth advocates, on the other hand, do not call for indiscriminate reductions of GDP, “voluntary poverty” or a “return to a primitivistic state” (Mocca 2019, p. 81). Both emphatically reject attempts to trivialise the dangers of climate and environmental breakdown and efforts to postpone ambitious action to mitigate and adapt to these challenges. Perhaps most importantly, green growth and post-growth advocates ultimately seem to share the same overarching goal, namely, to decrease the *biophysical* size of the economy while safeguarding societal wellbeing.

Of course, positions differ sharply when it comes to the concrete implications of this goal. Green growth supporters contend that it can – and perhaps must – go hand in hand with GDP growth as innovation-driven efficiency gains and structural changes in the economy allow us to do more with less. In contrast, post-growth advocates either treat GDP decline as an inevitable consequence of decarbonising and dematerialising high-income economies or prefer to remain agnostic towards this question. As such, both sides also make different claims about the significance of economic growth for societal wellbeing. While green growth advocates contend that decreases in GDP will be accompanied by increases in unemployment, income inequality and poverty, postgrowth supporters argue that basic needs and wants can be met through alternative non-market mechanisms, provided economic contractions are intended and well-planned.

Importantly, both sides inevitably make assumptions about the future behaviour of complex socio-economic and ecological systems, many of which are difficult to prove empirically as they depend on a range of contextual factors and emergent dynamics. While historical trends may give us some clues, both sides are able to claim that their proposals have never been seriously tested. Thus, while green growth advocates put their bets on the future innovative capacity of growth-based economic systems, degrowth supporters are more optimistic about the prospects of societal paradigm shifts. Given the growing risk of abrupt changes in life-supporting Earth systems, we may not have the luxury to bet on either of these assumptions alone. Barring a revolution or similarly disruptive political event, degrowth supporters will likely find themselves in capitalist societies for a while to come. At the same time, the always-looming risk of recession in the current system – which is likely to rise as commodities become more expensive, weather patterns become more volatile and ecosystem services break down – compels us to think about ways to make societal prosperity less dependent on GDP growth.

Given the complexities and uncertainties involved in assessing the empirical validity of competing visions for a sustainable future economic system, perhaps it is more fruitful to

refocus the discussion on shared objectives and concrete steps forward. This is not to say that we do not need visionary thinking but to suggest that this must sit alongside more pragmatic thinking about here-and-now actions, especially those that promise to trigger positive feedback loops, thus laying the ground for more transformative change in the future. The widespread application of more comprehensive indicators and metrics, both for environmental impacts and societal wellbeing, could be such a feedback-inducing event, resulting in shifting targets and accordant policy changes.

For example, integrating consumption-based data in national GHG emissions inventories and policy planning – both of which have traditionally focused on production-based emissions – could induce a range of concrete regulations aimed at changing the behaviour of consumers and/or constraining the supply chain choices of retailers (Grubb et al. 2020). Similarly, the wider application of integrated stock-flow indicators that account for the bio-physical aspects of economic activity could encourage circularity and waste reduction (Tanikawa et al. 2021). Specifically, policies and regulations could create strong incentives to recycle, reuse and repair materials and extend the lifetime of products, for instance through regulation on planned obsolescence (Maitre-Ekern and Dalhammar 2016), tax reliefs on repair (Starritt 2016), or legal changes to material ownership that would make producers responsible for the end-of-life disposal of their products (Domenech et al. 2019). This could be bolstered by more bottom-up approaches to sharing, such as community-led Libraries of Things (Baden et al. 2020).

Capturing the contributions of nature-based services in economic indicators and metrics will also be vital to expand the discussion on environmental impacts, which so far has disproportionately focused on climate change and GHG emissions. This could result in a more comprehensive set of targets and action plans aimed at safeguarding planetary limits. For instance, Jacobs (2018) has proposed that such targets could be enshrined in a new Sustainable Economy Act, modelled on the existing UK Climate Change Act, thus establishing a statutory duty to reduce environmental impacts in line with planetary thresholds.

More nuanced measurements of wellbeing and societal progress could trigger policy shifts in a similar fashion. For instance, properly reflecting unpaid household services in economic statistics would make visible the double burden of paid and unpaid work that disproportionately falls on women (DeRock 2021) and could prompt improvements in areas such as childcare accessibility and affordability, equal parental leave or flexible working. While formal income levels clearly remain a key concern, better policies are needed to account for the environmental and social determinants of wellbeing that are not captured by GDP, such as freedom from pollution and other environmental hazards, access to green space, health, educational attainment, acceptable living standards, meaningful employment opportunities, time for leisure, personal safety, security and social connection. Addressing these and other wellbeing determinants will arguably be important to support the resilience, stability and proper functioning of any economic system, whether GDP is growing or not.

Future-proofing welfare provision is likely to be a key ingredient for reform. As Stratford (2020) highlights, one does not need to be a post-growth advocate to be interested in reducing growth *dependence*. Slowing GDP growth rates in many high-income countries already curtail the revenue base of existing welfare systems, highlighting the need for alternative models that are more focused on safeguarding basic needs and revenue streams

that are less sensitive to the ups and downs of the economy. Similarly, in the context of increased efficiency and automation, a regulated transition towards fewer working hours could become a widely supported policy goal – although a key question will be if this would translate into less pay (Smedley 2019). Reducing income and other socio-economic inequalities will also be essential, independent of GDP growth (or lack thereof), as higher levels of equality are generally associated with greater societal trust and other positive social outcomes (Wilkinson and Pickett 2010; Dorling 2017). For example, universal access to high quality education and other equality-enhancing social investment policies can support the shift towards knowledge economies, which in turn are more likely to deliver the technological and social innovations needed to meet sustainability objectives (Choi et al. 2020).

In short, there is a whole set of social policies and environmental interventions – combining regulation, fiscal incentives and binding caps on resource use and ecological impact – that both green growth and post-growth supporters could support as they are focused on the shared concern of reducing material throughput in a socially sustainable manner. Assuming these policies were actually implemented and stringent enough to keep us within planetary limits, would the economy continue to grow? As one workshop participant suggested, the honest answer is perhaps that we do not know. However, our current inability to settle this question should not delay urgently needed policy action. After all, an ecologically depleted planet will offer little hope for either, continued growth or socially sustainable degrowth.

Importantly, in order to have any chance of becoming reality, the policies reviewed above need to pass through the crucible of public debate. New forms of participatory democracy – such as Citizens' Assemblies – may have a role to play in this regard, providing opportunities for informed public deliberation on the complex challenges involved and enabling decisionmakers to gauge popular support for specific policies (Lindellee et al. 2021). Greater community engagement might also encourage a shift from grand conceptual debate to context-sensitive and place-dependent practical interventions. There is no finished blueprint for a future economic system that would be appropriate for every country and community. But there are plenty of opportunities to learn from and with each other as we renegotiate what prosperity means on a finite planet.

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