Towards sustainable wellbeing: Integrated policies and transformative indicators.

Deliverable 3.1:

Framework for the case studies

WP 3 - Identifying innovative policy options and understanding processes of change

Version 1.0 | October 2023

HORIZON-CL2-2022-TRANSFORMATIONS-01 -
Towards sustainable wellbeing: Integrated policies and transformative indicators.

toberesearch.eu

Funded by the European Union in the framework of the Horizon Europe Research and Innovation Programme and UK Research and Innovation under grant agreement N° 101094211.

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Content

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Document History

Deliverable Title	Framework for the case studies
Brief Description	This document introduces case study framework that guides the work in T3.2
WP Number	WP 3
Lead Beneficiary	VTT
Author(s)	Angresius Laura (UB); Bedoya Lissette (EPN); Bhatia Riina (VTT); Büchs Milena (Leeds); Campos Michel (EPN); Cuestas Caza, Javier (EPN); Nieminen Mika (VTT); Rilla Nina (VTT); Toledo Lucia (EPN); Wiman Henri (VTT)
Deliverable Due Date	31.10.2023
Dissemination Level	Public

Date	Ver	Contributors	Comment
25.9.2023	0.1	Milena Büchs	Outline
29.9.2023	0.2	Nina Rilla	1st draft of template
20.10.2023	0.3	WP 3 Team: Angresius Laura; Bedoya Lissette; Bhatia Riina; Büchs Milena; Campos Michel; Cuestas Caza, Javier; Nieminen Mika; Rilla Nina; Toledo Lucia; Wiman Henri	Manuscript writing
22.10.2023	0.4	Nina Rilla	1st cleaned manuscript
26.10.2023	0.5	Laura Angresius	Reference editing
27.10.2023	0.6	Philippe Roman	Review
27.10.2023	0.7	WP 3 Team	Revision by authors
30.10.2023	0.8	Liisa Häikiö	Review
30.10.2023	0.9	WP 3 Team	2nd draft of manuscript
31.10.2023	1.0	Nina Rilla	Finalisation of the deliverable

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Introduction

This document introduces a case study framework that will be used in work package 3 of the "ToBe" project to explore drivers, barriers and outcomes of alternative growth initiatives in the Global North and the Global South, and how these dynamics contribute to change, and even transformation, of larger economic systems and practices. Our focus is on change from 'business as usual' to alternative economic systems.

We develop the case study framework around a set of themes derived from theories of change relevant to this field. The themes included are capitalist economic system and power, crisis as a driver for change, roles of different actors in driving or opposing change, and different strategies of change. An important question for the empirical cases is to explore how respondents perceive their capacity to introduce transformative change and what, in their view, supports or hinders their capacity, given the wider growth imperatives present in the wider economic system, other existing institutions and established decision-making processes, as well as power and resource imbalances that affect their room for manoeuvre.

To build our framework, we first briefly discuss a typology of alternative growth initiatives (e.g. Faccer et al., 2014; van den Bergh & Kallis, 2012) from green growth to post-development. In between green growth and post development, we position post-growth which makes a distinction between a-growth and de-growth positions emphasising growth-agnostic and growth-critical approaches that represent the central division in postgrowth thinking. To highlight some of the different stances, a-growth perspective takes for instance a 'middle position' between green growth and de-growth with regards to the question of whether staying within planetary boundaries can be combined with GDP growth. While green growth positions assume that it is possible to combine staying within planetary boundaries with GDP growth through decoupling (Jacobs, 2016), de-growth positions question that decoupling is possible based on lacking evidence of absolute decoupling at the global level and at the required speed (Haberl et al., 2020; Hickel & Kallis, 2020; Vogel & Hickel, 2023).

After introduction of typology of alternative growth initiatives, we move on to discuss different theories of change. Given that change is always shaped by context (Buch-Hansen & Nesterova, 2023), different lenses to understand change are necessary. We also adopt a view of the role of technology and innovations stemming from a philosophical perspective that technology and innovation changes practices and routines (Likavčan & Scholz-Wäckerle, 2018). According to a Schumpeterian and Marxist ontology on economic development, technologies and innovations are shaped by societal values and they shape outcomes of production, redistribution, labour, and ultimately societal power relations, depending upon what type of activity, value creation, or societal ideological goals, for example, they have been designed to achieve or appropriated in use (Likavčan & Scholz-Wäckerle, 2018).

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1 Typology of alternative economic initiatives

1.1 Green growth

(Henri Wiman, Riina Bhatia)

In this framework green growth is used as a broad term to make a distinction to more growth-critical or growth-agnostic positions. Still, it entails a commitment to (environmental) sustainability. In a nutshell, green growth argues that economic growth can be environmentally sustainable and –furthermore – actively *promotes* environmental sustainability. Sometimes it is even argued that environmental sustainability is *not possible without* economic growth. The wellbeing assumption entailed in green growth is that economic growth increases human well-being in the Global North and South. Different parties give different emphasis to these claims. Green growth is used as a term and a broader discourse by international policy organizations such as the OECD, the IMF, the World Bank and other development banks, and UN bodies. It is also a common term in political programmes at the national level. The influence and significance of green growth is also baked-in to the traditional interpretation of sustainable development, coined in 1987. It says that "economic sustainability" (which, in practice, tends to mean growth among other things) can be reconciled with environmental and social sustainability (Bonnedahl et al., 2022).

The term green growth entered mainstream policy discourse in the early 2000s and continued gaining popularity since (see e.g. the OECD (2009) green growth declaration). The roots of this perspective are, however, older. One academic origin of green growth is the Environmental Kuznets curve (EKC) (Figure 1). In its original articulation from 1991 (Grossman & Krueger, 1991), it suggested that air pollution follows an inverted u-shaped relationship to economic growth. Small economies cause increasing environmental harms as they grow, but the addition of further harms slows down as economies get larger. At some point, additional growth leads to *decreasing* environmental harms. To give the Environmental Kuznets curve a concrete narration, for instance, smaller economies have fewer resources to invest in technologies and skills which would mitigate environmental harms, but as economies get wealthier, more resources can be diverted to 'cleaning up' production. The Environmental Kuznets curve is called that because it is an environmental interpretation of the original "Kuznets curve". Economist Simon Kuznets had suggested that growth is associated with rising inequality up to a point, beyond which the relationship reverses.

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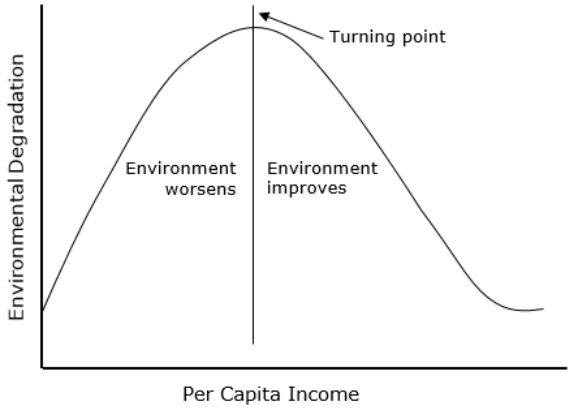

Figure 1. The Environmental Kuznets curve (wikipedia)

Another origin of green growth discourse is the Limits to Growth report (Meadows & Club of Rome, 1972), not because it advocated green growth, but because it questioned the assumption of such. By challenging the largely unstated assumption that growth is "good" for society, it created a need to argue why it is.

Green growth entails decoupling of environmental harms from economic growth. In fact, the question of decoupling is the key question whether green growth is possible or not. There are several kinds of decoupling that take different perspectives. In addition to absolute and relative decoupling, Vadén et al. (2020) distinguish distinct resource decoupling vs. environmental impact decoupling, local vs. global decoupling, and limited timescale vs. longer timescale decoupling. To be environmentally successful, decoupling needs to be absolute and comprehensive of all critical harms (Parrique et al., 2019). Moving economic activity toward service-based and less material-intensive goods is a way green growth can be envisioned, but technology and innovation play an important dual role in green growth strategies. First, technological advancement reduces the environmental harms of economic activity through increasing energy and material efficiency of production. Second, technological advancement is itself seen as an engine of growth. This can be true in more ways than one – technical improvements can raise productivity, but since they also require some initial investment, that investment can work as an economic stimulus. If all goes as intended, the economy grows via technical advancement, which generates further economic growth, all the while decoupling also advances.

Policy proposals for green growth tend to mirror other growth-driving policies broadly, but with an environmental twist. For instance, if the mainstream opinion is that research and development (R&D) investment promotes economic growth, then the green growth equivalent is to encourage R&D in 'clean' sectors. Pro- (green) growth policies can be government spending, taxes and subsidies, planning and permit policies, and labour market and education policies. Overall, the emphasis tends to be on technical resource efficiency improvements and market-based policies. The only sphere of pro-growth policy that may have less emphasis on green growth policies is monetary policy. This is because the asset purchasing programs of central banks are usually expected to be technology-neutral (favouring sectors equally, including fossil-based ones like the hydrocarbons sectors) and the central bank rate does not distinguish between more or less 'green' financial institutions.

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Public policymakers are the main agents of green growth visions. Civil society actors do not usually play a central role. Policy can be directed at consumers if certain consumer choices are incentivized, or students, if education attainment (perhaps in a specific sector) is promoted. Perhaps the most important non-policymaker actors in green growth are investors, business managers and entrepreneurs. These actors are the ones steering resource allocation in the right technologies and in sufficient volumes. Even then, however, it is usually expected that public policymakers first create fair, stable and optimistic market environments. One could also argue that researchers have important agency in green growth, at least when it comes to solving technical problems within those clean technology issues that are predominantly selected by policymakers and investors.

The OECD (2017) recommends monitoring green growth progress with a mix of indicators, for example the environmental and environmental-economic indicators include resource and carbon productivity (economic value generated per unit of CO2 or resource input); the stock of renewable and non-renewable resources; biodiversity; exposure to environmental risks and access to environmental amenities; technology and innovation indicators; investments that contribute to technology adoption and environmental targets; price signals (that are relevant to producers); and education and training. Overall, we can say that this indicator set focuses on environmental and economic performance, with some indirect wellbeing measures in the form of environmental risks and amenities. The economic indicators emphasize technology and innovation and producer incentives, reflecting the policy vision that the public sector is meant to facilitate resource efficiency improvements of the private sector. Since the main aims of green growth are quite broad – technology and innovation, economic growth, and environmental sustainability – any indicator sets falling in these categories are in theory valid green growth indicators. Traditional growth policy indicators are likely not sufficient, but in some respects such as their innovation categories could be transferrable.

An advantage of green growth narratives is that they are self-reinforcing: good outcomes generate good outcomes, at least so long as the technical advancement is focused on environmental efficiency. However, even with the right technology focus, the amount of decoupling that is generated needs to be large enough to counteract growth itself (Vogel and Hickel (2023) provide some required decoupling rates). The possibility of reaching sufficient decoupling rates is questioned by the other alternative economic initiatives below. Whatever the amount of decoupling in green growth, it is worth realising that the 'growth' in green growth always contains opposing effects: decoupling puts downward pressure on environmental harms while growing production puts upward pressure. Additionally, if investment in technology and innovation is too low from the start, the self-reinforcing logic of green growth is weak, and begs the question of how growth can be stimulated or kick-started to begin with.

The relationship of green growth to capitalism and the existing institutional context explains much of its popularity and is viewed as a strength or weakness by different parties. In terms of political acceptability, green growth is a relatively minor reform to older policy doctrines that consider growth the solution to a wide range of social issues (promoted, e.g., by the World Bank particularly since the 1990s). In other words, the policy rationale and support for green growth was created already decades ago, as is evident in its broad adoption by international policy organisations. Many existing institutions such aspects of the welfare state were also created under the assumption that the economy continues

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growing, and under the aim that these institutions promote further growth (Büchs, 2021). Legacy institutions can even be deemed growth-dependent, whereby they *require* economic growth to function (e.g. Barr (2002) considers economic output the most critical aspect of pensions). Many social conflicts (such as around income (re-)distribution) can also be alleviated with economic growth.

While green growth is a common paradigm globally, it is viewed as particularly important in the context of Global South. Policy scholars in the Global South view green growth as the most viable option of the different growth paradigms (King et al., 2023). Indeed, economic growth does increase human-wellbeing in terms of fulfilling basic needs, which are still not met in large parts of the Global South. As such, (green) economic growth is often argued to be needed in such context.

Overall, green growth fits easily with existing policy rationales and existing institutions. It provides a broad and internally consistent response to complex social and wellbeing challenges. However, its burden of proof is particularly high regarding the sufficient decoupling of economic value and environmental harms. Alternatives to green growth are faced with the challenge of being equally comprehensive and institutionally 'acceptable'.

1.2 Post-growth

(Milena Büchs)

In this framework, we refer to "post-growth" as an umbrella term which houses a range of growth-critical or growth-agnostic positions. The literature discusses these positions under a variety of names, including post-growth (Jackson, 2011), de-growth (Demaria et al., 2013; Kallis, 2020; Schneider et al., 2010), steady state economics (Daly, 1992), doughnut economics (Raworth, 2017), wellbeing economics (Trebeck & Williams, 2019) and a-growth (van den Bergh, 2011; van den Bergh & Kallis, 2012). Here, we draw a broad distinction between a-growth and de-growth positions as the division between growth-agnostic and growth-critical approaches that represent the central division in postgrowth thinking. The former growth-agnostic approach argues for economic growth to be disregarded from policymaking, while growth-critical approaches understand the reduction of economic growth as a central policy goal.

1.2.1 A-growth

(Milena Büchs, Riina Bhatia, Michel Campos)

A-growth perspectives take a 'middle position' between green growth and de-growth with regards to the question of whether staying within planetary boundaries can be combined with GDP growth. As explained above, green growth positions assume that it is possible to combine staying within planetary boundaries with GDP growth through decoupling (Jacobs, 2016). De-growth positions question that decoupling is possible based on lacking evidence of absolute decoupling at the global level and at the required speed (Haberl et al., 2020; Hickel & Kallis, 2020; Vogel & Hickel, 2023). In contrast, a-growth positions advocate agnosticism regarding economic growth: if desired ecological and social outcomes are achieved it does not matter whether or not GDP is rising or falling (Raworth, 2017; van den Bergh, 2011; van den Bergh & Kallis,

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2012). A-growthers argue that their position is more likely to be politically acceptable and successful compared to an explicit de-growth strategy (van den Bergh, 2011).

One of the main points of the a-growth position is to reverse thinking about the causality between growth on the one hand, and environmental and social outcomes on the other: instead of assuming that environmental and social outcomes such as a reduction of emissions, greater equality and lower unemployment will be achieved with lower growth rates, the focus should be on achieving these outcomes directly, without worrying about GDP growth (van den Bergh, 2011; van den Bergh & Kallis, 2012). An a-growth strategy would not give priority to income growth over climate stability but strike a balance between important components of social welfare. Therefore, it would provide more political leeway for effective climate policy and a just distribution of income (Van Den Bergh & Drews, 2020). However, there are slight differences in the a-growth literature regarding what is meant by being agnostic or indifferent towards growth. For instance, while van den Bergh (2011; 2012) focuses on indifference regarding whether or not GDP growth is occurring, Raworth (2017, p. 245) puts greater emphasis on designing economies around the main aim of increasing "human prosperity" rather than advancing growth.

A-growth supporters claim that GDP is not a suitable measure of welfare, among other reasons as GDP includes environmentally and socially harmful activities while it excludes valuable activities that are not performed through the market (Raworth, 2017; van den Bergh, 2011). The goal of public policy means advancing social well-being by focusing on solving major social and environmental problems rather than focusing on weak or uncorrelated GDP. In fact, unconditional GDP growth often acts as a constraint on solving these issues, so a-growth will foster solutions by relieving this constraint (Van Den Bergh & Drews, 2020). A-growthers therefore stress that alternative indicators should be used to measure environmental and social performance (van den Bergh, 2011; van den Bergh & Kallis, 2012). However, there is no broadly acknowledged alternative indicator framework within the a-growth literature.

The a-growth literature does not (necessarily) take an anti-capitalist position. For instance, Raworth (2017) does not discuss capitalism as a system and Van den Bergh (2011) criticises "radical degrowth" for naively advocating the abandonment of market capitalism.

A-growth perspectives see a positive role for technology and innovation in achieving environmental targets. For instance, van den Bergh (2011) explicitly calls for growth in environmentally friendly economic sectors such as renewable electricity. However, he also calls for greater government intervention in supporting environmentally and socially beneficial technological innovation through investment and R&D policies (ibid).

In line with this, new paradigms have been rising recently in the innovation literature. These refer to policy angles such as mission-oriented innovation policy, which place primacy on solving grand societal challenges into the heart of innovation policy (e.g. Mazzucato, 2019). They converge from traditional green growth type of innovation paradigms in that they do not place primacy on achieving (green) economic growth, but rather that growth can take place through solving grand challenges. Here the idea is, that a new focus on innovation policy, business models, organizations and technologies developed renews the economic system to integrate sustainability perspectives through innovations. Initiatives such as mission-oriented innovations remain largely at the technological policy sphere, and actors include mainly private

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and public sectors (ibid.). Mission-oriented innovation also takes a perspective in in investments, and argues increased investments from public sector (e.g., public development banks) to steer transitions.

1.2.2 De-growth

(Laura Angresius, Milena Büchs, Riina Bhatia, Michel Campos)

De-growth scholars understand constant economic growth to be in fundamental contradiction to the finite resources and regenerative capacity of this planet. They argue that despite advancements in decoupling technologies, the empirical evidence proves that global, absolute resource and impact decoupling as rapidly as needed is not taking place (Haberl et al., 2020; Hickel & Kallis, 2020; Vogel & Hickel, 2023; Ward et al., 2016; Wiedenhofer et al., 2020). Parrique et al. (2019) identified seven reasons why the required level of decoupling is also highly unlikely to happen in the future: energy expenditures will rise due to more difficult accessibility and lower quantity and quality of energy and material resources, rebound effects undo resource and impact efficiency improvements, problem shifting, services carry underestimated environmental impacts, recycling has a limited potential, technological change is insufficient and inappropriate to provide decoupling in the future, and cost shifting takes place across countries.

De-growth scholars argue that the relationship between economic growth and social outcomes is not inherently positive. On the contrary, they hold that the current economic growth paradigm has even negative influences on people's wellbeing by commodifying human-human and human-nature relationships (Martínez-Alier et al., 2010), marginalizing reproductive work and social bonds (Dengler & Lang, 2022), as well as putting a strain on people's mental health through constant status competition (Büchs & Koch, 2019). Moreover, on a global scale, economic growth in early industrialised countries is based on domination and exploitation of people and resources in the Global South (Brand & Wissen, 2017; Dorninger et al., 2021; Hickel et al., 2021). Thus, in a de-growth understanding, a reduction of income and material consumption would not have negative impacts on welfare if absolute human needs can be met with lower-resource inputs (Büchs & Koch, 2019; Kallis, 2011).

However, there are some discussions within the de-growth literature on the need for economic growth in Global South context. De-growth scholarship has been critiqued for its Eurocentric perspective, often finding lack of resonance from low-income populations (Muradian, 2019). Following this, scholars agree that de-growth is most valid in contexts of highly industrialized countries, which exceed most if not all planetary boundaries (Schneider et al., 2010). This is said to leave room for low-income populations to grow (sustainably).

Some de-growth scholars are agnostic as to whether a de-growth transformation would require the end of capitalism as a voluntary transition towards a just economy, participatory and ecologically sustainable society, meeting basic human needs and ensuring a high quality of life, while reducing the ecological impact of the global economy to a sustainable level (O'Neill, 2012), while others regard capitalism as inherently dependent upon growth and, thus, incompatible with a de-growth society. Scholars who are agnostic towards capitalism argue that the negative social consequences of negative growth in capitalism could theoretically be reconciled through alternative economic institutions based on sufficiency, localisation, and commons (Andreucci & McDonough, 2015; Büchs & Koch, 2017). However, more critical

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scholars understand these measures to be only temporary fixes in the capitalist system. From their perspective de-growth requires a post-capitalist transformation which involves the abandonment of the profit motive and emphasis on collective, democratically organised forms of production as well as the decommodification of labour (Andreucci & McDonough, 2015; Asara et al., 2015; Buch-Hansen & Nesterova, 2023; Büchs & Koch, 2017).

As the de-growth literature places emphasis on socio-economic, cultural and mindset shifts, the role of innovations and technologies in de-growth literature has been discussed to a lesser extent. One of the major standpoints for de-growth literature in terms of technologies has been the understanding that technologies and innovations do not solve sustainability challenges by themselves. To achieve sustainability, broader changes are needed. In fact, some scholars argue that further technological development can even lead to deteriorating crisis as technologies increase pressure of production and consumption to continue (Heikkurinen & Ruuska, 2021).

Some discussions have emerged in trying to respond to the techno pessimism – utopianism dichotomy, moving towards a convivial understanding and reappropriation of technologies (Kerschner & Ehlers, 2016; Likavčan & Scholz-Wäckerle, 2018). For example, Vetter (2018) discusses that technologies in fact play an important role in transformations towards degrowth and provides an analytical tool to assess the feasibility of technologies through a Matrix of Convivial Technology (MCT). Other innovation perspectives that can be adopted in the de-growth context are, for example, stemming from the perspectives of diverse economies (Gibson-Graham & Dombroski, 2020). Such innovations and technological application focus on social and frugal innovation that combine both fulfilling social needs with less energy and resource use. Such approaches do not place primacy on technologies as such. Rather they employ needs-based approaches. In such settings local resource availability, combination of high, medium and low-tech appliances are used in creative ways to fulfil locally defined needs.

Convivial innovations see importance in relatedness, access, adaptability, bio-interaction, appropriateness against materials, productions, use and infrastructures (Vetter, 2018). What is important to note, is that convivial technologies are usually frugal, they are based on local materials, on the local needs, and serve to give users autonomy and empowerment (Pansera, 2018; Vetter, 2018). They are designed to allow horizontal control, remain small scale and use open knowledge, integrate various perspectives into innovation design and use simpler, socially and ecologically conducive technologies (Dunlap, 2023).

In this sense convivial technology adopts a different perspective onto transformations. Rather than “orchestrated” control, scaling up and replacing systems completely, such post-growth oriented technologies and innovations seem to nurture a type of uncontrolled murmuration style transformation, which gives agency and room for local communities to adapt in the ways in which is most suitable for their lived context.

In line with this, Pansera and Fressoli (2021) and Froese et al. (2023) point differences between growth and post-growth-oriented organizations based on underpinning values, resources, ownership and governance, production and consumption patterns, surplus, intellectual property, technology design, power relations and scale. It is emphasized that post-growth innovations and organizations (including both a-growth and de-growth) are built on local and community-oriented ways, recognize importance of social

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innovation, inclusiveness, interconnectedness of social, economic and environmental systems, and the use of appropriate and context-specific technologies that respect local ecosystems and cultural values.

Pansera and Fressoli (2021) discuss innovation without growth through the concepts of convivial technologies and post-growth organizations. Innovation places premise on inclusive processes and seeing pluralism in values produced by innovation, not just economic value. With this Pansera and Fressoli (2021) argue, that there is a need to radically restructure the current innovation policy thinking and to include deliberation of multiple value propositions and value creation through innovative organizational and business models (see also Froese et al., (2023)).

De-growth scholars critique the GDP indicator as a poor measure for societal progress as it does not reflect inequality, care work, informal work, and it does not differentiate between beneficial and harmful economic activity (Kubiszewski et al., 2013; O'Neill, 2015). These shortcomings suggest that using the GDP as an indicator of progress causes an information failure, which is likely to steer the economy in the wrong direction from social-welfare and environmental angles (Van Den Bergh & Drews, 2020). Thus, de-growth scholars advocate for governments to abandon GDP and instead adapt dashboards of social and ecological indicators as the compass in policymaking (Fitzpatrick et al., 2022; O'Neill, 2015). For example, O'Neill (2012) has proposed a set of social and biophysical indicators to measure how societies progress towards de-growth. In addition, Fitzpatrick et al. (2022) have identified other examples of alternative measures of social performance in the de-growth literature. These include the Genuine Progress Indicator, the Gross National Happiness from Bhutan, and the Wellbeing Budgets adopted by three Wellbeing Economy Governments.

De-growth writings have been criticised for emphasising voluntary alternative lifestyles and local community initiatives rather than stringent environmental regulation. Critiques argue that this plays in the hands of progrowth supporters as they are unlikely to threaten dominant industries and lifestyles (Van Den Bergh & Drews, 2020). However, Cosme et al. (2017) reviewed academic de-growth policy proposals and found that the majority were national level, top-down policies centred around three realms: reducing the negative environmental impact of human activities, wealth and income redistribution, and shifting from materialistic values to a promotion of conviviality and participation.

According to the most recent inventory of de-growth policy proposals by Fitzpatrick et al. (2022, p. 10) the most commonly proposed de-growth policy instruments are "universal basic incomes, work-time reductions, job guarantees with a living wage, maximum income caps, declining caps on resource use and emissions, not-for-profit cooperatives, holding deliberative forums, reclaiming the commons, establishing ecovillages, and housing cooperatives". However, the authors criticize that for many of the proposals the focus is on the objectives that they are supposed to achieve rather than how they would be practically implemented.

Despite ongoing debates (e.g., Barlow et al., 2022) there is no overarching theory of change in the de-growth movement which would define main actors and decision-making procedures for transformation. In practical organizing, the de-growth movement's focus is on local, bottom-up, non-hierarchical practices creating alternative spaces (Chertkovskaya, 2022). De-growth emerged from this

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more anarchist perspective advocating for ruptural change theories while now more pragmatic approaches advocating for symbiotic changes are gaining traction. There is common agreement that democracy and democratic decision-making are fundamental elements of a de-growth society. However, the concrete proposals regarding democracy and de-growth diverge from localist imaginaries of direct democracies to reformist approaches of deliberative, representative democracy (Hausknost, 2017). This tension is also reflected in discussions around the role of the state. While some authors see the state as a key actor in implementing transformative policies (D'Alisa & Kallis, 2020; Koch, 2020), eco anarchists advocate for dismantling the state in favour of local level organizing (Trainer, 2021).

1.3 Post-development

(Javier Cuestas, Riina Bhatia, Michel Campos)

On top of green growth and post-growth (including a- and de-growth approaches) we distinguish post-development perspective as an important dimension of alternative growth frameworks. It departs form Eurocentric green and post-growth discussions and takes a decolonial perspective. In doing so, it complements our framework by highlighting alternative visions arising from Global South. We understand post-development, not as a state to be reached, but as an umbrella category, as a dimension of transgression that emerges from the reality of indigenous peoples, local communities, women's rights movements, and other civil society groups; most prominently amongst the victims of development (Demaria et al., 2023). Post- development emphasize the need for epistemic pluralism, i.e., to place local knowledge and needs are at the heart of development and find alternative ways to fulfil human needs within planetary boundaries (Abazeri, 2022).

Post-development is generally meant as an era or approach in which (western/modernization type of) development would no longer be the central organizing principle of social life (Demaria & Kothari, 2017). To put an end to the homogenizing invention of development, post-development focused on "decentring" it. This displacement would eventually open a discursive space for the emergence of alternatives to development, but also for writing other languages (Crush, 1995; Escobar, 1998). It is important to emphasize that alternatives in practice are occurring alongside, interspersed with and against development and not waiting for some complete break with development to begin (Klein & Morreo, 2019). These new (hybrid at least) models of economy, politics and knowledge could be based on the revalorization of vernacular cultures and on the practices of social movements, and not so much on the illusions of the expert power of development policy-makers (Cornwall, 2007; Escobar, 2014).

Escobar (2005) indicates that until the appearance of the idea of post-development, there had been only a first level critique around development, that is, a critique centred on alternative developments (human development, sustainable development, etc.), which still represented very partial solutions to the social, ecological and cultural problems of the so-called Third World countries. In this sense, post-development represented a second-level critique that understood that the problem was not the limitations of development, but its hegemony as a discourse. Post-development did not propose another version of development but the discussion of the ways in which Asia, Africa and Latin America had come to be defined as underdeveloped (Escobar, 2005). Leal (2007) even goes further, pointing out that the main task

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of post-development was not an institutional reform of development practice, but the transformation of society.

It is important to point out that the post-developmentalist current does not constitute a homogeneous group. Nonetheless, there are central arguments shared by most post-developmentalist authors. Ziai (2017) summarizes to seven shared arguments, these are:

1. the invention of development-underdevelopment in Truman's discourse,
2. the ambiguity of the concept of development which presents it as an amoeba concept,
3. the non-neutrality of knowledge and of the representations of the world that imply power relations,
4. the hegemony of Eurocentrism which defines a standard below which local cultures are situated,
5. the negative consequences of development: impoverishment, inequality, exclusion,
6. the problematization of economic categories focused on growth, productivity and the satisfaction of infinite needs (economy as culture), and
7. resistance to development and commitment to the generation of alternatives to development.

In this sense, we can identify that post-development is related to at least five other emerging imaginaries: a) Post-capitalism, questioning capitalism's capacity to fully occupy the economy; b) Post- or de-growth, decentring growth from the definition of both economy and social life; c) Post-patriarchy, challenging the primacy of masculinist approaches to political leadership, moral authority, social privilege and control of property; d) Anti-racism, fighting the systemic racism and the oppression of marginalized groups; and e) Decoloniality, untangling the production of knowledge from a primarily Eurocentric episteme (Demaria et al., 2023, p. 62).

With respect to alternatives to development, these have been expressed in wide variety of initiatives of new or re-emerging concepts and practices such as *buen vivir*, de-growth, ecological *swaraj*, radical feminism of various kinds, *ubuntu,* common-ing, solidarity economy, environmental and climate justice, food and energy sover-eignty (Demaria et al., 2023). Several authors point out that post-development is found in grassroots movements such as urban, rural communities and the informal sector, in those indigenous worldviews and local knowledge, as a response to the failure of development, as it is these marginalized communities that often bear the brunt of the negative impacts of unsustainable development (Schlosberg, 2004), but with new social structures based on different conceptions of the economy (replaces the global market through solidarity and reciprocity), politics (replaces direct democracy with centralized authorities) and knowledge (replaces traditional knowledge systems with modern ones or a hybrid of both) (Ziai, 2007).

All these alternatives seek to build bridges between the Global South and the Global North for an ecological and civilizational transition (Escobar, 2015). Indeed, across the world, ancient worldviews resurface alongside new frameworks and visions presenting systemic alternatives for human and planetary

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well-being, forcing the decolonization of knowledge systems and epistemologies, breaking down many of the dualisms that western paradigms have engendered between humans and nature (Demaria et al., 2023).

In this sense, a current element that has gained relevance from the contributions of the post-developmentalist school is related to the reflective and critical view of the relationship with nature, in the search for a balance between meeting human needs and preserving nature, challenging the notion that constant economic development is sustainable. This is because traditional development concepts have led to unsustainable exploitation of natural resources and environmental degradation (Martinez-Alier, 2014). From grassroots movements, such as those related to environmental justice, it has been sought to evidence the impact of environmental inequalities in terms of access to the benefits and costs of the productivist system, as well as the visibilization of alternatives that defend a harmonious relationship with nature. For example, Joan Martinez-Alier's notion of ecological distribution conflicts and the Atlas of Environmental Justice (ejatlas.org) have paved the way for a whole wave of research focused on the relationship between environmental destruction (often occurring in relation to “green transitions”) and development, and as such, constitute a contribution to making visible the paths towards post-development (Demaria et al., 2023).

From the lens of post-development, the narratives of sustainable development and green economy are false solutions, leveraged on mainstream technological innovations, such as genetic engineering or biotechnology. What is criticized is the fallacy of the reduction of environmental risks on par with the fulfilment of commitments to economic growth; as well as the consideration of natural capital as a critical economic asset which opens the doors for the commodification of nature (Demaria & Kothari, 2017). From this perspective, the decoupling proposal figures as infeasible mainly because of the thermodynamic, financial and distributive obstacles; although, to abandon this global program, more empirical evidence and new proposals for transition paths will be necessary (Fletcher & Rammelt, 2017).

A post-developmentalist-inspired alternative is the concept of pluriversal technologies, as explored by e.g., Velasco-Herrejón and others (2022), underscores the importance of embracing ontological and epistemological diversity by involving individuals from diverse socio-cultural backgrounds in the collaborative design, production, and ownership of technologies. Pluriversal technologies are founded on five key dimensions to ensure their inclusive design and usage. These dimensions encompass philosophical underpinnings rooted in relational ontology and epistemological pluralism, environmental considerations regarding human-nature relationships, socio-political aspects emphasizing communalism and social justice, economic principles of collective work and community ownership, and a spiritual dimension addressing individual connections to time and spirituality. In the context of the Global South, grassroots innovation draws from indigenous and local knowledge to address issues such as land struggles, livelihood sustainability, and cultural identity, offering an alternative to Western growth-driven innovation and technology development.

Maldonado-Villalpando and others (2022) discuss grassroots innovations as post-development alternatives to green growth. They rise from a pluriversal epistemology, they are needs based innovations rather that growth driven innovations. Moreover, they often rise from resistance and see autonomous education as source of innovation. Pluriversal grassroots innovations emphasize collective

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ethical-political life, knowledge and learning strategies, social practices, horizontal relationships; multi-scale networks, sustainable coexistence with more-than-human natures in the context of social and environmental struggle. They adopt a post-capitalist, post-developmental perspective and are often based on indigenous cosmovisions and relational ontologies (for this also ecological sustainability and relationships with more-than-human-nature inherent). Arts and intangibles are seen as sources of self-expression.

Currently, perspectives on post-development have pointed out that the critique is not anti-European or anti-Western, nor anti-development (it is not about denying the progressive role of science) but rather the critique is in favour of the defence and liberation of mother earth and the pluriverses (a myriad of alternatives of being and being in the world) which emerge from empirical experiences, beyond the theory room. "In the words of Zapatista thought, these are struggles for a world in which many worlds fit" (Escobar, 2014). Likewise, critical currents of development have understood that the construction of alternatives does not consist of idealizing the world of native peoples, since pluriverses include everyone, not only indigenous people; this means that we must all seriously strive to live between worlds, to live and think in the middle (border thinking), with and from multiple worlds, while attempting the (re)communalization of daily existence (Esteva & Escobar, 2017).

For the post-developmentalist movement it is time to deepen and broaden an agenda of dialogue and action on a variety of worldviews and practices related to the collective search for an ecologically sound and socially just world; they should be transformative alternatives to the currently dominant globalized development processes, including their structural roots in modernity, capitalism, state domination, patriarchy, etc. (Demaria & Kothari, 2017). It should be a post-development agenda that investigates what, how, who and why of all that is transformative, and what is not (Demaria & Kothari, 2017), and that is profiled as an alternative to the SDG 2030 Agenda (Demaria et al., 2023).

Summary of the alternative economic initiatives

Table 1 summarises the alternative economic initiatives and shows the main differences.

Table 1. Summary of the alternative economic initiatives

Position regarding:	**Green growth**	**A-growth**	**De-growth**	**Post-development**
GDP as indicator	GDP as welfare indicator	GDP is not suitable measure of welfare. Indifference to GDP	GDP is poor indicator for societal progress	Decentring the focus on GDP to construct other indicators
Relationship between growth and environmental outcomes	Decoupling is absolute and comprehensive	Agnostic to decoupling	Absolute decoupling is not working	Decoupling is infeasible

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Relationship between growth and social outcomes	Social conflicts can be alleviated with economic growth	No clear relationship between economic growth and social outcomes but economic growth alone does not enhance social outcomes	Not possible to achieve economic growth and social outcomes	Transformation of society rather than development
Relationship to capitalism	Pro-capitalism	No stance to capitalism	Variety from agnostics to anti-capitalism	Post-capitalism
Role and type of innovations and technologies	Technologies and innovation have dual role. Green technologies and innovations; service innovations	Positive to environmental innovation and socially beneficial technologies	Technological development seen possible via convivial (social and frugal) innovations	Pluriversal technologies and grassroot innovation
Recommended measures of social performance	Indirect wellbeing measures in the form of environmental risks and amenities	No established alternative indicator framework	Dashboards of social and ecological indicators	Environmental and climate justice, food and energy sover-eignty
Main actors	The state, businesses, research	Public sector, businesses	The state, social movements	Grassroots movements

2 Theories of change in the literature on alternative economic initiatives

In this section, we provide a brief review of ways in which the literature on alternative economic initiatives discusses theories of change, including types and actors of change, as well explanations of change that identify possible conditions, drivers and barriers to change. Several parts of this section build on research conducted by Aidan Knox (2023) in his Masters Dissertation, supervised by Milena Büchs.

2.1 Conceptual contributions

(Milena Büchs, Laura Angresius)

So far, literature on alternative economic initiatives has not extensively discussed theories of change (Blühdorn et al., 2018; Knox, 2023). However, some themes related to theories of change have started to appear in this literature, especially around strategies of change, the role of different actors, and conditions for transformation.

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In difference to explanatory theories ("why" change happens), questions of strategy focus on "how" transformation can be promoted and achieved. Questions of strategy in the de-growth movement were initially raised in a blog post on the degrowth.info website which highlighted the "strategic indeterminance" of the de-growth movement (Herbert et al., 2018). Based on this discussion, a book was developed which examines strategies within the de-growth movement in more detail (Barlow et al., 2022). Conceptually, this book utilises Erik Olin Wright's (2010, 2016) framework of "interstitial", "symbiotic" and "ruptural" anti-capitalist strategies to examine which types of strategies have so far been prioritised in the de-growth movement and literature. Interstitial strategies aim to "escape" the capitalist system by engaging in practices that operate outside of the logic of capitalism, for instance in intentional communities or in the radical sharing economy. While interstitial strategies avoid engagement with the political system or even broader collective movements, symbiotic strategies seek to "tame" capitalism from within through the democratic system of policy-making. Finally, ruptural strategies seek to "smash" capitalism through revolutionary tactics. An assessment of existing de-growth strategies concludes that interstitial strategies have dominated the de-growth movement so far (Chertkovskaya, 2022).

Another question that the postgrowth literature has started to discuss is which role different types of actors can or should play in the transformation towards postgrowth, especially the state and grassroots (interstitial) initiatives. Positions regarding this question are often shaped by stances towards state power or by assumptions about the capacity of the state to adopt policies that would introduce a transformation beyond a growth-based, capitalist economy. For instance, anarchistic positions reject the idea that the state should play a role in the transformation towards alternative economies because they propose a dismantling of state power more generally (Trainer, 2019, 2020).

Structural Marxists think that the state cannot lead a transformation towards alternative economies because they assume that, within capitalism, the state inevitably serves to preserve capitalism (Boucher, 2012). In contrast, several contributions on postgrowth transformations argue that the state can and should play a role in this transition, in interaction with civil society actors. For instance, D'Alisa and Kallis (2020) and Koch (2020, 2022) take this position, building on Gramsci's theory of the state as well as theorists like Bourdieu and Poulantzas. Gramsci does not regard the state as an entity that purely reflects the interests of capital or as a sub-system that is determined by the capitalist economy. Instead, Gramsci conceptualises the state as relational in the sense that it needs to gain acceptance and support from dominated groups in society through cultural hegemony and that, at least to some extent, the state also reflects the interests of the dominated (D'Alisa & Kallis, 2020; Koch, 2020, 2022).

While Koch, D'Alisa and Kallis are sceptical that interstitial, grassroots initiatives alone have the capacity to lead a transformation towards an alternative economy, they stress that such bottom-up initiatives do play an important role for driving cultural change by influencing hegemonic ideas and practices in society. Since the state is a relational phenomenon, fundamental cultural change in the population and civil society is required so that the state is able to introduce transformational policies (ibid.). An analysis of the types of postgrowth proposals put forward in the literature points out that there has been a tension between the postgrowth movement and the academic postgrowth literature: while the

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postgrowth movement often promotes local, bottom-up, grassroots initiatives, the postgrowth literature put forward policy proposals which require top-down state intervention (Cosme et al., 2017).

Theories of transformation should also aim to identify conditions, drivers, and barriers to transformation to be able to explain why transformation happens in certain contexts but not in others. Here, several contributions to the postgrowth literature have highlighted the role of crisis as one of the likely conditions of transformation (e.g., Alexander, 2012; Buch-Hansen, 2018; Kallis, 2011; Koch, 2022). Some of these contributions explicitly draw on political economy theory which regards capitalism as inherently crisis-prone, and crisis as an important driver of change (e.g., Buch-Hansen, 2018). Buch-Hansen (2018, p. 157) also provides the most detailed account of other conditions for a transformation towards postgrowth, including not only crisis but also "an alternative political project, a comprehensive coalition of social forces promoting the project in political struggles, and broad-based consent".

2.2 Empirical contributions

(Milena Büchs, Laura Angresius, Riina Bhatia, Lissette Bedoya, Lucía Toledo)

This section reviews existing empirical research on alternative economic initiatives. We summarise to which extent researchers judged these initiatives to be compatible with post-growth or post-development criteria, which theories of change they applied in the study, and which drivers and barriers to implementation and upscaling they identified.

The empirical literature covers a variety of cases, including wellbeing and doughnut economics, beyond GDP, inclusive growth, C40 Cities and Thriving Cities, transition towns, community wealth building, foundational economy, as well as post-growth or post-development aligned local initiatives. With the exception of national wellbeing economy initiatives, most of the other initiatives are located at the local or regional level.

Alignment with post-growth and post-development criteria

Several studies examine wellbeing economy cases. McCartney et al. (2023) define four criteria for assessing whether a fully-fledged wellbeing economy approach has been adopted. They conclude that while several governments and organisations have started to implement elements of a wellbeing economy, this approach "has not been adopted at the required scale or with the required urgency". In their study of three Wellbeing Economy Governments, New Zealand, Scotland, and Iceland, Hayden and Dasilva (2022) conclude that while all three governments have started to deprioritize economic growth and introduced indicator sets to complement GDP, they have not yet fully implemented the sufficiency- and postgrowth-oriented ideals of the wellbeing economy, constituting a "weak post-growth" approach. Mason and Büchs (2023) analyse all five wellbeing economy governments in 2020. They conclude that these governments have not adopted a full wellbeing economy approach as outlined by the Wellbeing Economy Alliance as they have not fully deprioritised economic growth in policy making, replaced GDP with alternative indicators and suggest incremental changes rather than more fundamental transformation of the economic system.

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Khmara and Kronenberg (2023) examine and score a range of alternative urban initiatives, including doughnut economics, C40 Cities, transition towns and "shrinking cities" using "urban degrowth economics" criteria that they develop. While none of the cases fully meets these criteria, they conclude that the Amsterdam doughnut economic case has the highest score on their "urban degrowth economics" scale, followed by Totnes Transition Town, Copenhagen C40 City, and Detroit's "shrinking city".

Several studies examine post-development cases. For instance, Ramírez-Cendrero et al. (2017) analyse the case of the Sarayaku Amazonian Indigenous Nation of Ecuador. Here, the use of land, forests and water resources is oriented solely to the perpetuation of the life of the community under the ontological principle that all living beings share the same essence and are transformed through successive existences. The priority is not placed on maximum production or greater efficiency at work, but on achieving collective well-being by avoiding damage to all living beings and nature. Activities such as hunting, fishing and fruit gathering, in addition to cultivated plots, depend completely on the environment in which the communities are located. Lang (2022) presents the case of Cayambe which is renowned as the cradle of Ecuador's indigenous movement. Sumak kawsay is examined as a contemporaneous, place-based political practice in Cayambe county, which is located about 60 kilometres north of Quito in the eastern range of the Andes. The specific knowledge base that guides decision making in Cayambe is an intercultural ecology of knowledge. This territoriality tries to increase the quality of various sets of relations in accordance with the principles of Sumak kawsay. Over time, reciprocal relationships of shared authority will eventually replace the power ties between the local government and organized society. Through the municipality's acceptance of communitarian self-government and the communal process aimed at (re-)constructing kayambi knowledge and indigenous justice practices, communitarian self-government and the communitarian form of politics are strengthened. The hybrid process of Cayambe demonstrates how several worldviews and ways of inhabiting the same space are entangled. Additionally, it demonstrates how closely related the various facets of change are: strengthening agroecology has aided in the eradication of patriarchy and enhanced climatic resilience. Lang (2022) argues that the shift Cayambe is going through increases human-nature cooperation and reciprocity.

Coral-Guerrero et al. (2021) propose that Sumak Kawsay has four constituent elements of which various interpretations coexist. They are an indigenous and nature-centered worldview, community, and economy based on solidarity and ancestral knowledge. Based on this premise, they conducted research based on two methodologies: participant action and semi-structured interviews. It allocated in Tena, in the Amazon of Ecuador. They conclude that exogenous elements coexist in Sumak Kawsay that take it beyond its original conception and homogeneous meaning. So, for instance, the importance of nature and the community through biocentric justifications as other more useful ones. Additionally, considering the economy as a constitutive element of Sumak Kawsay, the predominant discourse is against excessive consumption. Some narratives show that tensions arise from insufficient family income, such as consuming few goods and services and feeling rich while being poor.

Jiménez et al. (2022) examine the "Potato Park" which the Association ANDES helped to establish in 2000. The Park is made up of five Quechua-speaking indigenous communities that surround Pisaq, a

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rural neighbourhood near Cuzco, Peru. Because they were dissatisfied with the social, economic, and ecological effects of outside development interventions, the five communities—Chawaytire, Pampallaqta, Sacaca, Paru Paru, and Amaru—consulted with Asociacion ANDES. They aimed to control and manage the local grobiodiversity and mountain ecology more successfully using their own traditional knowledge in order to ensure its conservation and sustainable usage. 9200 hectares of community land, rising up to 4600 meters above sea level, are shared by the communities. There are 1400 different varieties of native potatoes among the many different farmed and wild crops that flourish there.

Calderón Farfán et al. (2021) analysed the perspectives of the Nasa indigenous community in Colombia on the meanings of food autonomy. They determined that food autonomy should be a community and political strategy. They considered that factors such as consolidation of family agriculture and correct food menu, accompanied by permanent education, will generate relevant contributions. Moreover, governance will be an autonomous process development from a decolonial perspective for health and Buen Vivir improvement.

Sartorello (2021) analyses "Educational Milpas for Good Living" in indigenous and rural localities of Chiapas, Puebla, Michoacán, and Oaxaca, Mexico. In this sense, as reflections, he proposes the insistence on leaving the classroom to go to the community territory to learn in and from the situations, experiences, and problems in situ. As a Libro Vivo with plenty of learning opportunities, the socio-natural territory has proven to be a storehouse of knowledge, wisdom, and contextualized experiences. It offers the opportunity to critically analyse the community's reality and reflect on the social, economic, political, religious, etc., processes that favour the good life of the community or contribute to its deterioration.

Alignment with Wright's strategies

Following Wright's (2010, 2016) distinction of symbiotic, interstitial and ruptural strategies, several papers discuss which of these strategies have so far been adopted in existing alternative economics initiatives.

In their analysis of five urban "Beyond GDP" initiatives, Crisp et al. (2023) conclude that none of the initiatives adopted a "ruptural" strategy. Instead, both symbiotic and interstitial strategies were employed, sometimes together. For instance, advocates of community wealth building initiatives through that actions of "many small [interstitial] alternatives" could create systemic change through gradual expansion. Foundational economy representative tended to focus more on symbiotic strategies, for instance government-led regulation of business activities (e.g. "social licensing where the right to operate and profit from delivering essential forms of collective consumption is conditional on embracing more socially and ecologically just and sustainable forms of corporate practice"). Both wellbeing and doughnut economy approaches were found to argue that transformation should be pursued through incremental changes rather than ruptural strategies which were perceived as potentially destabilizing. Wellbeing and doughnut economy initiatives were found to adopt both interstitial and symbiotic strategies.

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However, Plank (2022) found that alternative food initiatives adopted all three strategies, for instance influencing the European Union's policies (symbiotic), urban gardening and food cooperatives (interstitial), as well as (less common) activism of occupation of fields (ruptural). Similarly, Heindl (2022) found that de-growth housing initiative adopted bottom-up strategies of commoning and decommodifying housing (interstitial) as well as squatting (ruptural).

Overall, Barlow (2022, p. 85) argues that a definition of an "assemblage for degrowth" is needed which outlines which approaches to transformation are most effective together in which contexts.

Theories, drivers, barriers

The majority of empirical studies on alternative economic initiatives does not adopt an explicit theoretical framework to explain the adoption, character and performance of initiatives. In those studies that do refer to theoretical frameworks, a range of different approaches is adopted.

For instance, Mete (2022) discusses structure-agency frameworks from critical realism, political economy and critical urban studies approaches to examine the barriers to post-growth aligned housing policies in Oslo. Mason and Büchs (2023) engage with leverage points theory (Abson et al., 2017; Meadows, 1999), sustainability transitions approaches while highlighting the roles of power (following Fuchs et al.' (2016) framework of instrumental, structural and discursive power) and destabilisation (Feola, 2019; Rosenbloom & Rinscheid, 2020) to conceptualise drivers and barriers to transformation.

Leverage points theory (Meadows, 1999) argues that the power to change paradigms and narratives is one of the most powerful points of intervention for systems change. Fioramonti et al. (2022) implicitly align with this viewpoint by underscoring that influencing the public narrative and changing policy-making are main entry points for change.

Other papers focus more on the capacity of different actors to drive post-growth aligned initiatives. Several papers in a special issue on de-growth and urban planning argue that local governments, especially through urban planning departments and planning processes, can play an important role in implementing urban postgrowth approaches (Ruiz-Alejos & Prats, 2022; Xue, 2022; Xue & Kębłowski, 2022). However, they also highlight that spatial contexts need to be taken into consideration in this process.

Kunze and Becker (2015) and Cucca and Friesenecker (2022) highlight that (local) governments play an important role in institutionalizing alternative economy approaches, providing examples from de-growth-aligned local energy and housing initiatives. Coscieme et al. (2019) emphasise the importance of international collaboration for Wellbeing Economy Governments, implicitly indicating potential limitations of national policy-making in a globalized economy.

Several studies also highlight barriers to the adoption or upscaling of post-growth and post-development-oriented initiatives. While leverage points theory posits that the power to change paradigms and narratives is the most important leverage point for transformative change, several studies find that policy makers are often unable to introduce more radical narratives around postgrowth due to growth-driven, siloed and short-termist approaches to policy-making, lack of heterodox

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economics education among policy-makers, the influence of vested interests (Mason & Büchs, 2023; also: Buhr et al., 2018).

The growth-dependency of economic systems and policies is highlighted in several studies as a barrier (Hayden & Dasilva, 2022; Mete, 2022) as are unsupportive regulatory and planning frameworks (Mete, 2022), lack of legitimacy of alternative approaches (Buhr et al., 2018; Hayden & Dasilva, 2022), and for de-growth-oriented housing policies more specifically, the power of private businesses (Martínez Alonso, 2022), the financial structures of the housing market and the lack of power of local authorities (Mete, 2022). Joutsenvirta (2016) stresses the importance of 'like-minded' powerful players for scaling up alternative approaches based on their finding that attempts to run and upscale timebanks in Finland were obstructed by the tax authorities.

3 Theories of change

(Milena Büchs)

In this section, we present selected theories of change that are relevant for understanding transformations towards sustainable wellbeing economies. In alignment with our typology of alternative growth approaches presented in section 1, we draw a distinction between theories that are useful for understanding the adoption and functioning of green growth approaches, from theories that help understand drivers and barriers to the adoption and functioning of post-growth and post-development approaches. One of the main differences between the theories in these two sets is the extent to which they engage with the nature of current economic system and the need for its transformation.

The current economic system can be described as capitalism, characterised by an inbuilt growth imperative (Blauwhof, 2012; Richters & Siemoneit, 2019). The growth imperative in capitalism exists at the micro- and macro-level. At the micro-level, there is a growth imperative for firms because capital owners need to continually accumulate surplus and reinvest it into innovations that reduce the cost of production to survive in a competitive environment (Blauwhof, 2012; Richters & Siemoneit, 2019). At the macro-level, capitalist economies need to grow to maintain a degree of economic stability in the context of ongoing technological innovation, especially to keep employment levels stable and to repay debt plus interest through which some investments were financed (Blauwhof, 2012; Douthwaite, 1999; Richters & Siemoneit, 2019).

Since green growth positions assume that continued economic growth is possible at the same time as environmental impacts are reduced, a change of the underlying growth-based economic system is not necessary. In fact, green growth assumes that the reduction of environmental impacts will arise from the very dynamics of the capitalist system as described above – from the constant drive to innovate.

In contrast, post-growth and post-development approaches are fundamentally in conflict with the dynamics of growth-based capitalism. In a non-growing economy, production and innovation would

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need to prioritise the reduction of environmental impacts and human needs satisfaction, rather than profit maximisation (profits above revenues required for maintaining the business and for providing the producers with a sufficient level of income). Since economic steady states or contraction in capitalist economies increases unemployment, debt, poverty, ill-health, etc., a non-capitalist economic system would be required to avoid these outcomes. In such a system, production and technological development would need to be democratically steered rather than driven by profit maximisation (Kerschner et al., 2018); the substitutability of labour with capital and productivity increases would need to be reduced to keep unemployment and inequality stable (Jackson & Victor, 2016) and rent seeking would also need to be curtailed to prevent increases in inequality (Stratford, 2020).

Theories that seek to understand possible drivers and barriers to the adoption, well-functioning and upscaling of sustainable wellbeing initiatives therefore need to explicitly discuss the nature of the current capitalist economic system and the ways in which it shapes decision-making of policy-makers, civil society actors, businesses and citizens, as well as power relations among and between these actors. Such theories can also engage with the question of how the capitalist system itself can be transformed. Section 3.1 presents theories that do not explicitly engage with the underlying economic system and are more focused on theorising innovations compatible with green growth scenarios, including socio-technical transition theory and the multi-level perspective, transformational innovations theory and policy, and long wave theories. Section 3.2 engages with theories that are suited for understanding (barriers to) the transformation towards post-growth and post-development economies, including radical sustainability transformations theory and destabilisation, political economy theories, complexity/systems theory, and rights of nature approaches.

3.1 Theories for understanding green growth change

3.1.1 Long waves and technological revolutions

(Mika Nieminen)

The theory of long waves in economics, also known as the Kondratiev waves or K-waves, is a concept that suggests that capitalist economies go through extended cycles of boom and bust, each lasting roughly 40 to 60 years. This theory was originally proposed by the Russian economist Nikolai Kondratiev in the 1920s (Grinin et al., 2016).

Later, many economists have expanded and developed the work of Kondratiev. For instance, an influential economist, Christopher Freeman (e.g., Freeman & Louçã, 2001), emphasized the role of technological innovation and diffusion in shaping long-wave economic cycles. Freeman claimed that long-wave cycles are primarily driven by technological innovations and their diffusion throughout the economy. He argued that technological breakthroughs, such as the steam engine, electricity, or information technology, act as catalysts for economic growth and shape the distinct phases of long waves. Long waves identified by Freeman & Louçã (2001) were:

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1. Water and Mechanical Power: This long wave was marked by the adoption of waterpower and the development of mechanical engineering. Innovations such as water wheels and early steam engines played a significant role during this period.
2. The Age of Steam and Railways: This wave was closely associated with the widespread use of steam engines and the expansion of railway systems. Steam power became a driving force in transportation and industry.
3. The Age of Steel and Electricity: This long wave featured the dominance of steel production and the increasing use of electricity in various applications. These technologies greatly influenced the development of modern infrastructure and manufacturing processes.
4. The Age of Oil, the Automobile, and Mass Production: This wave coincided with the rise of the petroleum industry, the mass production of automobiles, and the expansion of consumer culture. It was characterized by the proliferation of cars and the development of the suburbs.
5. The Age of Information and Telecommunications: This ongoing long wave is defined by the rise of information technology, including the development of computers, the internet, and telecommunications. It has profoundly impacted the way we live, work, and communicate in the digital age.

Rather similar to Freeman, another prominent economist, Carlota Perez (see e.g., Perez, 2010) has suggested that technological revolutions drive economic and social transformations in distinct phases. Thus, Perez argues that the history of capitalism is characterized by long waves of economic development linked to technological revolutions. These revolutions represent major shifts in technology, infrastructure, and institutions that fundamentally change the way societies and economies function. Perez identifies two main phases within each long wave: *the Installation Phase* and *the Deployment Phase*. During the Installation Phase, new technologies are developed, financial bubbles form, and institutions adapt to the changes. The Deployment Phase is marked by the widespread application of these technologies in various sectors, resulting in a period of prosperity and growth. Each long wave eventually comes to an end, often with a financial crisis. Following the crisis, society and institutions go through a process of "creative destruction," leading to significant regulatory and institutional changes. Perez highlights the importance of institutions in shaping the trajectory of technological revolutions. She argues that regulatory and institutional changes are essential for societies to fully harness the potential of new technologies. This framework has been influential in understanding the relationship between technology, economic cycles, and societal change, given that it emphasizes that each technological revolution represents an opportunity for growth and development but also requires appropriate institutional and regulatory adjustments to ensure long-term sustainability and societal benefits.

Besides general techno-economic development, the theory has been expanded to explain also development of the world system. It has been suggested, for instance, that during the K-wave bust and financial crises the world system “core” tend to expand to the peripheral areas by investing techno-economic resources into it, while during booming “installation phase” the core invests in the core actions and business (Grinin et al., 2016).

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The latest formulations of the theory (cf. Smihula, 2011) have suggested that there is now starting a new wave based on post-informational technologies i.e. to technologies coming after the fifth, information technology-based wave leaning on resource efficiency and various clean or green technology solutions (Moody & Nogrady, 2010). Usually, the proponents of this view suggest an emerging sixth wave of innovation "guided by the sustainability, since the depletion of resources can cause many companies and countries conquer higher competitive performance to seek innovative solutions to the problem and those that fail to do so may have a loss of competitiveness" (Silva & Di Serio, 2016, p. 113). In other words, they tend to see the sustainability and related new technologies as a competitive edge for companies and nations. Researchers have also considered the environmental problems of different waves have caused and whether the next succeeding one has been able to solve such problems (Kasa, 2008).

From the perspective of our study, it is interesting whether such a new wave has started or is about to start and what kinds of innovations and institutional changes it requires to become into a dominant form in the economy and whether it enables growth or is based on more limited use of energy and resources. This latter view might also challenge the assumptions of growth embedded long waves and would suggest that welfare is not directly connected to economic growth. In this form the theory would suggest decoupling the economic growth from innovation and institutional change, set a tension between green growth and de-growth -related views, and beg the question, whether the "post-growth wave" would be anymore connected to the original long-waves theory. Critical comments on such zero growth or de-growth views are presented, for instance, by above mentioned Carlota Perez (2015) in her relatively recent writing. She claims that zero growth or de-growth ignore the evidence of new information and materials technologies' potential, if only guided towards environmental ends, and emphasises that such reduction in material and energy content consumption patterns gives direction for innovation. This development can activate profitable investment and growth that allows satisfying lifestyles to millions of new consumers in the developing world (Perez, 2015).

3.1.2 Socio-technical transitions and the multi-level perspective

(Riina Bhatia)

Multi-level perspective

Addressing sustainability challenges is a complex and systemic endeavour. Many sectors and practices produced in the context of the current socio-economic system are unsustainable. Unsustainable practices are shaped by cultural beliefs, norms, regulations, technologies and production and consuming habits. Moreover, the socio-economic system is conditioned by the sociotechnical system, i.e., the interaction between technologies and societal habit patterns (Geels, 2011). Since the past 15-20 years sustainability related debates have increased in the innovation and technology studies (Markard et al., 2012). This aligns with the given prominence on technological solutions and innovations for solving grand societal challenges. The increased attention to sustainability innovations has paved a path for a distinct field of studies called sustainability transition studies (ibid.), which is becoming important field of research also in policy making (Turnheim et al., 2020).

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Sustainability transitions research focuses on (incremental) changes and shifts within existing systems, technologies, and practices. These changes aim to make existing systems more sustainable by improving efficiency, reducing resource consumption, and minimizing negative environmental impacts. Transition processes often involve the adoption of cleaner technologies or practices within the current socio-economic framework. The topics in this research field focuses on four main areas, which are transition management (Loorbach, 2010), strategic niche management (Kemp et al., 1998), multi-level perspective on sociotechnical transitions (Geels, 2002) and technological innovation systems (Hekkert et al., 2007).

In short, sustainability transitions research is an interdisciplinary field of study which focuses on understanding and facilitating societal transitions towards sustainability (Markard et al., 2012). It seeks to address the complex and interrelated challenges of environmental degradation, climate change, resource depletion, and social inequalities. It emerged in response to the recognition that achieving sustainability requires fundamental and systemic changes in subcategories of various social, economic, and technological systems (Markard et al., 2012).

Geels argues, that addressing sustainability transitions requires changes in the sociotechnical system, that is, the different sectors, technology development, policymaking, consumer practices, infrastructure, cultural meaning and scientific knowledge that shape societal processes (Geels, 2011). The multi-level perspective framework (see Figure 2) is an analytical framework and theory developed by Geels (2002, 2006) to study changes in the sociotechnical systems. It comprises of three analytical levels, sociotechnical regime, technological niches and sociotechnical landscapes, which all in interaction, they influence the societal transitions (Geels & Schot, 2007). The sociotechnical regime comprises of several actors, e.g., engineers, policy makers, users, businesses, and interest groups who contribute to shaping technological regimes. Technological niches are new, sometimes radical, innovations and technologies that shape sociotechnical regimes once they stabilise. The sociotechnical landscape is the macrolevel, an exogenous environment of cultural patterns and macro-economic and -political developments that influence sociotechnical regime (Geels & Schot, 2007, p. 400).

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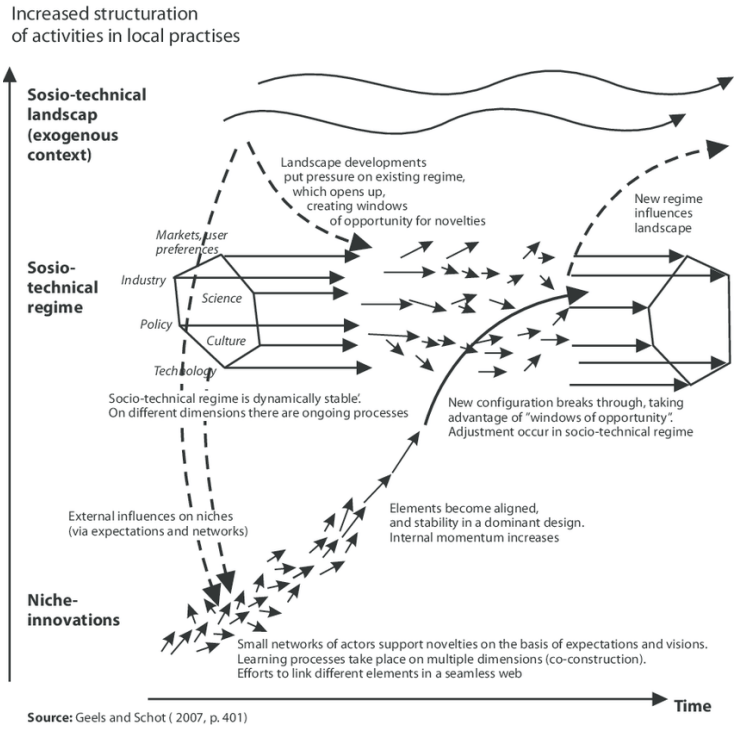

Figure 2. Multilevel perspective. Source: Geels and Schot, 2007: 401

Following this, sustainability transitions can be defined as "long-term, multi-dimensional, and fundamental transformation process through which established socio-technical systems shift to more sustainable modes of production and consumption." (Markard et al., 2012, p. 956). While transition studies focus on understanding and developing disruptive interventions to support emerging changes, one of the main criticism the field has received is that questions of power, justice, nature, and issues related to adaptation and readjustment have been neglected (Hölscher et al., 2018). This is one of the main differences between transformation studies, which places more emphasis on these questions.

In line with this, sustainability transitions focus on the role of technological changes in facilitating change towards more sustainability within the current system, rather than changing the system in itself. In fact, transition studies mainly analyse changes in societal sectors such as energy, mobility, cities, and focus on the interactions between social, technological, and institutional changes (Loorbach et al., 2017). These arise from the theoretical groundings of transition literature, which are based on multilevel perspective (Geels & Schot, 2007) and multi-phase model (Rotmans et al., 2001). These are seen have a "technocratic, goal-orientated developmental approach" which rarely take into consideration nuanced and complex power relations present especially in the context of Global South, but to some extent in Global North, too (Ghosh, Ramos-Mejía, et al., 2021, p. 108).

Moreover, decolonial scholars have pointed that sustainability transitions research is based on western hegemonic development paradigm (Ghosh, Ramos-Mejía, et al., 2021). This not only influences that much of the research done on global south transitions neglects local knowledges and needs, leading research practices to be extractive, but also that the sociotechnical imaginary in transition research is much based on the capitalist growth paradigm (Feola, 2019). As such, scholars have argued the need to decolonize

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transitions studies by focusing on everyday struggles and resistances, nuances of local dynamic and integrating meaningful and participatory research methods (Ghosh, Ramos-Mejía, et al., 2021). In short, decolonising transitions studies need "rethinking the institutional perspective and social realities of transition" (ibid., p.107).

Transformative innovations

Innovation policy is seen an important area that can facilitate and drive sustainability transitions (Ghosh, Kivimaa, et al., 2021). Innovations here means "the development of new socio-technical configurations" including social and organizational innovations, thus being an essential part in societal transformations(Laatsit et al., 2022) . In this line of thinking innovation policy encompasses a set of (cross-sectoral) policies, actors, institutions practices, strategies, and interventions aimed at promoting and supporting the development, adoption, and diffusion of innovative solutions that contribute to societal objectives (Laatsit, et al., 2022). While historically innovation and technological development have played a key role in capitalist development as drivers of economic growth resulting in contributing "massively to the current resource-intensive, wasteful and fossil fuel- based paradigm of mass production and mass consumption" recently innovation policy is seen as a tool to address societal challenges, such as climate change (Schot & Steinmueller, 2018, p. 1562).

However, the historical symbiotic construction of economic growth and innovation policy makes shifting the objective of innovation policy difficult. In fact, achieving economic growth has been the most important goal of innovation policy, and accelerated economic growth has justified public investment in innovation (e.g., Dosi et al., 1988; Romer, 1994; Schumpeter, 1934; Solow, 1957). In other words, innovation is needed for economic growth, and growth encourages investment in research and development which allows more growth (green and not green). Following this, an important question arises on what happens to innovation policy in a situation where growth is no longer the primary policy objective. Moreover, in the era of sustainability transitions, what are the kind of innovations needed for sustainability? And what happens to innovation policy when its primary motivation (economic growth) is seriously challenged; what kind of innovations we need, based on whose needs, and who finances innovations if and when growth does not apply?

To some extent this conversation has started to take place in transformative innovation policy (TIP) debates. In these debates, innovation policy research highlights the importance for shifting the focus of innovation systems to merely boosting economic growth towards solving grand societal challenges (Schot & Steinmueller, 2018). In doing so, new initiatives such as transformative, mission-oriented and responsible research within innovation policy have emerged to address this unsustainable relationship (Edler & Fagerberg, 2017).

TIP refers to a set of policies and strategies aimed at catalysing and supporting transformative changes in society through innovation (Diercks et al., 2019). In TIP, the scope of policy areas is wider, and it aims addressing complex societal challenges, such as climate change, inequality, and resource depletion, which all require fundamental shifts in technological, economic, and social systems (ibid.). TIP calls for readjusting innovation policy to be more directional, meaning that the goal of innovation policy should be on solving societal challenges rather than economic growth, taking on climate action and having a global focus on transitions (Schot & Steinmueller, 2018; Weber & Rohracher, 2012).

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In doing so, TIP is characterized by a long-term perspective arguing against short-term efficiency gains and incremental changes (Diercks et al., 2019), and takes on a systems approach to policymaking (Haddad et al., 2022), and innovation beyond technology including social, institutional, and organizational innovation (Schot & Steinmueller, 2018). It seeks to foster innovation in governance, business models, social practices, and cultural norms to enable transformative changes by including a broad variety of actors in collaborative and co-creative ways (Kattel & Mazzucato, 2018). This stems from the idea of complex systems, where emphasis is put on collaboration and co-creation among diverse stakeholders, including government, academia, industry, civil society, and communities. Participatory processes, engagement, and inclusive decision-making are promoted to ensure diverse perspectives are integrated into policy development and implementation (Schot & Steinmueller, 2018).

While TIP aims for a transformative change, approach emphasizes driving innovation and technological advancements to address societal challenges. The goal is to foster disruptive innovations, "nurture niche innovations" and "mainstreaming" them via (usually) top-down "orchestration" (Ghosh, Kivimaa, et al., 2021). Finally, TIP aims to mainstream, or "scale up" niche innovations to destabilise the old regime and stabilize the new one (Ghosh, Kivimaa, et al., 2021).

3.2 Theories for understanding post-growth and post-development change

3.2.1 Radical sustainability transformations

(Riina Bhatia, Milena Büchs)

While the "radical sustainability transformations" literature builds on socio-technical transitions research and the multi-level perspective discussed in section 3.1.2, it criticizes some of the earlier studies in that field and develops them further, taking a more transformative stance. The starting point for sustainability transformation is transformation towards socio-ecological sustainability (as opposed to the socio-technical focus in sustainability transitions discussed in section 3.1.2). The analysis involves more profound and systemic changes that go beyond incremental improvements. Transformations aim to fundamentally reshape social, economic, and environmental systems to achieve sustainability goals. This may entail rethinking and restructuring the economic system, entire industries, redefining values, and norms, and shifting toward entirely new paradigms of development and well-being (Brand, 2016; Newell, 2019; Stirling, 2014).

One of the major differences to the socio-technical transitions perspective lie in perspectives on the socio-economic systems. For example, Feola (2020) has argued that a large proportion of the field of sustainability transitions (which is based on innovation and management studies) "has failed to engage with any specific analysis or critiques of capitalism" as a conditioning and dynamic factor of modern societies (Feola, 2020, p. 241). In fact, as Feola argues, capitalism conditions the logics of the study areas of socio-technical transitions, namely "energy-, transport-, or agri-food sectors" (ibid., p. 243). He argues that capitalism gives impetus for certain types of socio-technical systems, namely growth-driven and Western-hegemonic systems, which is why he calls the sustainability transitions scholars to engage in

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conversations about capitalism (ibid., p. 242). Rather than treating capitalism as a fixed "landscape factor", he argues that capitalism is the very foundation that "is institutionalized and drives individuals and organizations to high levels of material consumption", thus contributing profoundly to the unsustainability of societies (ibid., p. 246).

Etymologically, transformations refer to "change in shape", which implies that sustainability transformation studies focus on large-scale long-term changes in the system at global, national or local level (Hölscher et al., 2018). This perspective goes beyond a sociotechnical focus to include a stronger focus on socio-ecological dimensions. In fact, transformations usually address root causes of sustainability challenges by questioning and reimagining fundamental aspects of society, including consumption patterns, economic models, and governance systems. The focus is on bringing the society into "planetary boundaries" (Rockström et al., 2009) or "safe and just operating space" (Raworth, 2017), which entails entirely new ways of living and doing business that are inherently sustainable. Where the radical sustainability transformations literature examines the role of the capitalist economic system in shaping transformations or acting as a barrier to more fundamental change, it shares many of the assumptions of political economy positions which are presented in section 3.2.3.

Destabilisation approaches

Within the socio-technical transitions literature, a "destabilisation" perspective started to develop over the last decade (Frank & Schanz, 2022; Turnheim & Geels, 2012). Building on key assumptions of the socio-technical transitions literature and multi-level perspective, scholars writing about destabilisation highlighted that in order to understand transitions it is not only necessary to examine the emergence and upscaling of what is new but also the destabilisation, disintegration, deconstruction, undoing, etc. of existing institutions, technologies, discourses and practices (Kanger et al., 2020; Karltorp & Sandén, 2012; Turnheim & Geels, 2012, 2013). Essentially, this perspective sees the emergence of the new and the unmaking of the old as inextricably linked.

While many scholars writing on destabilisation draw on socio-technical transitions literature, some have applied political economy approaches within this approach, especially the work by Feola (2019, 2020; Feola et al., 2021). Feola shares assumptions about the relationship between economic growth and capitalism (see the introduction to section 3) and thus explicitly discusses the need to move beyond the existing capitalist economic system to establish an economy that supports sustainable wellbeing within planetary boundaries. With his work, he seeks to concretise the notion of the "decolonisation of the imaginary" which has been used in the de-growth literature (Demaria et al., 2019) but which has remained undertheorised in Feola's view (2019).

While theories of change often focus on innovation, upscaling, etc., those who examine destabilisation pay greater attention to path dependencies, lock-ins and stability of systems, institutions, etc. to understand some of the barriers as well as potential intervention points for change (Frank & Schanz, 2022). One key argument of the destabilisation literature is that power shifts are required to destabilise existing institutions, practices, etc., and that broad actor coalitions are needed to achieve such shifts in power constellations (Frank & Schanz, 2022). Feola also discusses a range of strategies through which elements of the existing system can be destabilised or undermined, for instance resisting, refusing or

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negating existing "identities and imaginary significations" (Feola et al., 2021, p. 8) which could be interpreted to include broader discourses and values that underpin the growth-based capitalist system. In addition, he discusses the introduction of "cracks in the system" (2019, p. 987) which refers to alternative practices at the local level that undermine assumed ways of working, similar to "interstitial" practices discussed by Wright (2010).

However, since there are so far no historical precedents for transforming away from a capitalist economic system towards one that facilitates sustainable wellbeing within planetary boundaries and without economic growth, it remains unclear how such a destabilization and related transformation could happen. Here it is important to highlight that such destabilization and transformation would need to be democratic and peaceful to be compatible with principles of a sustainable wellbeing economy.

3.2.2 Political Economy approaches

(Laura Angresius, Milena Büchs)

Political economy approaches analyse production and social reproduction in human societies and how these processes are shaped by and (re)produce power relations. The liberal tradition in political economy focuses on how the individual interacts with and shapes institutions, whereas critical political economy understands the unequal ownership of means of production and division of labour as defining the class structure of society. Some more traditional Marxist theories still regard class relations as an important driver of change, but contemporary political economy theories increasingly acknowledge other divisions such as gender, race, disability, etc. (Scherrer et al., 2023). Furthermore, while capital ownership undoubtedly shapes power positions in society, class features less in contemporary political economy approaches as a driver for change, among other reasons due to hegemonic dynamics which create acceptance of the system among disadvantaged groups, increasing diversity within the working class, and so on. A political economy perspective helps to see power relations as specifically shaped by the capitalist economic system (Feola, 2020). In this regard, political economy perspectives differ from those that discuss the role of power within transformation without taking the wider economic system into account (Avelino, 2017; Avelino & Rotmans, 2009).

In critical political economy, change is conceptualised in a materialist tradition which implies that societal structures and inequalities, and the ways they change, are derived from and depend on the prevalent mode of production. However, it is important to keep in mind that simultaneously, there are aspects of life which are not determined by the prevalent mode of production (e.g. unpaid care work), and that there are always societal forces challenging it (Brand, 2016; Scherrer et al., 2023). A transformation of the mode of production requires changes in the economic, political and socio-cultural spheres of society (Brand, 2016; Pichler, 2023).

Buch-Hansen (2018) has identified four prerequisites for such a transformational (de-growth) paradigm shift: deep crises, an alternative political project, a comprehensive alliance of social forces as well as broad based consent promoting the alternative political project.

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Crises provide critical junctures in which dominant power relations can be questioned and politicized (Koch, 2020; Pichler, 2023). However, as historical materialists understand the capitalist mode of production as inherently crises prone and therefore constantly changing (Harvey, 2014), changes in the mode of production after crises can take different extends, from incremental changes keeping the prevalent mode of production intact to transforming structures beyond the capitalist mode of production. Which form the changes take is a question of political (class) struggles, and thus competing social forces are understood as a key driver of transformational change in critical political economy (Brand et al., 2020). In addition, to implement the alternative political project, broad based consent in society is required to challenge and then replace the existing political project democratically (Buch-Hansen, 2018). This implies that "common senses", unconscious ways of seeing and behaving in the world, which are in line with the alternative political project become universalised and prioritized in discourse (D'Alisa & Kallis, 2020).

From a critical political economy perspective, the two main actors for change are the state and social movements (Brand, 2016; Koch & Buch-Hansen, 2021). The state is understood in a relational way, not as an external force, but as co-constituted by civil society, and as distilling and enacting societal compromises (D'Alisa & Kallis, 2020; Koch, 2020, 2022). Thus, critical political economists understand an interplay of bottom-up mobilisation through civil society and top-down regulation by the state, e.g. through eco-social policies, as key to transformation (Buch-Hansen & Nesterova, 2023; Koch & Buch-Hansen, 2021).

In contrast, social forces which benefit from the current status quo, and which occupy a structurally more powerful position than other actors, constitute a barrier to change (Koch, 2020). Furthermore, path-dependencies in established infrastructures and institutions that privilege already privileged actors present obstacles to prohibit radical, and rapid transformation (Buch-Hansen, 2018; Turnheim & Geels, 2012). Dominant "common senses" (D'Alisa & Kallis, 2020), cultural hegemonies, and capitalist norms of commodification and materialistic values legitimize and stabilize the current system and thus prevent the emergence of broad-based consent for change (Brand et al., 2020; Buch-Hansen & Nesterova, 2023).

3.2.3 Leverage points in systems theory

(Laura Angresius)

Systems theories focus on the complexity of change and the relationships between different elements of a system (Fanning et al., 2020). They depict transformation as an unpredictable, non-linear process. Transformation is driven by altering at least one core element of a system and thereby redefining its related feedback loops which structure the system (Moore et al., 2014; Ostrom, 2009). Which aspects are objects of change depends on what is defined as the system in a specific context (e.g. economic system, geographical boundaries, socio-ecological systems).

One approach to explain system change is through leverage points. Leverage points are places in a system where a small change leads to greater changes for the system's structure. Deeper leverage points determine more shallow features of a system but changes in shallow leverage points can also lead to emerging changes in higher system functions. The more transformative a leverage point is, the more resistant it is to change. Generally, the parameters and feedbacks in a system are rather shallow leverage points whereas the design and the intent of the system are entry points for deeper changes. Transcending

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paradigms is considered as the deepest leverage point in Meadow's (1999) original list of places to intervene in a system. Barriers to change are reinforcing feedback loops between different elements of a system and interventions and shallow leverage points. For driving change in societal systems, the state and its institutions are key actors as they define the rules of the system (Abson et al., 2017; Meadows, 1999). In the literature on leverage points in sustainability transformation, shifting values and mindsets towards less materialistic understandings of a good life and more integrated human-nature relations have been identified as key for paradigm change (Chan et al., 2020; Horcea-Milcu, 2022; Leventon et al., 2021; West et al., 2020). Some scholars argue that changing the processes and framing of knowledge production is necessary as well to lead to more solution seeking at deeper leverage points (Abson et al., 2017; Davelaar, 2021; Dorninger et al., 2020).

3.2.4 Rights of nature approaches

(Lissette Bedoya, Javier Cuestas)

The rights of nature represent a paradigm shift in environmental ethics and law, challenging the traditional view of nature as property to be exploited and advocating for the recognition of the intrinsic value and rights of the natural world (Tanasescu, 2022). This approach argues that the environment has its own worth, independent of its utility to human interests, and that it deserves legal protections. Kauffman & Martin (2021) argues that fundamental to the rights of nature is the idea that nature has intrinsic value and should be preserved for its own sake, not solely for its utility to humans. This shift in perspective places ecosystems, species, and natural features at the center of environmental protection, granting them a status akin to legal persons with inherent rights; these typically include the right to exist, thrive, regenerate, and evolve. The rights of nature approach are linked to the indigenous experience. The concept of Nature as a legal entity with rights can be traced back to indigenous jurisprudence. In various indigenous systems, Nature is viewed as equal to humans, and their relationship is based on stewardship, which differs from the anthropocentric approach adopted by most Western environmental laws (Bookman, 2023). The rights of nature are not only considered equal to non-humans and humans, but also offer a platform for mutual learning between indigenous communities and other epistemic communities (Jimenez et al., 2022).

The rights of nature are a Global South movement with various countries and regions (Ecuador, Bolivia, Colombia, Uganda, India) recognizing these principles in their legal systems. For example, Ecuador and Bolivia have incorporated the rights of nature into their constitutions (Berros, 2021). In practice, this concept has been implemented through a range of legal instruments, such as constitutional amendments, court decisions, and local ordinances that recognize and protect the rights of specific ecosystems, like rivers or forests. Furthermore, it emphasizes the interconnectedness of all living beings and ecosystems, acknowledging that harming one aspect of the environment can have far-reaching consequences for the entire ecosystem (Laastad, 2020).

The precautionary principle is another fundamental aspect, asserting that if there is uncertainty about the environmental impact of a human activity, the burden of proof falls on those undertaking the activity to demonstrate that it will not cause harm to the environment; moreover, the rights of nature approach encourages a shift from punitive justice to restorative justice when environmental harm occurs, meaning

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that efforts should be made to repair and regenerate ecosystems that have been damaged (Harden-Davies et al., 2020).

Overall, the rights of nature reflect a growing awareness of the importance of preserving and respecting the environment for the benefit of current and future generations, fostering a more harmonious and sustainable relationship between humans and the natural world. Nowadays, the rights of nature would serve to sustain any initiative or alternative that seeks to change social relations. Ultimately, the rights of nature seek to radically transform human-nature relations.

Table 2 introduces the dimensions of different approaches to study change within alternative economic initiatives.

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Table 2. Summary of approaches for understanding change in alternative economic initiatives

Approaches

	Transition studies	Long-waves	Transformative innovation policy	Radical sustainability transformation	Leverage points in systems theory	Political Economy approaches	Rights of nature approaches
Type of change	Socio-technical / incremental	Socio-technical	Socio-technical	Socio-ecological	Systemic – change as an unpredictable, non-linear process	Socio-economic (Systems of production and consumption)	Socio-ecological
Levels of analysis	Macro-Micro	Macro	Meso-Micro	Macro-Micro (global, national or local level)	Macro	Macro-Micro	Macro-Micro
Bottom-up / Top-down	Bottom-Up & Top-Down	Both	Bottom-Up & Top-Down	Bottom-up	Bottom-Up & Top-Down	Bottom-up & Top-down	Top-Down
Units of analysis	Socio-technical systems shift to more sustainable modes of production and consumption	Economic (growth) cycles, technologies, infrastructure, and institutions	Innovation policy, policy making. actors, institutions, practices, strategies, and interventions, adoption, and diffusion of innovative solutions and practices, government, academia, industry, civil society, and communities	Values, and norms, and paradigms of development and well-being.	Feedback-loops, core system elements, e.g. the rules of the system	Production and social reproduction in human societies, and how these processes are shaped by and (re)produce power relations	Paradigm shift in environmental ethics and law
Thematic focus	Sectors such as energy, mobility, cities, and focus on the interactions between social, technological, and institutional changes	Technological development as catalyst for economic growth cycles	Innovation policy, technologies, cross-sectoral policymaking, innovation beyond technology including social, institutional, and organizational innovation	Socio-ecological sustainability, industries, consumption patterns, economic models, and governance systems	Shallow to deep leverage points of systems change	Economic, political and socio-cultural spheres of society, power relations	Nature, relations human-environment, intrinsic value and rights of the natural world
Drivers of change	Disruptive interventions to support emerging changes.	Technological change and innovations, institutional changes	Social and organizational innovations, "mainstreaming niche	Change in norms, values, governance and economic models	Shifting values and mindsets towards less materialistic understandings	Crisis of existing political-economic project. A political project	Reflects a growing awareness of the importance of

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	adoption of cleaner technologies or practices. Pressures from change in the "landscape".		innovations" via top-down "orchestration", innovation in governance, business models, social practices, and cultural norms.		of a good life and more integrated human-nature relations. Changing the processes and framing of knowledge production	that shows the way out of the crises, comprehensive alliance of social forces promoting the project in political struggles	preserving and respecting the environment for the benefit of current and future generations
Barriers of change	Resistance from old regime, lack of scaling up niches.	Financial crises and busts, lack of institutional changes.	Focus on short-term efficiency gains, incremental changes, and economic growth.	Old mindsets, narrow focus on technologies.	Self-reinforcing feedback-loops, sustainability interventions focused on shallow leverage points	Social forces which benefit from the current status quo, path-dependencies in established infrastructures and ways of organizing, capitalist norms of commodification and materialistic values	Traditional view of nature as property to be exploited

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4 Framework

4.1 Qualitative case studies on alternative growth initiatives

(Nina Rilla, Laura Angresius)

While several proposals for a new economic framework have been made, a large gap in knowledge remains regarding the question of how processes of change happen and how a transformation towards an alternative growth model could be achieved. The relationship between alternative initiatives and established social systems and institutions seems to be less explored, and very little is known about the context-specific processes that support the introduction of new initiatives. To address barriers and drivers that the different initiatives face in their implementation and to evaluate what impacts they have on social and environmental outcomes calls for a qualitative case study research.

We apply a case study approach to explore different types of initiatives and alternative growth settings in the Global North and Global South to develop a context-sensitive understanding of local change processes and their role in wider transformation towards alternative growth models. The cases to be examined are selected to cover prominent, mature examples of different initiatives from both the Global North and the Global South.

While some of the cases are determined already, others are still to be explored by performing pre-case study interviews to identify the most informative cases for an in-depth analysis. One of the most critical selection criteria is that the case represents the alternative growth model it is selected to characterize.

For the empirical work, whether an initiative is classified as green growth, post-growth or post-development is determined by whether they comply with the classification criteria below. The criteria are derived from the typology of alternative economic initiatives outlined above. For each type of alternative economic initiative there is a core condition which initiatives must comply with to fall into the category and then additional aspects which might apply but potentially differ between cases of the same type.

For an initiative to represent a green growth case, it must follow the idea that economic growth can be pursued while fostering environmental outcomes. Additional aspects include the use of GDP as the main welfare indicator, a focus on technology and innovations as solutions for sustainability and supporting the understanding of nature as an asset. Furthermore, green growth initiatives do not aim to restructure the existing economic system, social and power relations.

To be considered post-growth, the initiative must adopt strategies in which economic growth is either not a desirable policy goal and side-lined (a-growth), or the initiative explicitly understands economic growth to stand in contradiction to achieving human wellbeing and positive environmental outcomes, and therefore it advocates a decline in consumption and resource use (de-growth). As additional aspects, the initiative adopts or advocates for the use of alternative wellbeing indicators instead of GDP, it does not understand nature as an asset, and it takes a participatory approach towards citizens and civil society.

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Moreover, a post-growth initiative criticises current power relations and the economic system, and potentially aims to restructure them.

A post-development case must be in the Global South and it must strive for a postcapitalist society which allows for a pluriverse of ways of being. Additional aspects for case selection are the overcoming of a nature-human dualism, the adoption of a decolonial measurement framework for wellbeing as well as the fostering of pluriversal technologies and grassroot innovation.

We follow case study research design that is rooted in the qualitative, interpretative research tradition and is particularly suitable for study processes (Ragin & Amoroso, 2011). It aims to generate a holistic, in-depth understanding of individual cases by examining perspectives and practices from different actors, groups and organisations within a case and by triangulating a variety of methods.

In our case study research, we will combine interviews, workshops, participant observation and documentary analysis to examine a) the motivations of actors to introduce or oppose the alternative growth models that they represent; b) contextual factors that supported the introduction; c) challenges that promoting actors experienced in the process of planning and implementing these initiatives and how challenges were/are addressed; and d) actor perceptions of impacts of these initiatives on economic, social and environmental outcomes.

The data collection methods are curated for every case, given that for example the Global South cases demand stronger ethnographic and participatory approaches because the culture of the studied social group(s) will have a strong influence on the case. The Global North case studies can in turn be partly implemented in an online environment, although ethnographic research methods are envisaged also in the Global North cases. The research design will be completed once the cases are selected.

Overall, one central data collection method applied in the case study is semi-structured interviews. We aim to interview at least 20 experts and practitioners for each case, who will be sampled so that they represent key actors in the introduction, implementation and evaluation of the alternative growth initiatives, and at least a third of the actors sampled will be people who have opposed its introduction or have critical views of it. In situations where we have access, participant observations will be conducted of management and planning meetings held by stakeholders. In addition to primary interview data, we collect and analyse policy documents, such as planning documents, staff guidance documents and evaluation documents.

Our case analysis follows the retroduction (also called abduction) approach, which stresses the interplay of deductive and inductive research: on the one hand, we follow this case study framework and on the other hand, we must be open to insights coming from qualitative data. Because of our retroduction approach, it is important the analytical framework has room for changes; therefore we do see this case study framework as an evolving document that guides our qualitative research but does not restrict alterations.

Table 3 introduces our current case examples, which will be confirmed once we have guaranteed access to the case, namely after the pre-interview round. While post-development cases in Ecuador are set,

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Global South based green growth cases are currently explored from South Africa because of access to Rwandan cases did not materialize as was envisaged at the time of proposal preparation.

Table 3. Case examples

	Global North	**Global South**
Green growth ↑	Focus of the case: Eco-social policy implementation. National government level Case example(s): EU Green Deal Framework implementation in Germany. Germany has a long history of environmental policy but also a strong industrial base with high relevance for impacts on high carbon workers. Case focuses on national level.	Focus of the case: Green growth Case example(s): South Africa (*to be decided*)
Post growth	Focus of the case: A-growth, perhaps even post-growth orientation (Mason/Büchs 2023). Sub-national (devolved government) level. Case example(s): Wellbeing Economy implementation in Wales. Government in Wales implements wellbeing economy through the Future Generations Act.	
	Focus of the case: A-growth, alternative indicators and urban planning process. Case example(s): Doughnut Economics Action Plan project in the Netherlands. The Amsterdam doughnut economy case offers a mature example of a doughnut economics case and focuses on city level.	
Post-development ↓		Focus of the case: Post development, specifically Buen Vivir/Sumak Kawsay as an alternative socioecological approach to development. Case example(s): mapped cases with community and ancestorial / traditional technology perspectives in Ecuador. Cases focus on local level. Initial cases in Kichwa communities: Highlands, Cotacachi, Female led economic alternatives in food production,

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		community-based tourism; Amazonia, Archidona and Tena, bio-products.

4.2 Themes for the analysis

(Milena Büchs)

The empirical analysis of our case studies will draw on a set of themes derived from the theories of change reviewed in this paper. The themes identified here will inform the questions that we ask about each case with the aim to understand a) what led to the adoption of the case; b) what are the reasons for the approach that the case is taking (green growth, a-growth, post-growth, post-development); c) how the case is performing (according to its own objectives); d) what are opportunities and barriers to mainstreaming or upscaling the case. The themes we discuss in this section are: the capitalist economic context; power; crisis as a driver for change; the roles of different actors in driving or opposing change; and strategies of change.

Roles of the capitalist economic system and power. Our analysis will take into account that alternative economy initiatives currently operate within a global, capitalist economic system which shapes the power position of actors and their worldviews, interests and strategies. Capitalist economic systems are characterised by built-in growth imperatives at the micro (firm and consumers) and macro levels (policy-making) (Richters & Siemoneit, 2019). For instance, in capitalism, firms are forced to accumulate and reinvest profits into innovations to survive in a competitive context. Policy-makers are pressured to prioritise economic growth in policy-making to keep unemployment, inequality and public debt in check, and to maintain their position within a globalized economy (Richters & Siemoneit, 2019). An insight from the destabilization literature is that the introduction and scaling up of alternative economy initiatives therefore requires not only the establishment of new discourses, institutions, practices, etc. but also the destabilization and unmaking of existing ones (Feola, 2019; Feola et al., 2021; Frank & Schanz, 2022).

Capitalist institutions also shape power relations in society. Capitalist economies generate unequal distributions of material and immaterial resources within and across countries. For instance, highly unequal distributions of income and especially wealth can be observed, and inequality levels tend to increase if market forces remain relatively uncurtailed (Piketty, 2014; Piketty & Saez, 2014). Both institutions and the distribution of resources influence actors' capacities to introduce or prevent transformational change.

The idea that actors' capacity to promote or prevent/resist transformation change is shaped by institutions and the distribution of resources is connected to a "structure-agency" perspective on power. Structure-agency positions argue power relations are reflected in social structures such as institutions, social norms, discourses, practices, etc. while actors (individuals, policy-makers, business owners, social movement leaders, etc.) have agency which shapes and is shaped by social structures (Bhaskar, 1998; Giddens, 1984; Porpora, 2016).

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An important question for our cases will therefore be how respondents perceive their capacity to introduce transformative change and what, in their view, supports or hinders their capacity, given the wider growth imperatives present in the wider economic system, other existing institutions and established decision-making processes, as well power and resource imbalances that affect their room for manoeuvre.

Crisis as driver for change. Several bodies of literature emphasise the role of crisis as an important driver for change. For instance, the multi-level perspective regards "pressures" emanating from the "landscape level" as important drivers for change (Geels, 2002; Kanger et al., 2020). The "landscape" level is understood as an external context for socio-technical regimes and niches, consisting of factors such as national and international economic conditions, as well as "broad political coalitions, cultural and normative values, environmental problems" (Geels, 2002, p. 1260). From the multi-level perspective, crisis tendencies at the landscape level have the capacity to destabilise existing socio-technical regimes and provide an opportunity for "niches" to be taken up more widely, replacing elements of the existing socio-technical regime (Geels, 2002; Kanger et al., 2020).

Political economy perspectives also highlight the role of crisis for change (Buch-Hansen, 2018). Many scholars in this field regard capitalism as an economic system which contains numerous contradictions and conflicts which can create crises and the associated potential to lead to a transformation of capitalism (e.g., Harvey, 2014). Writers who have critically engaged with the socio-technical transitions and multi-level perspectives literatures from a political economy perspective argue that it is not sufficient to conceptualise the economic system as an "external" landscape factor which is not directly influenced by the regime (Feola, 2020). Feola argues that, instead, a more direct analysis is necessary of the interactions between capitalism and existing socio-technical regimes to understand the multiple crises facing societies around the world and the ways that they are driving or hindering transformation. Buch-Hansen (2018) identifies "deep crisis" as one of the pre-conditions for transformational change, where "deep crisis" is define as one that "cannot be solved by the institutional arrangements to which the currently prevailing political project has given shape" (Buch-Hansen, 2018, p. 159). He also maintains however, that crisis in itself is not sufficient to trigger change – an alternative political project and broad actor coalitions and consent are also necessary.

In this project, we will consider insights from the literature on the role of crisis for social transformation in our fieldwork. We will enquire whether actors in alternative economy initiatives perceive current contexts as being in a state of crisis and to what extent these contexts contribute to the questioning of previously taken-for granted ideas and practices, driven the search for alternatives, but also potentially hindered actors' capacity to promote transformative change.

Actors of change and strategies. Our review of the literature highlights that it is important to investigate which actors can play which roles in fundamental transformation, and which strategies are more or less promising to advance change.

The literature discusses the roles of a variety of different actors for change but there is no clear consensus as to which actors can or should play the most important role in driving transformations. Much discussed actors includes the state, civil society organizations and social movements, businesses

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and citizens. Different strategies tend to be associated with each of these actors, for instance "symbiotic" strategies with state actors, and "interstitial" strategies with civil society, grassroots or alternative business initiatives (Wright, 2010, 2016).

Scholars across different fields, regard states as important potential drivers of change, based on their power to regulate markets, invest in new technologies, and define the parameters of the economy more widely. For instance, scholars within the transitions management and transformative innovations literatures highlight the capacity and responsibility of the state in regulating markets and shaping technological innovations through investment (Avelino & Wittmayer, 2016; Geels, 2014). In contrast to the socio-technical transitions literature which focuses on system-internal transition, scholars in the postgrowth literature are interested in more fundamental transformation. The positions taken by postgrowth scholars regard the capacity of the state to drive more fundamental transformation varies. Anarchist-leaning authors such as Trainer (2019, 2020) argue that the state itself would need to be weakened and potentially even abandoned in a transformation to postgrowth as states are a manifestation of hierarchical power relations that anarchists criticise. In this scenario, the state would not be a driving force of transformation but an institution that needs to be transformed or even overcome itself. Structural Marxists are sceptical regarding the capacity of the state to drive transformative change as they see the state as an entity that is part and parcel of a capitalist economy with the main purpose to serve maintaining capitalism (Boucher, 2012). However, some postgrowth scholars build on theorists such as Gramsci and Poulantzas to argue that the state *can* play an important role in driving transformation even from within a capitalist system (D'Alisa & Kallis, 2020; Koch, 2020). From this perspective, the state is defined as relational, co-constituted through civil society and reliant on the acceptance from civil society. According to this position, the state is therefore able to introduce transformative changes if this finds support from civil society. The symbiotic strategies employed by state actors would here need to be radical or "non-reformist" (Gorz, 1968), i.e. seeking to fundamentally restructure the economic system away from growth-driven capitalist principles.

Views on the role of social movements or civil society organisations using "interstitial" strategies to drive fundamental transformation are equally diverse in the literature. While some scholars view civil society and grassroots actors as the main source of transformation (e.g. as discussed in Barlow et al., 2022), others point out their limited power to advance more wide-ranging changes in the context of existing institutions and the economic system (D'Alisa & Kallis, 2020; Koch, 2020). However, D'Alisa, Kallis and Koch agree that civil society actors can play an important role for advancing cultural change which can then support broader public demand for state-led transformative change (D'Alisa & Kallis, 2020; Koch, 2020).

The role of businesses is also much discussed in the literatures on transformation. The socio-technical transitions and innovation literatures regard businesses as important drivers of technological change even though sustainability innovations often emerge from niche business actors (Geels, 2002; Grin et al., 2010). However, as mentioned previously, businesses are under constant pressure to innovate within a capitalist system to survive in a competitive context (Richters & Siemoneit, 2019). It is therefore also possible for more powerful market incumbents to adopt energy and cost saving technologies. At the same time, much of the literature points out that businesses in high carbon sectors which benefit from

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a fossil-fuel based economic system often resist more fundamental change and hence act as a barrier to fundamental transformation (Frank & Schanz, 2022; Geels, 2014). Equally, empirical studies have shown how the current institutional context limits the capacity of organisations to fully operate according to postgrowth principles (e.g. Robra et al., 2021). Overall, the role of businesses in transformation and the strategies they adopt may vary by the type of businesses. States would need to create more supportive institutional contexts to promote "postgrowth businesses", e.g. by putting caps on emissions and implementing legal frameworks for businesses to operate on a not-for-profit basis and instead require them to contribute to social and ecological objectives.

Based on these insights from the conceptual literature, a plausible assumption is that a mix of actors and strategies will be required to achieve transformational change. Our case study fieldwork will pay particular attention to respondents' perceptions of the roles that different types of actors can and should play in driving and opposing change, the strategies they can adopt, and the ways in which different actors can or should collaborate.

A potential additional dimension to consider in our framework is time: transformations may undergo different phases and we may be witness of a particular phase of change. The latest Global Sustainable Development report (United Nations, 2023: XXIV) suggests that successful transformation undergo three different phases: "emergence, acceleration and stabilization" of new elements of the system, mirrored by "destabilization, breakdown and phase-out" of elements of the old system (Figure 3).

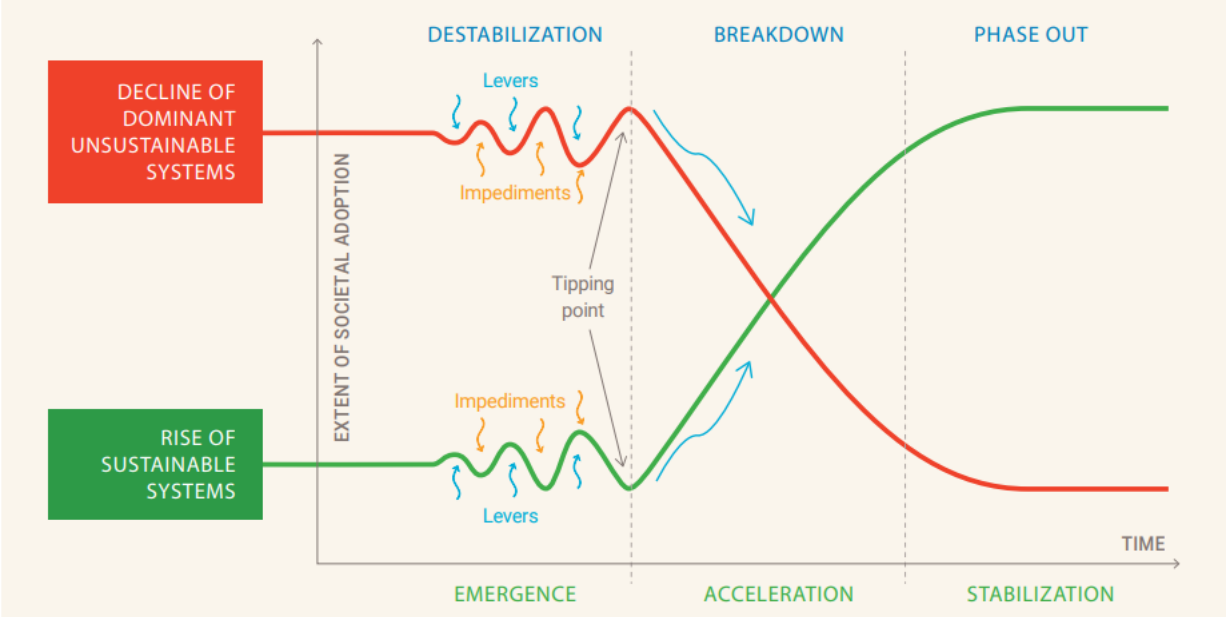

Figure 3. Phases of successful transition. Source: United Nations, Global Sustainable Development Report (2023: XXV)

This view of transformation always involving parallel processes of emergence and destabilization/unmaking etc. convergence with arguments from the destabilization literature discussed above (Feola et al., 2021; Frank & Schanz, 2022). Of course, transitions can diverge from the

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"successful" path, e.g. by getting stuck or being abandoned or oppressed. Whether there is already evidence of an emergence of alternative economic systems and a destabilization of incumbent growth-driven capitalist economic systems remains to be established through our empirical research.

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