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# Beyond growth

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## Pathways towards sustainable prosperity in the EU

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STUDY

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Members' Research Service  
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# Beyond growth

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## Pathways towards sustainable prosperity in the EU

From 15 to 17 May 2023 the European Parliament is hosting a conference on the topic 'Beyond Growth'. This study introduces participants and other stakeholders and interested parties to the debate on going beyond growth.

Organised in two parts, the study first presents the status quo, with our reliance on economic growth as the main policy driver and gross domestic product (GDP) as a key economic measure, blind spots related to this reliance, and the need to address multiple system failures. It notes today's focus on research and innovation and describes measures already brought forward in the European Green Deal to this effect.

The second part of the study explores the case for changing the underlying system drivers, and how system transformation may come about. It presents a range of existing or suggested policy frameworks to effect changes, before moving on to specific tools that are relevant for realising economic transitions. A recap of the debate and challenges rounds off the study.

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This document has been prepared by the Members' Research Service of the European Parliamentary Research Service in collaboration with the Joint Research Centre of the European Commission, at the request of Phillippe Lamberts (Greens/EFA, Belgium) on behalf of the group of Members organising the conference.

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## Executive summary

In the context of the 2023 'Beyond Growth' conference, this study presents the economic and socio-ecological challenges facing today's society and offers a reflection on possible transition pathways and associated tools to move beyond growth in EU policies. The focus is the European Union and its Member States, with the global context integrated where relevant for understanding the status quo and discussing options. Following an introduction to the overall 'beyond growth' debate, also discussed in the recent 'From growth to "beyond growth"' briefing by the European Parliamentary Research Service (EPRS), the study falls into two parts.

The first part evaluates the current state of human society and the economic and socio-ecological challenges we face. Gross domestic product (GDP) has evolved since the 20th century and has become the single most important economic indicator, serving as a gauge of the overall state of an economy. Significant periods of economic growth since the industrial revolution served to raise living conditions, life expectancy and the general health of the population. However, GDP as a measurement is often criticised as it does not take into account where the increased production comes from. For instance, it could be the result of responding to wars or natural disasters. GDP also ignores distribution and the depletion and pollution of environmental common goods.

Several European policies seek to address the negative implications of economic growth, by supporting research and innovation – for example, to deliver greener and more sustainable growth through technological or social innovations. This has allowed, in some cases, a decoupling of economic growth from increased emissions of carbon dioxide (CO<sub>2</sub>). Research also gives us a better understanding of complex system interactions and planetary boundaries. The current European Commission adopted the European Green Deal in an effort to deliver green and inclusive growth.

This part also provides insights into today's social challenges, such as ensuring equality, inclusion and wellbeing of EU citizens generally. For now, the EU economy, including consumption and production, is exceeding Europe's share of global safe operating space. Ensuring sufficient decoupling of the pressures we exert on our planetary systems will be challenging, with the final chapter discussing how to make peace with nature.

The second part takes a forward look at how to effect change in complex adaptive systems and the role of communities as change-makers. Important concepts such as fairness and sufficiency are touched upon, including how to bring such values into play to address materialistic over-consumption through behavioural change. The study examines some of the EU initiatives already in place before moving on to more radical considerations and research-based policy suggestions to help transition beyond growth and achieve a safe and just operating space for humanity. It takes an in-depth look at a variety of relevant tools for the beyond growth debate. The question of how to make best use of indicators, in particular moving beyond the GDP measure alone, makes up a key section here.

Focal points for the EU are summed up at the end, identifying some of the potential obstacles for policymaking at EU level if decision-makers wish to move beyond growth – not least since some initiatives might require Treaty change. The final chapter stresses the role of values and self-identity, linking back to the need to define sustainability and what is considered sustainable and to connect this perspective with the discussion on the human-nature relationship.

While options range from incremental changes to fundamental reform, science provides a clear warning about continuing on our current path. Change requires determination and engagement across all levels of society – and will need to include global cooperation.

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## List of abbreviations

AR6	Sixth assessment report
ASGS	Annual Sustainable Growth Survey
BfS	Business for Sufficiency framework
CBA	Consumption-based
CBAM	Carbon border adjustment mechanism
CO <sub>2</sub>	Carbon dioxide
CoFoE	Conference on the Future of Europe
CSRs	Country specific recommendations
CTEO	Chief Trade Enforcement Officer
DEAL	Doughnut Economics Action Lab
DG EMPL	Directorate General for Employment, Social Affairs and Inclusion
DRIFT	Dutch Research Institute for Transitions
ECB	European Central Bank
ECG	Economy for the Common Good
EEA	European Environment Agency
EROI	Energy return on investment
EU ETS	EU emissions trading system
FTA	Free trade agreement
GDP	Gross domestic product
GHG	Greenhouse gases
GSP	Generalised system of preferences
HIHD	Historical Index of Human Development
ICSU	International Council for Science
ILO	International Labour Organization
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystems
IPCC	Intergovernmental Panel on Climate Change
JRC	Joint Research Centre
LDCs	Least developed countries
MFF	Multiannual financial framework
MFP	Multifactor productivity

NAFTA	North American Free Trade Agreement
NGEU	Next Generation EU
PBA	Production-based
RFF	Recovery and Resilience Facility
R&I	Research and innovation
RTA	Regional trade agreement
SFR	Strategic foresight report
TCI	Thriving Cities Initiative
TEC	Transformational Economics Commission
TM	Transition management
TSD	Trade and sustainable development
UBD	Universal basic dividend
UBI	Universal basic income
UBIE	Universal Basic Income Europe
UBS	Universal basic services
UN	United Nations
UNEP	United Nations Environment Programme
UN SDG	United Nations Sustainability Development Goals
US	United States
WEGo	Wellbeing Economy for Governments
WTO	World Trade Organization
WTR	Working time reduction

# 1. Introduction

## 1.1. What is the growth debate about?

The debate on economic growth originates from the need to address the interconnected crises of climate change, biodiversity loss, resource depletion, pollution and deepening inequalities, which pose an existential threat not only to European citizens, but to all human civilisations. The current economic system is increasingly contested by a diverse range of actors, who claim it is not only incapable of solving these crises, but actually fuels such crises by design.<sup>1</sup> Part 1 of this study, made up of chapters 2 and 3, presents the status quo, including our current approaches to address its shortcomings, which are subsequently highlighted with a focus on people and planet.

### Defining growth

'Economic growth refers to an increase in the size of the economy over time. It is measured through the GDP indicator, which tracks the total value of goods and services produced.'

Source: 'From growth to 'beyond growth': concepts and challenges', EPRS, 2023.

It is increasingly accepted that, in response to these crises, our society will have to undergo a fundamental, systemic transformation, as described in Chapter 4. Whether this transformation will be driven by external factors outside our control (e.g. climate breakdown), or whether it will be a planned and deliberated process, depends largely on decisions taken today.<sup>2</sup> Additionally, transformations are very uncertain and challenging and the process of deliberation is essential: transformations led by a few powerful actors will have very different socio-ecological outcomes compared to transformations driven by authentic, participatory, and democratic processes.<sup>3</sup>

It would be tempting to simplify the beyond growth debate to a technical discussion on changing indicators or tweaking existing economic tools. These aspects are essential and described in detail in Chapter 6, but they act on shallow leverage points. In systems analysis, leverage points are places to intervene in a complex system to exert change on the system itself; human society and our economy constitutes a complex system. Donella Meadows defined a hierarchy of twelve leverage points, ranked according to their effectiveness: 'shallow' leverage points are interventions expected to achieve only minor changes in the outcomes of the system, while 'deep leverage points are interventions which are likely to have transformational effects.<sup>4</sup> Sustainability science literature has demonstrated that acting on deep leverage points, such as changing dominant mindsets and paradigms, will be needed to tackle the root causes of existing crises, and that these will hardly be solved by small incremental fixes.<sup>5</sup>

The debate on beyond growth thus needs to be framed on a more fundamental level, requiring us to embark on a larger and immensely value-laden discussion on how our societies should function,

<sup>1</sup> See e.g. Kallis et al., *The Case for Degrowth*, 2020; Fraser N., *Cannibal Capitalism*, 2022; Chomsky and Waterstones, *Consequences of Capitalism: Manufacturing Discontent and Resistance*, 2021.

<sup>2</sup> See e.g. Feola G., [Societal Transformation in Response to Global Environmental Change: A Review of Emerging Concepts](#), 2015; Feola G. et al., [\(Un\)Making in Sustainability Transformation beyond Capitalism](#), 2021.

<sup>3</sup> See e.g. Blythe J. et al., [The Dark Side of Transformation: Latent Risks in Contemporary Sustainability Discourse](#), 2018; Ramcilovic-Suominen S., [Envisioning Just Transformations in and beyond the EU Bioeconomy: Inspirations from Decolonial Environmental Justice and Degrowth](#), 2022; Hamilton R. and Ramcilovic-Suominen S., [From Hegemony-reinforcing to Hegemony-transcending Transformations: Horizons of Possibility and Strategies of Escape](#), 2023.

<sup>4</sup> Meadows D., [Leverage Points: Places to Intervene in a System - The Donella Meadows Project](#), 1999.

<sup>5</sup> Davelaar D., [Transformation for Sustainability: A Deep Leverage Points Approach](#), 2021; Abson D. et al., [Leverage Points for Sustainability Transformation](#), 2017.

how humans should live on our planet and how human beings should relate to one another. It is also thus essentially an ethical debate: growth of what? for what purpose? and at the benefit or expense of what or whom? Allowing and creating spaces for open discussion and societal reflections on these questions will be crucial to manage conflicts and negotiate a truly shared vision for a beyond growth society.<sup>6</sup>

Some advocates also see the ongoing crises as relational crises, stemming from the ways in which current societies shape interpersonal and inter-species relationships.<sup>7</sup> This involves calls for western societies to confront their colonial past and their exploitative activities in the present. A clear topic of debate, for instance, revolves around the theme of climate justice and what are the 'fair' shares of mitigation efforts by western countries and whether 'climate reparations' might be called for (see also the introduction to Part 2).<sup>8</sup>

On the latter point of human-nature relationships, the latest report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)<sup>9</sup> sent a stark message that current values and worldviews dominating western cultures, rooted in individualism, materialism, and anthropocentric worldviews are driving ecological breakdown.<sup>10</sup> Subsection 3.2.2 addresses the importance of 'making peace with nature', and of reevaluating our role within the web of life in order to rebuild a society capable of living within planetary boundaries.

While the beginnings of economic growth as a material phenomenon are usually traced back to the industrial revolution, the modern concept of growth was largely developed in the 20th century. Formally, the calculations of national accounts, which gave rise to gross domestic product (GDP) calculations, started in the 1930s in the context of recovery from the Great Depression. Such calculations subsequently helped in managing the war economy and post-war recovery. GDP measures the monetary value of all goods and services produced within a country during a specific time-period, usually a year or a quarter. GDP as the main economic performance indicator was institutionalised in the United Nations (UN) System of National Accounts in the 1950s, enabling cross-country comparisons. In the post-war period, economic growth was instrumental to support the increasingly generous and widespread welfare state and became synonymous with rising living standards. It ensured job creation, higher incomes, poverty reduction, tax revenue and technological advancement, among other things. Following the crises of the 1970s and the shift to so-called 'neoliberal' economic policies in the 1980s, this relationship began to wane.<sup>11</sup> Inequalities started to rise, some wellbeing indicators stagnated and environmental degradation continued despite growing environmental awareness.

Challenges such as persistent social inequalities and the climate and environment emergency<sup>12</sup> have sparked renewed interest in the debate on going beyond growth. This includes a reflection on

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<sup>6</sup> See e.g. Horcea-Milcu A. et al., [Values in Transformational Sustainability Science: Four Perspectives for Change](#), 2019.

<sup>7</sup> See e.g. Ramcilovic-Suominen S., [Linking Degrowth, Justice and Human-Nature Relations with a Common Thread of Transformations](#), 2023.

<sup>8</sup> See e.g. Hickel J. et al., [Imperialist Appropriation in the World Economy: Drain from the Global South through Unequal Exchange, 1990–2015](#), 2022; Hickel J. et al., [National Responsibility for Ecological Breakdown: A Fair-Shares Assessment of Resource Use, 1970–2017](#), 2022; Hickel J., [Quantifying national responsibility for climate breakdown: an equality-based attribution approach for carbon dioxide emissions in excess of the planetary boundary](#), 2020.

<sup>9</sup> IPBES, [Summary for Policymakers of the Methodological Assessment of the Diverse Values and Valuation of Nature of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services](#), 2022.

<sup>10</sup> See e.g. Oliver T. et al., [A Safe and Just Operating Space for Human Identity: A Systems Perspective](#), 2022.

<sup>11</sup> OECD, [Beyond Growth: Towards a New Economic Approach](#), 2020.

<sup>12</sup> European Parliament resolution of 28 November 2019 on the climate and environment emergency ([2019/2930\(RSP\)](#)).

whether economic growth still brings the expected benefits, whether it can help solve current environmental and social problems or whether growth itself is the problem.

The debate also concerns the future of growth as a central policy goal or one among many goals. The financial crisis of 2008 added the dimension of financial instability, while the more recent crises relating to the COVID-19 pandemic, the war in Europe and the energy and cost-of-living crisis are bringing new challenges. Additionally, the long period of slow growth in many advanced economies – between 2005 and 2021, the EU average annual growth rate was 1.1 % – is also fuelling concerns over the long-term future of economic growth.<sup>13</sup> Some discussions therefore focus on new economic narratives and reshaping the current economic system, which largely relies on growth for its sustenance (e.g. government spending, pensions, public services and jobs). A part of the debate focuses on the GDP metric and alternative indicators that go 'beyond GDP'. It is important to note here that the creator of early national accounts, Simon Kuznets, highlighted that 'the welfare of a nation can scarcely be inferred from a measure of national income'.<sup>14</sup>

In response to these challenges, a number of critiques of the growth-based model have been made and alternative approaches proposed.<sup>15</sup> Environmental critiques of growth have been present for decades, with the flagship 'The Limits to Growth' report, published in 1972, highlighting limits to the economic model based on the use of finite natural resources.<sup>16</sup> A social critique also appeared, especially as inequalities and the wealth gap progressed, while the share of national income going to wages and salaries was falling relative to the proportion going to capital.<sup>17</sup> Some critics question the use of GDP growth as a proxy for progress,<sup>18</sup> as it neither reflects environmental and social costs, nor income distribution in society, and does not account for certain activities and non-market transactions (e.g. unpaid work such as housework and care). Defenders of growth argue that GDP is a clear and well-established measure, that growth itself still positively correlates with many positive social outcomes and that environmental damage can be improved through innovation.

### 1.1.1 Key perspectives in the growth debate

There is a wide range of positions in the debate on going beyond growth. Some advocate adjustments to the current growth model by making it more green and inclusive, others plead to abandon growth due to planetary boundaries, while others take the middle ground. Some call for incremental changes, others see the need for a fundamental reform. A 2022 policy paper by the Forum for a New Economy proposes the following division into three main strands in the growth debate: green/inclusive growth, post-growth and degrowth.<sup>19</sup> Table 1 outlines the main features of these approaches. This three-way division is becoming increasingly popular in academic literature.<sup>20</sup>

<sup>13</sup> According to Eurostat, the 1.1 % statistic refers to an [overall EU average](#), while some EU countries experienced much higher average growth rates over the same period (e.g. 5 % in Ireland, 4.4 % in Malta and 3.8 % in Poland).

<sup>14</sup> Kuznets S., [National Income 1929-1932](#), National Bureau of Economic Research, June 1984.

<sup>15</sup> See overview in: Coyle D., *GDP: A Brief but Affectionate History*, 2015; Fioramonti L., *Gross Domestic Problem*, 2013; and Lepenies P., *The Power of a single number: A political history of GDP*, 2016.

<sup>16</sup> Meadows D. et al., [The Limits to Growth: a Report for the Club of Rome's Project on the Predicament of Mankind](#), 1972. See also the 1972 [Mansholt letter](#), urging the European Commission to take action and go beyond a growth focus.

<sup>17</sup> See for instance: Piketty T., *Capital in the 21st Century*, 2014.

<sup>18</sup> The [Cambridge English Dictionary](#) defines progress as 'movement to an improved or more developed state, or to a forward position'.

<sup>19</sup> Likaj X., Jacobs M. and Fricke T., [Growth, Degrowth or Post-growth? Towards a synthetic understanding of the growth debate](#), Forum for a New Economy Basic Papers, No. 2, 2022. There is also a debate on growth in quantity vs. quality.

<sup>20</sup> See for instance: Lehmann C. et al., [Green growth, a-growth or degrowth?](#), 2022.

Table 1 – Positions and assumptions in the growth debate

Positions	Details of the position
Green and inclusive growth	Growth remains a central policy objective but adjustments are necessary to make it more sustainable and inclusive. Examples include environmental taxes, decarbonisation policies, changing the composition of production and consumption (e.g. shift to electric vehicles, recycling), technological progress and innovation, strategies aimed at poverty reduction, reducing inequalities and improving employment conditions. Attempts to move beyond growth are seen as politically unviable, as growth is too embedded in society's understanding of what a successful economy is and closely linked to employment levels, government tax revenues, pension systems and business interests.
Degrowth	Growth in itself is a problem, while solutions proposed under green growth are not sustainable in the long term due to limited regenerative capacities of the ecosystem and planetary boundaries. Moreover, the design of the economic system itself is seen as based on social exploitation and inequalities. A steady-state or shrinking economy is therefore considered a solution to the environmental limits and social problems. According to this view, a deeper structural reform is needed. Possible policy options include stopping the extraction and consumption of fossil fuels, limits on advertising, focus on community practices and shared use of goods, reduction of working time and universal basic income.
Post-growth	This view is also sometimes called 'beyond growth' or 'a-growth', i.e. agnostic about growth. The economy should be designed in a way that achieves environmental and social goals, whether this will be accompanied by economic growth or not. Specific rates of growth are not necessarily automatically correlated with social benefit or environmental harm, because it all depends on what is growing or shrinking (i.e. how production and consumption is organised). Possible policies include decisively addressing environmental degradation and social inequalities, improving wellbeing and ensuring economic stability.

Source: [From growth to 'beyond growth': Concepts and challenges](#), EPRS, 2023.

With the green and inclusive growth approach sometimes criticised for making only minor adjustments to the status quo and the degrowth approach criticised for being radical and politically doomed, the post-growth strand seems to fall somewhere in the middle and accommodate more moderate positions. It is, however, also criticised by pro-growth proponents who see no need to go beyond growth and believe that growth still has more benefits than downsides.<sup>21</sup>

### 1.1.2 How to measure progress beyond the GDP indicator?

A major theme in the beyond growth debate is the 'beyond GDP' reflection. While GDP is a reliable statistical tool enabling cross-country comparisons and widely used in policymaking, efforts have been made to adjust, replace or complement the GDP metric in response to the criticisms of its shortcomings.<sup>22</sup> A range of alternative indicators have been developed (e.g. Human Development Index, Social Progress Index, The Sustainable Development Goals (SDG) index) and implemented in policy to provide a more multidimensional picture of reality and address the aspects not captured

<sup>21</sup> While alternative frameworks are also being applied in developing countries, the beyond growth debate focuses mainly on advanced economies due to a broad consensus on the need to pursue growth in low-income countries.

<sup>22</sup> For an overview of the Beyond GDP debate, see: Terzi A., [Economic Policy-Making Beyond GDP: An Introduction](#), European Commission, June 2021; Council of the EU, [Beyond GDP: Measuring what matters](#), May 2021; and Widuto A., [Beyond GDP: Global and regional development indicators](#), EPRS, European Parliament, October 2016.

by GDP. Other efforts included environmental accounting (reflecting environmental depletion in national accounts calculations)<sup>23</sup> and social satellite accounts.

It can be said that there is no shortage of alternatives to GDP; however, they have encountered some limits when it comes to use in policymaking. The widely cited 2009 Stiglitz-Sen-Fitoussi report advocated for including a range of indicators tracking economic, social and environmental aspects.<sup>24</sup> Though additional indicators or frameworks are increasingly being used to monitor policies and guide policymaking, they also come with their own problems relating to data availability, difficulties to influence them through policy in the short term and lack of consensus on which indicators to choose. So far, no indicator has reached a status comparable to GDP; however, there are calls to issue a range of key indicators alongside GDP figures or publish national income data by income groups (so-called 'distributional national accounts') to show how the fruits of economic growth are distributed in society.

### 1.1.3 Where we go from here

Numerous alternative policy frameworks have been developed, attempting to varying degrees to shift the focus away from economic growth. The 1987 Brundtland report 'Our Common Future' proposed the concept of sustainable development, based on three pillars: economic, social and environmental. Sustainable development was defined as 'meeting the needs of the present without compromising the ability of future generations to meet their own needs'.<sup>25</sup> A number of other initiatives and frameworks have also been developed around the world – for instance, the Living Standards Framework in New Zealand, the concept of Gross National Happiness in Bhutan, and Equitable and Sustainable Wellbeing in Italy.

This study will present, in Part 1, our current economic system, with its flaws and benefits and issues attached to the concept of sustainability. In Part 2, we explore how we might yet manage to transform our societies, supported by a range of ideas from alternative policy frameworks or approaches relevant to the beyond growth debate. Finally, a selection of relevant tools, policy levers and the ideas relevant to anyone seeking to implement a beyond growth society are brought forward.

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<sup>23</sup> See e.g. [Regulation \(EU\) No 691/2011](#) of the European Parliament and of the Council of 6 July 2011 on European environmental economic accounts and European Strategy on Environmental Accounts 2019-2023.

<sup>24</sup> Stiglitz J., Sen A. and Fitoussi J.-P., [Report by the Commission on the Measurement of Economic Performance and Social Progress](#), 2009.

<sup>25</sup> Brundtland G., [Our common future](#), World Commission on Environment and Development, 1987.



## Part 1 – Sustainable growth: An oxymoron?

The word 'sustainability' is generously used in many policy documents. Despite the well-known definition in the 1987 Brundtland report (see subsection 1.1.3 above), sustainability is a concept that can be interpreted, and consequently operationalised, in very different ways depending on any given set of beliefs and worldviews, as well as interests, concerns and political agendas. Furthermore, despite the wide use of the term 'sustainability', we still lack a broadly shared definition of what is sustainable and what is not, adequate frameworks and methods to ensure that sustainability assessments are systematic and comprehensive, and quantitative and semi-quantitative approaches to deal with complexity. The elasticity of this concept has led to several negative consequences, from polarising debates (e.g. the debate on sustainable bioenergy) to outright greenwashing.<sup>26</sup> Indeed, a meaningful body of scientific literature maintains that the fuzziness of the term 'sustainable' might be one of the reasons why the concept has failed to deliver concrete results in the 30 years of its existence.<sup>27</sup>

The risk is for the word 'sustainable' to become a buzzword without transformative meaning or power. According to Purvis et al., this process of co-optation was at the origin of the '3-pillars model': a common framework for sustainability, whereby social, environmental and economic goals are seen as equally important and desirable in moving towards a sustainable society.<sup>28</sup> They conclude that 'sustainability', as a concept in its modern interpretation, originally emerged from ecological and social critiques of the economic status quo, and in support of the importance of limits and boundaries in opposition to the search for perpetual economic growth. However, the introduction of the third pillar focusing on economic efficiency, broadly operationalised as 'economic growth' and usually conflated with GDP growth, within sustainability discourse largely neutralised the other two dimensions, weakening the original idea and the power of the concept itself. This largely transformed sustainability from a critical concept to a support tool for economic growth.

The SDGs are another example of operationalisation of the concept of 'sustainable development'. Even in this exercise, the influence of the 3-pillars model is evident: economic growth is allocated a specific goal (SDG 8) and thus it is placed on an equal weight as all other, environmental and social, SDGs. However, when looking in depth into the interlinkages among SDGs, trade-offs appear to be frequent and unavoidable, and trade-offs between some targets of SDG 8 and other environmental and social goals are clear, as shown in Section 5.3. Additionally, several scholars have convincingly argued that absolute decoupling of global resource use and greenhouse gas (GHG) emissions from economic growth has not yet taken place and appears to be unlikely, if not outright impossible, to achieve in the future (see also subsection 3.2.1).<sup>29</sup> This leads to the consideration that 'sustainable growth' might actually be an oxymoron.

Given the scale of humans' impact on the environment, the looming climate and ecological breakdown, and widespread social inequalities, several schools of thought have suggested moving

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<sup>26</sup> See Mubareka S. et al., [The role of scientists in EU forest-related policy in the Green Deal era](#), 2022.

<sup>27</sup> See Blühdorn I., [Post-capitalism, post-growth, post-consumerism? Eco-political hopes beyond sustainability](#), 2017; Blühdorn I., [Sustainability: Buying time for consumer capitalism and European Modernity](#), 2022.

<sup>28</sup> Purvis B. et al., [Three pillars of sustainability: in search of conceptual origins](#), 2019.

<sup>29</sup> See e.g. Hickel J., [The contradiction of the sustainable development goals: Growth versus ecology on a finite planet](#), 2019; Hickel J. and Kallis G., [Is Green Growth Possible?](#), 2020; O'Neill D. et al., [A good life for all within planetary boundaries](#), 2018; Ward J. et al., [Is Decoupling GDP Growth from Environmental Impact Possible?](#), 2016.



past the equivalence of the 3-pillars model. Insights from sustainability science disciplines<sup>30</sup> can be broadly summarised to reframe a new hierarchy of priorities for 'sustainability' principles:

1. The integrity of the biosphere and our life-support systems provides non-negotiable limits.
2. Economic and social inequity are deeply intertwined with ecological degradation in complex and dynamic ways. Inequities can act as drivers of, and be exacerbated by, environmental damage, and thus act counter to the first principle. Additionally, inter- and intra-generational fair access and distribution of resources is a key moral pillar.
3. Economic systems are means to an end (wellbeing), and as such they can be redesigned and reinvented, especially under emergency situations such as the one created by the climate and ecological breakdowns.

This hierarchy is clearly embedding a specific set of values and thus it needs to be openly discussed. Treating 'sustainability' as a value-neutral concept can be dangerous, as embedded values become hidden and implicit, making it difficult to critique them at a societal level. The process in Figure 1 below is proposed to help reclaim the transformative power of the concept of 'sustainability'.

Figure 1 – Recognising and working with the concept of sustainability for transformations



Source: EPRS illustration by Samy Chahri, based on text by Jacopo Giuntoli and Luisa Marelli, JRC.

<sup>30</sup> Key references include: Folke C. et al., [Social-ecological resilience and biosphere-based sustainability science](#), 2016; on ecological economics: Vivien F. et al., [The Hijacking of the Bioeconomy](#), 2019; on economic and social (in)equality: Leach M. et al., [Equity and sustainability in the Anthropocene: a social-ecological systems perspective on their intertwined futures](#), 2018; Hickel J. et al., [Plunder in the Post-Colonial Era: Quantifying Drain from the Global South Through Unequal Exchange, 1960–2018](#), 2021. See also Chapter 4 and sections 5.6 and 5.7 in particular.

## 2. Progress in today's economy

This chapter explores the status quo. It looks at our use of GDP, our reliance on and need for innovation to drive both change and growth, and the current policy framework of the European Green Deal adopted by the European Union as a key driver of its approach to progress in the 21st century.

Due to its dominance as an indicator of progress, as a measure of an economy or even of a society's overall health, GDP has been heavily criticised. The increasing scepticism about the sole pursuit of GDP growth revolves around two broad aspects, one highlighting the contrast between infinite growth and finite resources and the natural environment, and another emphasising the disconnect between growth and social wellbeing. The implications of treating GDP growth as a goal in itself have now shifted attention toward economic measures that take a broader perspective. Thus, it is important to understand the role GDP plays in current policy formulation, its continued importance and what it actually can tell us, and what not.

Research and innovation drive incremental changes in the way our societies function and have the potential to deliver breakthroughs that allow 'leapfrogging' to advance our economies. Yet relying on future technological breakthroughs to solve existing challenges is a dangerous game with no guarantees. Specific policy measures do, however, allow for a focusing of research and innovation investment, which could increase the likelihood of advancement on key societal challenges.

The European Green Deal, adopted in 2019 by the von der Leyen Commission, sets out a transformational agenda to deliver sustainable competitiveness, in respect of people and planet, by focusing on green growth. The question remains whether the 'green and sustainable growth' of the European Green Deal is sufficient to address the negative impacts of our current growth paradigm?

### 2.1 The power of gross domestic product

#### 2.1.1 Why GDP is (still) important

As established, GDP to this day remains the single most important economic indicator that serves as a gauge of the overall state of an economy. It is a standardised measure of the value of all final goods and services produced in a country in a given period. Policymakers rely heavily on this indicator, as it is ubiquitously used to form economic policy decisions, from fiscal to monetary policy. The growth rate of real GDP, all products adjusted for inflation, is often seen as an indicator of the general health of the economy. Economic growth is a very recent phenomenon, though, originating from the advent of the industrial revolution in north-western Europe in the late 17th century to the beginning of the 18th century, where it first became possible to grow incomes over a sustained period of time.

Technological innovation that increases productivity, specifically the uptake of fossil fuel use for energy production and its associated machinery, allowed what had never been seen before, a decoupling of the size of the population and its output. The average GDP per capita today is 15 times the average in 1820.<sup>31</sup> Economic prosperity went hand in hand with significantly improved living conditions, life expectancy and the general health of the population (but also included pollution and GHG emissions – see Section 3.2 and Annex 1). Therefore, rising prosperity became, and still is, a means to many ends, as income gives people access to a variety of things, from basic needs like food and healthcare, and access to education, to personal needs like free time and entertainment. However, living conditions today are drastically unequal between different regions and countries,

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<sup>31</sup> See the [Maddison Project Database 2020](#).

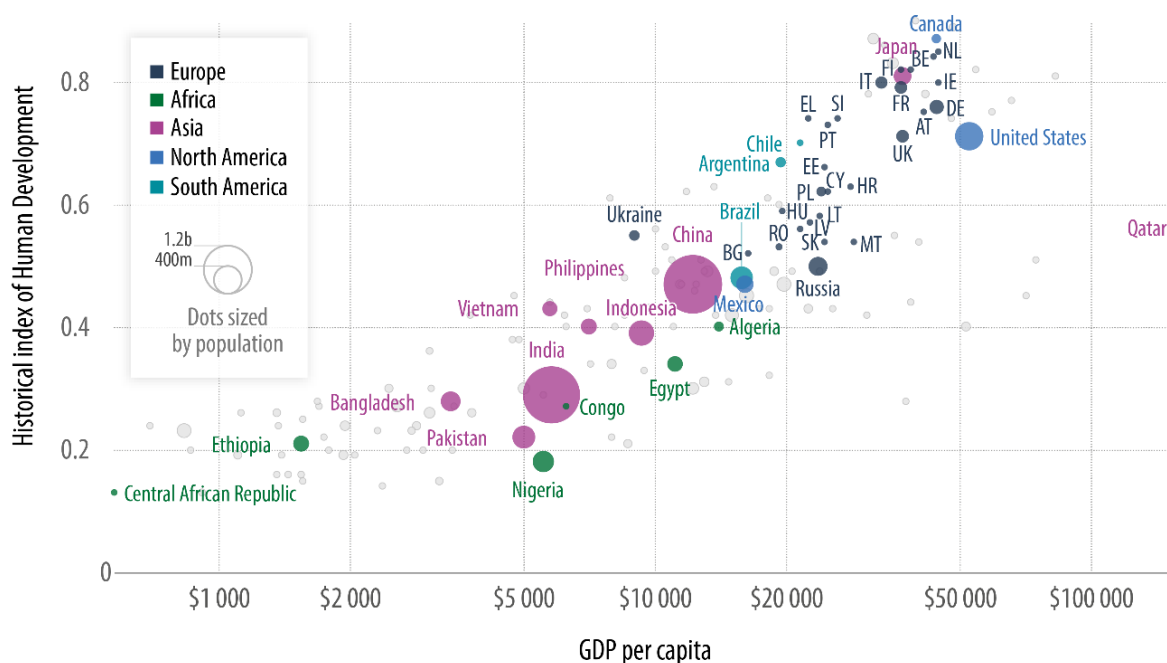
and also within countries. Unfortunately, there are still many countries that need to increase significantly their material standard of living, combined with better institutions, to satisfy the fundamental requirements for a decent standard of living.

An advantage of GDP is that it is one single number, making it easy to communicate, and is based on tangible measures, the quantity of goods and services produced. Thus, GDP has so far been the cornerstone of modern macroeconomic analysis and essential to policy formulation. However, the measurement of GDP is evolving with the increasing complexity of measuring, for instance, services and intangibles, and increasingly depends on estimated (quantifying depreciation and depletion) and quality adjusted measures (technology-intensive products). Additionally, since GDP is a standardised measure, it is also a useful indicator for comparing different countries. To this end, GDP is commonly divided by the number of people in the respective country (GDP/capita). To compare the productivity between countries, GDP is divided by the overall hours worked. Furthermore, to compare countries' purchasing power, GDP is converted to exchange rates of currency conversion that try to equalise the purchasing power of different currencies, by eliminating the differences in price levels between countries.

### 2.1.2 What GDP cannot tell us

While GDP is correlated with many aspects in our lives that policymakers try to improve – and thus is used as input for policy decisions in the majority of countries in the world – it is also important to understand what GDP cannot tell us.

Figure 2 – Historical Index of Human Development mapped against GDP per capita (2015)



Source: [Prados de la Escosura](#), [Maddison Project Database 2020](#) (Bolt and van Zanden (2020)); [Our World in Data](#).

Note: The Historical Index of Human Development (HIHD) is a summary measure of average achievement in key dimensions of human development. On the Y-axis, the HIHD metrics include a) life expectancy, b) literacy rates and c) educational enrolment.

The most common criticism of GDP as a policy objective centres around four aspects: (i) GDP is not welfare, (ii) GDP ignores distribution, (iii) a higher material standard of living does not make people happier above a certain threshold, and (iv) the omission of environmental common goods.<sup>32</sup>

Indeed, GDP is not a measure of wellbeing or, on a more elementary level, human development. It is, however, closely correlated (see Figure 2). Even though changes in the overall production of goods and services are often used as a measure of whether the average citizen in a country is (materially) better or worse off, this should not be misinterpreted to capture things of importance to wellbeing. In fact, GDP is considered to be a 'neutral' measurement, in that it makes no judgments about what is good or bad economic activity.

This way, events such as wars or natural disasters, which might severely reduce the wellbeing of citizens, destroy infrastructure and require expensive emergency measures, would increase general production of goods and services and raise GDP. Similarly, increased output may come at the cost of environmental damage or the depletion of non-renewable natural resources.

Furthermore, many social aspects are not reflected in the GDP measure – for instance, income distribution, inequality and the contribution of unpaid work to society. Unpaid work, which the underlying GDP methodology cannot directly capture, is estimated to be about 15 % of GDP.<sup>33</sup>

Similarly, the methodological concept of GDP does not capture the notion of wellbeing or happiness. When considering societal wellbeing and sustainability, policy formulation is rather linked to indicators based on surveys of individuals and their subjective description of their quality of life, which might not be directly linked to their material standard of living after reaching a certain threshold. This theory, the 'Easterlin Paradox', suggests that there is no link between economic growth and average happiness of a society.<sup>34</sup> Instead, there is considerable evidence that, within countries, individuals with higher incomes report higher levels of happiness. In other words, income matters more for individual rather than average happiness in a society. Individuals would then be more concerned with relative rather than absolute income,<sup>35</sup> the latter playing a role only when the overall level of income is low. This has strong policy implications, with 'standalone' economic growth losing relevance for government policy when social welfare (i.e. happiness) is unaffected. Additionally, recent research suggests that average happiness increases consistently with income, particularly among already happier people, and happiness flattens only for the least happy people.<sup>36</sup>

Lastly, GDP omits environmental common goods, such as water quality, open space, biodiversity, and a stable climate. In other words, GDP is not reduced by pollution, water contamination or resource depletion, as their economic value or costs are excluded when calculating GDP. The implication of omitting these costs is that such public goods are systematically over-exploited and environmental limits and social problems do not feed back to the GDP measure as a policy objective.

In times of drastic economic and societal changes, it is important to question the underlying objectives of policies and their implications. GDP is still the centrepiece of many of today's policy decisions. While some people would argue that promoting the growth of GDP is undesirable or even

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<sup>32</sup> See [Oulton N.](#), Hooray for GDP! GDP as a measure of wellbeing, 2012.

<sup>33</sup> See Ward K., Time to Care: Recognising the truth behind the economy for unpaid care, 2022. In addition, see Organisation for Economic Co-operation and Development (OECD), [Gender Equality at Work](#), 2021.

<sup>34</sup> For more information on the 'Easterlin Paradox', see Easterlin R., [Does Economic Growth Improve the Human Lot? Some Empirical Evidence](#), 2014.

<sup>35</sup> Evidence suggests that there is an important time angle to this observation. As Easterlin R. and O'Connor K. show in [The Easterlin Paradox](#), in Zimmermann K., Handbook of Labor, Human Resources and Population Economics, Springer, November 2022, while in the short run the relative income position has a positive effect on your happiness, in the long run (as the income of the whole population and your peer group rises) no such effect can be seen.

<sup>36</sup> See Killingsworth M., Kahneman D. and Mellers B., [Income and emotional well-being: A conflict resolved](#), 2023.

irresponsible, to discard GDP completely as a measure for economic activity could hinder economic policy guidance. A better understanding of its advantages and its limitations, however, are expedient for policymakers to draw correct and appropriate policy conclusions. Applying GDP as one of a suite of measures, indicators and surveys that complement each other and provide policymakers with a more holistic understanding of their policy objectives could be preferable.

## 2.2 The role of science and innovation for sustainable growth

### 2.2.1 Science and innovation as a transition driver

Over the last half century, scientific research has allowed us to better understand and assess the physical boundaries of Earth, the complexity of Earth's systems, and the impact of economic activity as a whole on such systems. Overall, science is allowing us to gradually embed Earth's systems into economics, and to investigate the effects of the extraction of limited resources of different kinds, as well as the effects of pollution and other releases in the environment (such as GHG). In parallel, social sciences have also framed the notion of social boundaries, indicating the resources needed by individuals to enjoy their human rights, such as health, education, housing and gender equality. The understanding of the facts underpinning the ecological crisis (such as climate change, biodiversity loss, and pollution) depends on:

- the advancement of scientific knowledge, especially concerning Earth's systems, tipping points, and their consequences on social-ecological systems;
- technological development (for instance, more than 50 % of the essential climate variables needed to monitor climate change are available only through Earth observation technologies<sup>37</sup>), as well as non-technological innovation;
- increased cooperation among scientific communities worldwide: according to a 2022 study by the European Commission,<sup>38</sup> 12 % of the scientific papers referenced in one of the reports of the Intergovernmental Panel on Climate Change (IPCC) sixth assessment report (AR6) were funded under Horizon 2020 or its predecessor. This makes the EU research and innovation (R&I) framework programme a powerful tool for advancing scientific knowledge through transnational research cooperation.

Changes towards climate neutrality and environmental restoration require the commitment of all socio-economic actors, institutions at all levels of governance, and citizens. In this context, innovation policies and environmental regulations can steer efforts towards the outcomes intended, in addition to incentivising both incremental and systemic 'eco-innovation' activities. The importance of science and technology in achieving sustainability is reflected by their role as policy levers in the UN SDGs. The EU has embedded its research and innovation policy in its competitive sustainability agenda<sup>39</sup> that corresponds to the new EU growth strategy, which, alongside productivity, includes criteria of environmental sustainability, fairness and macro-economic stability.<sup>40</sup> The continued sustainability focus has led the EU to be a global leader in patenting

<sup>37</sup> European Space Agency, [What is an essential climate variable?](#).

<sup>38</sup> European Commission, Directorate-General for Research and Innovation, Mugabushaka A. and Rakonczay Z., [Informing global climate action: contribution of the Framework Programmes \(FP7 and H2020\) to the knowledge base of recent IPCC reports based on openly available data](#), Publications Office of the European Union, 2022.

<sup>39</sup> University of Cambridge Institute for Sustainability Leadership, [Developing the EU's 'competitive sustainability' for a resilient recovery and dynamic growth](#), 2020.

<sup>40</sup> European Commission, [Annual Sustainable Growth Survey](#), 2023.

activity in areas related to climate action and in scientific publications on topics related to sustainability.<sup>41</sup>

Despite these positive trends showing incremental changes, the transformation required to achieve climate neutrality is systemic. The new EU industrial strategy,<sup>42</sup> adopted in 2020 and updated in 2021, focuses on 14 key industrial ecosystems<sup>43</sup> in which transformation is necessary to achieve ecological transitions. In 2021, these ecosystems represented no less than 70% of the EU economy, and 80% of the business economy. Within such transformation, emerging technologies, social and place-based innovations are essential to reshape some of the fundamental processes within the economy. Speeding up the ecological transition through technological innovation is expected to strengthen the EU's resilience and also to contribute to gender equality in the fields of science, technology, engineering and mathematics.<sup>44</sup> At the same time, non-technological innovation is expected to facilitate the green transition, as well as EU preparedness for other shocks, such as the consequences of the Russian war on Ukraine. In particular, social innovation can contribute to the shift of individual and collective practices and representation, to unlock consumption patterns more in line with sustainability. The green transition can put Europe on a path towards more sustainable and inclusive prosperity, while simultaneously improving its energy and resource security and reducing its strategic dependencies by building up technological sovereignty.

## 2.2.2 The relationship between EU carbon emissions and its economic growth

EU Member States are undertaking big efforts to reduce their GHG emissions. Nevertheless, the ambition to address environmental challenges has often been clouded by the possible negative effects of sustainable policies on economic growth. Economic theory predicted that a systemic transformation towards a sustainable society would require expensive pollution abatement activities that would drive industry in developed countries to relocate their most emission-intensive production activities to countries with lower climate ambitions ('carbon leakage') to benefit from the large differences in global climate policies and ambitions. This would lead to a reduction in their domestic carbon dioxide (CO<sub>2</sub>) emissions at the expense of global CO<sub>2</sub> emissions. In contrast, another economic theory suggested that well-designed policies might induce investments that can enhance competitiveness, if they offset the regulatory costs, and improve economic performance by spurring innovation (the 'Porter Hypothesis'<sup>45</sup>). This innovation, in combination with environmental legislation and consciousness, is crucial for decoupling economic development and environmental deterioration.

Figure 3 analyses the environmental degradation and economic growth of the EU Member States in comparison to China, the United States (US) and India. To measure environmental degradation, CO<sub>2</sub> emissions are used, as it is among the main causes of climate change and global warming, while GDP is used to measure economic activity. To clarify the environmental responsibilities and to account for carbon leakage, a distinction is made between production (i.e. those emitted nationally)

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<sup>41</sup> European Commission, Directorate-General for Research and Innovation, [Science, research and innovation performance of the EU 2022: building a sustainable future in uncertain times](#), Publications Office of the European Union, 2022.

<sup>42</sup> European Commission, [Updating the 2020 new industrial strategy: building a stronger single market for Europe's recovery](#), 2021.

<sup>43</sup> These are: 1) Aerospace and defence; 2) Agri-food; 3) Construction; 4) Cultural and creative industries; 5) Digital; 6) Electronics; 7) Energy-intensive industries; 8) Energy renewables; 9) Health; 10) Mobility – transport – automotive; 11) Proximity, social economy and civil security; 12) Retail; 13) Textiles; and 14) Tourism.

<sup>44</sup> See also European students' think tank, [Women in STEM in the European Union](#), 2022.

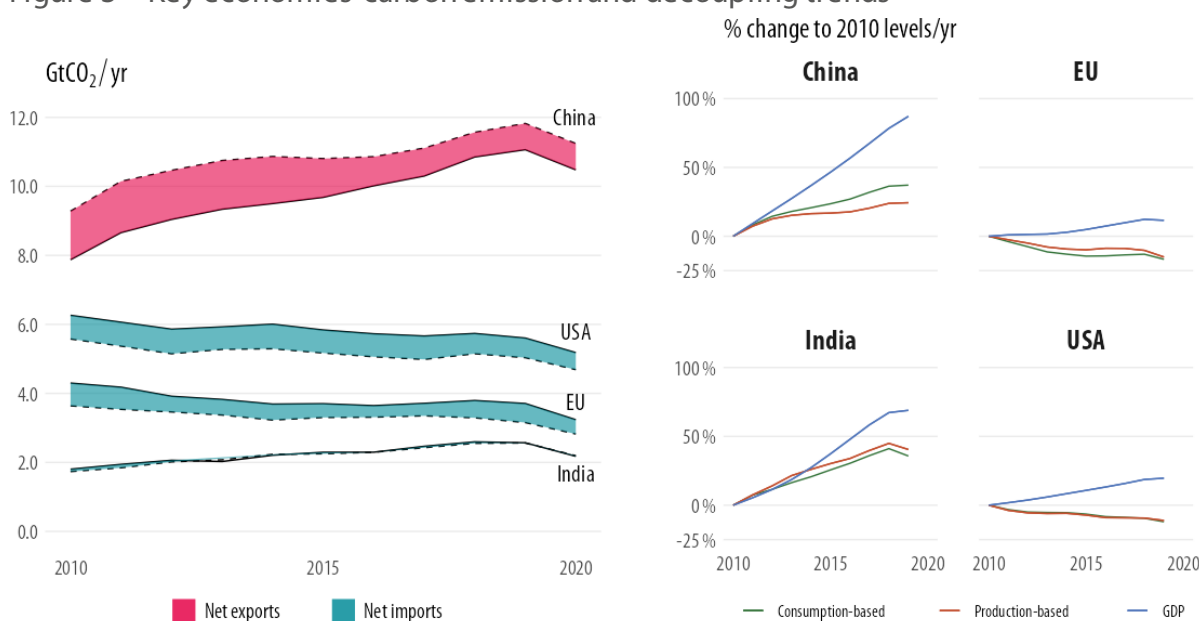
<sup>45</sup> Porter M. and van der Linde C., [Toward a New Conception of the Environment-Competitiveness Relationship](#). *Journal of Economic Perspectives*, 1995.



and consumption-based (i.e. those emitted elsewhere due to the final demand of national residents) emissions.

In 2010, the EU was the third highest emitter of consumption-based (CBA) and production-based (PBA) CO<sub>2</sub><sup>46</sup> after China and the US. In 10 years, it managed to reduce both its consumption-based and production-based carbon emission output by, respectively, 24.7% and 22.4%. As such, the EU can be considered one of the frontrunners in the fight for carbon emissions reduction, outperforming other regions such as the US (CBA: -17.3%; PBA: -15.9%), India (CBA: +20.8%; PBA: +26.5%) and China (CBA: +33.1%; PBA: +21.1%), while maintaining average GDP<sup>47</sup> growth of 0.8% over the period (see Figure 3).

Figure 3 – Key economies' carbon emission and decoupling trends



Note: The left-side graph shows trends in gigatons (Gt) of CO<sub>2</sub> emissions by key economies. The right-side graph shows decoupling trends in percentages using a 3-year moving average and GDP in constant prices.

Source: [Carbon footprints](#) – estimates based on [FIGARO](#) inter-country input-output tables.

In a broad sense, this indicates that EU policies on climate change are, to a certain extent, reaping their success, as CO<sub>2</sub> emissions (domestically and abroad) have declined while maintaining economic growth. While this analysis suggests that the EU has effectively implemented policies to promote low-carbon growth, it is important to note that the exclusion of other environmental pressures and social aspects may obscure potential environmental shifts. In addition, it should be noted that the emissions accounted for here refer only to CO<sub>2</sub> combustion emissions, and that other GHG emissions (CH<sub>4</sub> and N<sub>2</sub>O) were not taken into account. This difference in data coverage, along with methodological differences between this approach and other monitoring systems such as the Consumption Footprint Platform,<sup>48</sup> may explain the deviations observed when comparing these

<sup>46</sup> EU carbon emissions are measured via consumer and producer-based CO<sub>2</sub> emissions using the [FIGARO](#) environmental accounts. These results were obtained using the FIGARO inter-country input-output tables.

<sup>47</sup> GDP from World Bank [World Development Indicators GDP \(constant LCU\)](#) for US and China, and GDP and main components (output, expenditure and income) [NAMA\_10\_GDP\_\_custom\_4852003] for the EU.

<sup>48</sup> Find more information on the Consumption Footprint Platform [here](#), which reports data of the Life cycle Assessment-based Consumption Footprint and Domestic Footprint indicators developed by the Joint Research Centre (Sanyé

results. This further underscores the need for further research to monitor effectively the impact of EU policies aimed at preventing carbon leakage (such as the recently proposed carbon border adjustment mechanism (CBAM)).<sup>49</sup>

### 2.2.3 The innovation paradox

The economic output of a country is composed of the amount of labour and capital used for production, and the overall efficiency with which these inputs are combined, also referred to as 'multifactor productivity' (MFP). Over the last three decades, MFP represents the main driver in a third of Member States.<sup>50</sup> Policies aimed at sustainability may lead to efficiency gains and enhanced productivity through restructuring and the implementation of pollution-reducing innovations, thereby positively influencing MFP. However, the positive relationship between innovation and productivity has weakened both in the US and in the EU. This has highlighted the notion of the 'innovation paradox', whereby the increase in innovation investments and outputs (such as patents) does not lead to a corresponding increase in productivity and economic growth. This has further raised concerns about the negative impact of sustainable policies and environmental regulations.

In the case of the EU, the slowdown in productivity growth due to the innovation paradox is markedly more intense compared to the US. This might indicate a decrease of innovation in the manufacturing sectors within both regions, aggravated further in the EU by the slowdown in technological frontier businesses' MFP growth rate. According to the European Central Bank (ECB), in 2020 less than 40 % of European microenterprises had adopted an advanced digital technology, compared with almost 50 % in the US. Furthermore, according to the ECB, the intensity of investment in research and development has not increased substantially in the EU and the US, with a respective average range of circa 2.0-2.3 % and 2.5-2.9 % of GDP since 2000.<sup>51</sup>

Against this backdrop, research and development investments have a strong pro cyclical nature, which suggests that a low or declining GDP growth rate could translate into pressures on public and private R&I endeavours.<sup>52</sup> It is unclear how an alternative budgetary framework to a GDP-based fiscal process could allow fiscal authorities to plan and allocate the financial resources needed to support the scientific and technological efforts required in view of the ecological transition. Nevertheless, scientific and technological efforts may only be a part of the puzzle in enabling the ecological transition and reducing environmental degradation. Green growth assumes that technological and scientific progress will enable us to reach environmental goals while continuing to enjoy our existing standards of living and focus our attention towards economic growth. However, blind trust in such progress, or techno-optimism, may lead to a delay in immediate action in the hope of future technological fixes and ignorance of unintended consequences. To ensure the profound change necessary to reverse the path towards climate change, technological innovation must be complemented with innovation in economic and societal systems as well as lifestyle changes.

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Mengual E. and Sala S., 2023). It evaluates the 16 impact categories of the Environmental Footprint method, as recommended by the European Commission for life cycle data (EC, 2021 – C(2021) 9332 final).

<sup>49</sup> See European Commission, Proposal for a Regulation of the European Parliament and of the Council: establishing a carbon border adjustment mechanism ([COM\(2021\) 564 final](#)).

<sup>50</sup> European Central Bank, [Key factors behind productivity trends in EU countries](#), Occasional Papers Series No 268, 2021.

<sup>51</sup> Eurostat, [General expenditure on research and development by sector of performance](#), 2023.

<sup>52</sup> [Business research and innovation have been affected unevenly by the crisis](#), OECD, webpage consulted on 17 April 2023.



## 2.3 The EU's growth strategy: The European Green Deal

### 2.3.1 Green and inclusive growth

To deliver on the commitments under the Paris Agreement and responding to citizens' calls for climate action, in 2019 the European Commission announced the target of making Europe the first climate-neutral continent by 2050. 'This is Europe's 'man on the moon' moment', stated President von der Leyen. In her speech, the Commission President highlighted the dual goal of sustainability and competitiveness: 'The European Green Deal is our new growth strategy – for a growth that gives back more than it takes away. It shows how to transform our way of living and working, of producing and consuming ... Our goal is to reconcile the economy with our planet'.<sup>53</sup> While previous policy strategies<sup>54</sup> all had an upfront focus on growth and competitiveness, the European Green Deal was different.<sup>55</sup> It put its primary focus on a societal challenge (i.e. climate change), while envisaging growth and competitive sustainability as a collateral outcome. Hence, it was recognised from the outset as a transformative ambition – with key traits of a mission-oriented policy (see Section 5.1).

The ambition has been followed up with the mobilisation of resources, regulations and reforms, as well as fiscal and trade-related measures to deliver on the targets. The EU Climate Law, enshrining the 'Union-wide' climate-neutral 2050 target and the 2030 target to reduce net GHG emissions by 55 % in law, provides predictability to investors, ensuring that the transition to climate neutrality is 'irreversible'. The law also highlighted the importance of promoting fairness and solidarity among Member States.<sup>56</sup> The 'Fit for 55' legislative package includes several regulatory proposals in the fields of climate, energy, transport and taxation, all contributing to the common objective of creating framework conditions for achieving the EU climate-neutrality target. The underlying rationale is the need for deep transformations in major socio-economic systems, i.e. the mobility, food, manufacturing, housing and energy systems. The energy sector is addressed by, for example, REPowerEU and the hydrogen strategy. The food and agriculture sectors are addressed by, for example, the methane strategy, the farm to fork communication and the EU forest strategy, all of which aim to transform the sector while expanding the EU's carbon sink and to halt and reverse biodiversity loss. The industrial manufacturing sectors are addressed by the new Green Deal industrial policy and the Net-Zero Industry Act identifying industrial ecosystems, transition pathways and skills for industry sectors, and by the Sustainable Product Initiative. The construction and housing sector is addressed by, among others, the 'Renovation Wave' initiative, as well as by circular economy efforts for the construction industry. Finally, the finance sector is addressed by, among others, the Sustainable Finance initiative (based on the EU taxonomy on sustainable activities), by ESG (environmental, social and governance) disclosures and by European green bond standards.

EU budgetary tools are also used. For instance, a specific percentage (30 %) of the multiannual financial framework (MFF) is earmarked for climate-related projects, while the Recovery and Resilience Facility (RRF) adds several funding pillars, which include the green (minimum 37 % earmarked) and digital transition (minimum 20 % earmarked), pursuant to 'smart, sustainable and inclusive' growth.

<sup>53</sup> See the European Commission [press release](#) and the European Parliament [press release](#) from 11 December 2019.

<sup>54</sup> Including the [Lisbon Strategy](#), the [Europe 2020 Strategy](#) and the [Investment Plan for Europe](#).

<sup>55</sup> See European Commission, [The European Green Deal](#), 11 December 2019, COM(2019) 640 final.

<sup>56</sup> See [European Green Deal page](#) of the European Commission website and [Regulation \(EU\) 2021/1119 of 30 June 2021](#).

The EU has demonstrated policy resilience in the face of subsequent crises and challenges (COVID-19, Russia's war on Ukraine, the cleantech race), turning disruptive shocks into what Commission President von der Leyen called 'accelerators'.<sup>57</sup> According to the European Parliament Legislative Train Schedule, among the 61 legislative and non-legislative initiatives of the Commission tabled as a contribution to the European Green Deal, as of April 2023, 44 have already been adopted, and six more are expected to be adopted soon.<sup>58</sup>

With measures launched at EU level, it is probable that regulatory and investment efforts will have a mobilising effect on large-scale actors, capable of following and acting on EU policy. This scale effect is part of the EU's value added, incentivising, for instance, large EU-based firms in the transition pathways for the green and digital transition. In an 'accelerator' mission such as the search for a vaccine against COVID-19, these actors are more easily mobilised, since they do not need to transform their business models or production. In a 'transformer' mission such as the European Green Deal, this is less evident. However, clear signs of change are visible in key EU industries (e.g. the hydrogen reconfiguration of energy-intensive industries or the systemic transformation to decarbonisation and automation in the automotive industry) and in the success of cleantech start-ups to attract investors.

Beyond the private sector, the societal and comprehensive nature of a mission-oriented approach calls for active engagement of citizens and local actors. As part of the European Green Deal, the Commission launched the European Climate Pact. Its ambition is to raise awareness, catalyse engagement and connect citizen organisations that act on climate.<sup>59</sup> In a 2021 Eurobarometer survey, 93 % of EU citizens saw climate change as a serious problem, calling on their national governments to step up efforts and set ambitious targets.<sup>60</sup>

Recognising efforts already made, a mission-oriented analytical perspective on the European Green Deal reveals remaining challenges for EU policy to achieve its targets. As an expert group recently stated, to be successful the European Green Deal needs clear place-based innovation for sustainability. It should mobilise and learn from bottom-up initiatives in Member States, regions, cities and local communities.<sup>61</sup> To date, local actors in many places are still distant from the policy 'directionality' set at EU level. In line with a new methodology developed by the Joint Research Centre of the European Commission (JRC), named 'Partnerships for Regional Innovation', there is space for improvement in connecting EU-level strategies to bottom-up, place-based strategies.<sup>62</sup>

In the short term, the roll-out of the Green Deal will have a negative impact on some places and households. Fast learning is crucial to prevent or alleviate adjustment costs, leaving no one behind. Various data collection and monitoring initiatives have already been set up within the European Green Deal; the challenge ahead is to create a common structure so that divergent learning sources can complement each other and ensure high-speed dissemination to allow for real-time learning and pivoting by the actors involved.

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<sup>57</sup> See the [speech](#) given by Commission President Ursula von der Leyen at the press conference of the Green Deal Industrial Plan.

<sup>58</sup> See the [Legislative Train Schedule](#), EPRS, European Parliament, which is updated monthly.

<sup>59</sup> For more information, see [the European Climate Pact](#).

<sup>60</sup> For more information, see the [Citizen support for climate action](#) survey.

<sup>61</sup> Schwaag-Serger S., Soete L. and Stierna J. (eds), 2023; see also McCann P. and Soete L., [Place-based innovation for sustainability](#), 2020.

<sup>62</sup> The methodological framework for this initiative is found in the [PRI Playbook](#), 2022.

### 3. Impacts of economic growth on society and the planet

Chapter 2 zoomed in on the status quo of the economy today, including our use of GDP, the role played by research and innovation and how the European Green Deal policy framework has been adopted as the EU's new growth strategy.

Chapter 3 will look at how our economic frameworks affect social and environmental aspects of society and its impacts on the planet.

Section 3.1 deals with the social aspects and the increased living standards delivered through economic growth, but the emerging fault lines of the current economic system and its only partial attempts to deliver equality and social justice will also be explored. The section concludes by showing some of the main initiatives and approaches taken by the European Union to respond to some of the key social issues we are facing today. Section 3.2 focuses on the impact of our economies on the functioning of planet Earth and its ability to continue providing services essential to human wellbeing. This is followed by an assessment of the relationship between economic growth and negative environmental impacts, looking more closely at the possibility of decoupling this nexus that largely underpins growth-driven policies. Finally, the chapter elucidates the need to draw attention to the values and worldviews held by societies towards nature.

#### 3.1 Delivering on social outcomes

Most societies across the world seek to meet human needs for security, education, work, health and wellbeing through social policies. In parallel, through distribution of resources, incomes and services, they aim to achieve more equitable and humane social outcomes, the success of which varies, as this chapter will show. In the second half of the 20th century, this concern was institutionalised in national welfare states.<sup>63</sup> States vary greatly in their approaches to welfare, ranging from a narrower conception of social amelioration (through income transfers, social services and housing) to a broader view of the state's role in organising the economy, which encompasses employment, wages and overall macroeconomic steering.

All states, however, have based their economies on growth, which has a number of impacts. On the positive side, Likaj, Jacobs and Fricke recognise that technological innovation and increased productivity are strongly correlated with growth, in a cyclical way.<sup>64</sup> Second, it has pushed up the level of employment and wages. Third, it has increased government tax revenue, which has, in turn, enabled public spending on education, health and other public goods and services. Fourth, the available funding and increased acquisition of skills have contributed to advances in scientific knowledge that have made possible many improvements in human wellbeing, such as the decline in the mortality rate of new-born children and their mothers, extending life expectancy, boosting

#### Defining wellbeing

Following the logic of the 'Doughnut Economics' framework, wellbeing can be viewed in relation to ensuring a social foundation based on the SDGs' minimum social standards for 12 life essentials which include: food; health; education; income and work; peace and justice; political voice; social equity; gender equality; housing; networks; energy; and water. Metrics exist to measure all of these 12 standards, to ensure a minimum level of individual wellbeing.

Sources: See Section 5.3 on the SDGs and Section 5.6 on Doughnut Economics.

<sup>63</sup> Gough I., [Oxford Handbook of the Welfare States](#), Chapter 51: From Welfare States to Planetary Well-Being, 2021.

<sup>64</sup> Likaj X., Jacobs M. and Fricke T., [Growth, Degrowth or Post-Growth? Towards a synthetic understanding of the growth debate](#), 2022.

higher-level education, decent housing and cures for mortal diseases. Overall, over the last 200 years economic growth has helped to improve living standards in most parts of the world.<sup>65</sup> However, as Section 3.2 will show, much of this progress on human living standards has been at the expense of our planet and its ecosystems.

While growth continues to produce the benefits of higher national income, it has not led to more equitable outcomes. In almost all OECD countries, over the last 40 years the share of national income distributed through wages and salaries (labour) has decreased, while the share attained/earned/secured by the owners of capital has risen.<sup>66</sup> This has further accentuated the growing income and wealth inequalities, particularly between the top 1 % and 10 % and the rest of the population, but has also deepened inequalities between countries of the global north and global south.<sup>67</sup>

Furthermore, the correlation between GDP growth and improvements in human wellbeing is no longer taken for granted. At society level, after a certain point material consumption does not improve wellbeing (see subsection 2.1.2 on the Easterlin Paradox). While growth may raise the general income level, it does not necessarily improve people's health, relationships or sense of security, nor levels of social trust; it may have actually caused a decline in many of these things for many people in the recent half-century. Finally, severe environmental degradation, risks linked to climate change and ecological breakdown (see Section 3.2) have made us understand that economic growth in its current form is unsustainable and undermines our current and future societal wellbeing.<sup>68</sup>

This understanding has emerged only gradually. After the Second World War, western states led growth-oriented policies that sought to achieve full employment and stabilise their economies. The development of mass production technologies raised living standards and household consumption. Improved public services, health conditions and educational attainments in turn helped increase labour productivity and GDP per capita, in a mutually reinforcing loop that, however, has also caused environmental degradation.<sup>69</sup> As observed by Likaj, Jacobs and Fricke, the neoliberalism that took the lead after the crises in the 1970s, compounded with the post-communist distrust of state intervention, shifted governments' focus towards the free market, to the detriment of objectives such as increasing equality, developing social institutions and a strong welfare safety net. In the post-2008 global recession, welfare states sought to maintain incomes and, during the COVID-19 pandemic, income and employment, thus mitigating the impacts of macroeconomic shocks at times when growth had vanished. Shaped by historic events – when social progress followed from economic progress – several generations grew up thinking that what is good for the economy is also good for society.

However, as Laurent outlines, economic progress has become decoupled from social progress in several dimensions. On the one hand, there is the disconnect between GDP growth and employment, as demonstrated for instance by Botelho and Dias da Silva (2019), for the euro area in the periods between 2002 and 2005 or between 2010 and 2012. On the other hand, national income

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<sup>65</sup> The [World Bank \(2020\)](#) affirms the strong correlation between economic growth and health and wellbeing indicators of life.

<sup>66</sup> [New Approaches to Economic Challenges Beyond Growth Towards a New Economic Approach](#), OECD Publishing, 2020.

<sup>67</sup> For more information, see the [World Inequality Database](#).

<sup>68</sup> European Environment Agency, [The European environment – state and outlook 2020: knowledge for transition to a sustainable Europe](#), 2020.

<sup>69</sup> Laurent E., [From Welfare to Farewell: The European Social-ecological State Beyond Economic Growth](#), 2021.

growth does not translate into household income growth. This is partly due to inequality and partly to the fact that corporate profits and high income are counted as contributing to GDP but, due to existing fiscal arrangements, do not contribute to social policy.<sup>70 71</sup> The OECD also affirms that wealth inequality has grown while average earnings and living standards have often stagnated and the gap between richer regions and the periphery has widened.<sup>72</sup>

Rising inequality has been identified as a source of the growing social discord in western countries. However, beyond inequality, public discontent has also been fuelled by the sense of economic disempowerment and social estrangement that reflect citizens' declining stake in the economic system and in society, partly related to globalisation and technological progress. Snower (2018) argues that, to thrive, economies and societies need more than just equitably distributed material wealth, but also opportunities for personal achievement and social embeddedness.<sup>73</sup>

New approaches to ensuring societal wellbeing have been formulated. For example, the OECD has recommended its member states to refocus their economic policies from growth as the priority to the four following objectives: environmental sustainability, rising wellbeing, falling inequality and systemic resilience. The Oxford Handbook of the Welfare States adds that the security and equity that is sought after should not only be sustainable through time, but also broadened to take account of global equity and wellbeing. Pointing out that the existing welfare states in the global north may be part of the problem, the solution lies in a reorientation of focus from individual welfare states to planetary wellbeing.

Economic growth has long been considered to be a necessary condition for the functioning of the welfare state. If this is no longer the case, however, can welfare systems function without growth? Among those who answer in the affirmative, Laurent (2022) argues that, in comparison with socio-demographic structural parameters, growth plays a marginal role in stabilising social policies.<sup>74</sup> As social spending and the sustainability of social policies depend on labour productivity, household income, sharing of added value, occupational behaviour and demography, it is these parameters that need to be targeted, starting with the future of pension systems.

#### Demography: Old age and pensions

With the population of older persons increasing, the share of the global population aged 65 and above is projected to rise from 10 % in 2022 to 16 % in 2050. In the EU, in 2020 there were about three people aged 15-64 for each person aged 65 or over (old-age dependency of 32.0 %). When corrected for the diminishing share of dependent children (young-age dependency of 23.5 %), the total age-dependency ratio is projected to reach 76.1 % in 2050. Thus, by 2050, there will be less than two people of working age (15-64) for every person aged 65 or over.

In 2019, old age and sickness/healthcare together accounted for close to two-thirds (66.9 %) of the total social protection expenditure of EU Member States.

Data source: UNDESA 2022; Eurostat, Population projections in the EU, Social protection statistics – overview.

The pandemic has laid bare the extent to which societal wellbeing relies on care work provided in homes and institutions and unpaid care work within households. Largely invisible and undervalued,

<sup>70</sup> Laurent E., [From Welfare to Farewell: The European Social-ecological State Beyond Economic Growth](#), 2021.

<sup>71</sup> Botelho V. and Dias da Silva A., [Employment growth and GDP in the euro area](#), ECB Economic Bulletin, Issue 2/2019.

<sup>72</sup> For more information, see the OECD [Inequality and Poverty](#) webpage.

<sup>73</sup> Disempowerment is understood here as 'a sense of being unable to control one's fate and the concomitant absence of a stake in the economic system' and estrangement as a 'sense that the communities from which one gains one's identity are falling apart' (see Snower D., [Beyond capital and wealth](#), 2018).

<sup>74</sup> Laurent E., [Going beyond growth to improve social-ecological well-being](#), 2022.



both are carried out mostly by women, often of a migrant origin, earning low wages and securing low or no pensions. As population ageing increases the demand for care, in particular long-term care, the need to recognise care as a public good and value it accordingly has become evident.<sup>75</sup>

### 3.1.1 The European Union: From values to social policies

Among the duties of the EU, as defined in its Treaties, is combating social exclusion and discrimination, and promoting social justice and gender equality. However, the responsibility for delivering concrete social policies remains a national competence. Significant changes in the EU approach require hard-to-achieve unanimity of 27 Member States and, on some issues, any EU-wide harmonisation is explicitly forbidden.<sup>76</sup> Consequently, achievements in the social area are less tangible than those targeting the common market, climate and environment.

EU action is mostly limited to defining minimum standards, providing guidance, coordinating and funding. In practice, social policy rules agreed at EU level are most often either not binding (recommendations) or need to be implemented by each EU country into its existing legal system within a defined timeline (directives). Penalties exist, but do not follow automatically. Despite this fragmented set-up, European integration has led to significant social developments over the years.

In parallel, the cohesion policy, one of the most significant EU policies in terms of scope, funding and ambition, while primarily targeting economic growth, has also brought some advances in employment, social policy and in creating a European identity in the face of globalisation.<sup>77</sup> However, a recent analysis has found that EU social investments under the cohesion funds have only partially helped to alleviate the existing wellbeing problems in EU regions, as they tend to improve labour market outcomes in more prosperous regions while exacerbating economic inequality in poorer ones.<sup>78</sup> This ties in with the repeatedly debated question whether EU funding should have stricter conditions. While conditionality is generally unpopular, the post-pandemic recovery funding introduced some performance criteria that were hardly imaginable before.

Nevertheless, the targeting of EU policies shows inconsistency in some areas. For instance, Eurostat data show that income inequality in the EU increased up to 2016 and slightly decreased afterwards, despite the COVID pandemic.<sup>79</sup> In parallel, as Eurofound points out, while much EU policy seeks to tackle income inequality, it pays little attention to wealth inequality and how the concentration of wealth among a small group of people is corrosive to social cohesion and has implications for a person's opportunities in life.<sup>80</sup>

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<sup>75</sup> Fernandes M. and Navarra C., [What if care work were recognised as a driver of sustainable growth?](#), EPRS, European Parliament, 2022. To explore possible policy options and their impacts, the European Research Council approved a €9.9 million grant for research into these aspects of degrowth in October 2022.

<sup>76</sup> European Parliament, [Social and employment policy: general principles](#), Fact Sheets on the European Union.

<sup>77</sup> OSE-ETUI, [Social policy in the European Union 1999-2019: the long and winding road](#), 2020.

<sup>78</sup> Dellmuth L., *Is Europe Good for You? EU Spending and Well-Being*, 2021.

<sup>79</sup> See Eurostat, [Inequality of income distribution](#).

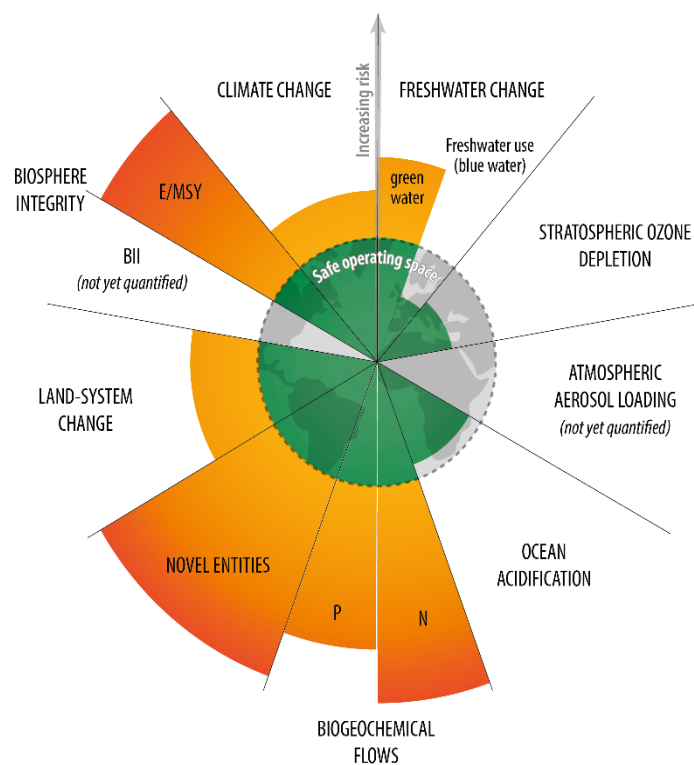
<sup>80</sup> Burke H., Eurofound, [Living and working in Europe 2021](#), 2022.

## 3.2 Living within planetary boundaries

From ancient times to the modern day, societies have depended and operated within the broader environmental systems, which provide resources (e.g. food, water, fibres, minerals), regulate climate and other planetary functions, such as pollination and seed dispersion, facilitate nutrient and water cycling, produce atmospheric oxygen, and sustain natural habitats, to name just a few of the ecosystem services that are essential for human wellbeing. However, interaction and exchange between the socio-economic and environmental systems goes both ways.

This section looks at the impact of our economies on the environment and its ability to continue providing these essential services. The Planetary Boundaries concept, introduced by Stockholm Resilience Centre researchers in 2009, made it essential to address the interaction between the environment and the human-driven economy in a more global, interlinked and systemic way.<sup>81</sup>

Figure 4 – Global overshoot of planetary boundaries



Source: Updated Planetary Boundaries figure designed by Azote for Stockholm Resilience Centre, based on analysis in Wang-Erlandsson et al., 2022, Persson et al., 2022, and Steffen et al., 2015 ([licensed under CC BY-NC-ND 3.0](#)).

Planetary boundaries define the limits of 'safe space' for people to operate on the one planet. There are nine such planetary boundaries that have been identified, namely biosphere integrity, climate change, freshwater change, stratospheric ozone depletion and aerosol loading, ocean acidification, biogeochemical flows, novel entities and land-system change. For all, except stratospheric aerosol loading, quantitative thresholds that indicate 'safe operating space', have been defined. Transgressing these thresholds may lead to large-scale, irreversible and abrupt environmental changes in planetary systems vital to human life and prosperity. Ultimately, this calls for attention

<sup>81</sup> See Rockström et al., [Planetary Boundaries: Exploring the Safe Operating Space for Humanity](#), 2009, and Steffen et al., [Planetary Boundaries: Guiding human development on a changing planet](#), 2015.

towards the feedback loops between different environmental systems and the overall scale of our impact on the environment, which entails the risk of irreversible changes. In the 2009 and 2015 research, planetary boundaries were considered to have been transgressed for biogeochemical flows of nitrogen and phosphorus, land system change, biodiversity and climate change, and, in the latest 2022 assessments, planetary boundaries for freshwater (with regard to green water<sup>82</sup>) and novel entities, especially with regard to plastics, have been transgressed.<sup>83</sup>

Figure 5 – Assessment against planetary boundaries by impact category (EU-27, 2021)



Note: The high risk area is considered to be over two times the planetary boundary. Between the boundary and the high risk area, there is an area of uncertainty due to the complexity in defining a global boundary for ecological processes.

Source: [Consumption Footprint Platform](#).

At EU level, the JRC has adapted the planetary boundaries framework to the environmental footprint method<sup>84</sup> to allow assessment of the EU consumption footprint against the planetary boundaries.

<sup>82</sup> Green water includes terrestrial precipitation, evaporation and soil moisture as defined by Wang-Erlandsson et al. (2022).

<sup>83</sup> See Wang-Erlandsson et al., [A planetary boundary for greenwater](#), 2022, and Persson et al., [Outside the Safe Operating Space of the Planetary Boundary for Novel Entities](#), 2022.

<sup>84</sup> Sala S., Crenna E., Secchi M. and Sanyé Mengual E., [Environmental sustainability of European production and consumption assessed against planetary boundaries](#), 2020.



According to the latest data (see Figure 5), the environmental impacts of the consumption of an average EU citizen<sup>85</sup> are outside the safe operating space for humanity for several impact categories of the environmental footprint<sup>86</sup> (including particulate matter, climate change, freshwater ecotoxicity, and resource use of minerals and metals and of fossils<sup>87</sup>). Among the different areas of consumption, food consumption is the major contributor to the overall EU consumption footprint.<sup>88</sup>

### 3.2.1 Decoupling the economy from environmental impacts

The EU economy, including consumption and production, is exceeding Europe's share of global safe operating space, as shown by the European Environment Agency (EEA)<sup>89</sup> and the JRC<sup>90</sup> assessments of the EU's environmental footprint. This highlights that, even though decoupling from economic growth might occur over time, efforts to reduce the EU's environmental footprint are still not enough to be within planetary boundaries. In order to stay within safe operating space, it has been widely argued that we need to decouple economic prosperity and welfare from the environmental impacts and disturbance. As Parrique et al. (2019) argue, whether decoupling is relative or absolute, its spatial scale, durability, magnitude and equity are important elements to understand when considering planetary boundaries.<sup>91</sup> These elements are assessed individually below.

**Relative vs. absolute decoupling.** Relative decoupling is when two variables still develop in the same direction but not at the same speed, whereas in absolute or strong decoupling two variables go in opposite directions. Empirical studies and systemic reviews tend to find evidence for relative decoupling (from GDP) mainly for material use as well as for GHG emissions at global level, whereas evidence of long-term absolute decoupling is rare. Absolute decoupling has often occurred only over short periods, or only locally using production-based (territorial) indicators.<sup>92</sup> As production (territorial)-based indicators do not take into account emissions embedded in the imported products and their supply chains, they omit the fact that, in recent decades, high-income countries have shifted to outsourcing emission-intensive production with a simultaneous increase in demand for imported products.<sup>93</sup> Thus, in these cases decoupling is achieved at the expense of carbon

<sup>85</sup> The assessment is performed at per capita level, with planetary boundaries allocated equally among the global population (equality allocation principle).

<sup>86</sup> The environmental footprint method has a total of 16 impact categories: climate change, ozone depletion, particulate matter, acidification, ionising radiation, photochemical ozone formation, terrestrial eutrophication, marine eutrophication, freshwater eutrophication, freshwater ecotoxicity, human toxicity (cancer), human toxicity (non-cancer), land use, water use, resource use (fossils), and resource use (minerals and metals). This is the [method recommended by the European Commission](#) for life cycle data.

<sup>87</sup> The adaptation to the environmental footprint method included the addition of a 'resource use' boundary with a factor 2 approach. Note that the impact category 'resource use, fossils' refers to the use of fossil fuels (including brown coal, crude oil, hard coal, natural gas, peat and uranium).

<sup>88</sup> See Sanyé Mengual E. and Sala S., Consumption Footprint and Domestic Footprint: Assessing the environmental impacts of EU consumption and production, 2023.

<sup>89</sup> See EEA/FOEN [report No. 1/2020](#).

<sup>90</sup> Sala S., Crenna E., Secchi M. and Sanyé Mengual E., [Environmental sustainability of European production and consumption assessed against planetary boundaries](#), 2020.

<sup>91</sup> Parrique T. et al., [Decoupling Debunked](#), 2019.

<sup>92</sup> Sanyé Mengual E., Secchi M., Corrado S., Beylot A. and Sala S., [Assessing the decoupling of economic growth from environmental impacts in the European Union: A consumption-based approach](#), 2019.

<sup>93</sup> Hubacek K. et al., [Evidence of decoupling consumption-based CO2 emissions from economic growth](#), 2021, and Malik A. and Lan J., [The role of outsourcing in driving global carbon emissions](#), 2016.

leakage to other countries. The evidence from the literature also shows that decoupling over longer periods can be reversed.<sup>94</sup>

**Spatial scale of decoupling matters.** Using local, regional or global indicators to assess decoupling depends on the nature of the environmental impacts considered and their causes. For example, exceeding the boundary of biogeochemical flows of nutrients can have local impacts, such as eutrophication of the water system, for which causes are located in a well-defined geographical area, hence indicators limited to the water system make sense. At the other end of the scale, climate change is a global phenomenon, as GHG are transboundary pollutants. Emissions created in one place affect people living on the other side of the world, and therefore indicators cannot be limited to a local or regional scale. Also, in a globalised economy, places of extraction and production are spatially disassociated from places of consumption, making it difficult to determine the responsibility for impacts.

**Durability and magnitude of decoupling.** As we have already transgressed several planetary boundaries, decoupling must be permanent and not only temporary (e.g. during the pandemic, global fossil CO<sub>2</sub> emissions first fell in 2020 by 5.3 % compared to 2019, only to bounce back again in 2021 to the pre-pandemic level). In the EU, fossil CO<sub>2</sub> emissions rebounded but to a lower level than the pre-pandemic level, thus falling by 5 % between 2019 and 2021.<sup>95</sup> The AR6 of the IPCC<sup>96</sup> pointed out that there is a very short time left to put the world on the path to below 1.5°C global warming. Therefore, the durability, speed and magnitude of decoupling matters.

**Equity in the allocation of decoupling efforts.** Advanced economies, such as the EU Member States, and the least developed countries have very different environmental footprints. Scaling down the EU's share of the global 'safe operating space' is associated with normative choices regarding aspects of fairness, equity, international burden-sharing and the right to economic development. For example, the EEA report based on Häyhä et al. (2016)<sup>97</sup> proposes six different allocation methods based on (1) equality (equal rights per person, immediately or over time); (2) needs, which are different between people; (3) right to development, implying countries with lower development levels are allocated more rights; (4) sovereignty, implying that countries have a right to use their own territory as they choose; (5) capability based on ability to pay for mitigation; and (6) responsibility (taking into account historical contributions to global emissions and impacts). Regardless of the allocation method, it is clear that the EU needs to downsize its footprint to live within the limits of planetary boundaries.

Science-based thresholds enable moving from an approach of relative sustainability (e.g. decoupling) to one of absolute sustainability (e.g. planetary boundaries).<sup>98</sup> As several planetary boundaries have already been transgressed, and as the 6th IPCC report urges massive and immediate action to stay within the 1.5°C limit, for decoupling to be meaningful it needs to be fast and significant in scale. One study estimates that such successful decoupling would imply that, if we want to have global GDP growth of 2 % until 2050 and stop global warming at below 2°C, Europeans

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<sup>94</sup> Haberl H. et al., [A systematic review of the evidence on decoupling of GDP, resource use and GHG emissions](#), 2020, and Krausmann F. et al., [From resource extraction to outflows of wastes and emissions](#), 2018.

<sup>95</sup> Crippa M. et al., [Climate goals require food systems emission inventories](#), 2022.

<sup>96</sup> See IPCC, [AR6 Synthesis Report: Climate Change 2023](#).

<sup>97</sup> Häyhä T. et al., [From Planetary Boundaries to national fair shares of the global safe operating space – How can the scales be bridged?](#), 2016.

<sup>98</sup> Sanyé Mengual E. and Sala S., [Life Cycle Assessment support to environmental ambitions of EU policies and the Sustainable Development Goals](#), 2022.

need to halve their territorial per capita resource use,<sup>99</sup> while the GHG emission intensity<sup>100</sup> would need to drop by nearly 5 % annually, which is considerably higher than the historical average of less than 1.5 % (1970-2013).<sup>101</sup> Considering fairness in efforts to decouple would imply an even bigger need for decarbonisation; for example, in the case of Sweden, one of the more 'climate-progressive' countries, the yearly mitigation rate would need to be doubled compared to what is currently in its proposal – instead of ~5 %, the mitigation rate needs to be 12 % per year from today onwards.<sup>102</sup>

Parrique et al. (2019) list seven **reasons** for why sufficient decoupling is hard to achieve: (1) rising energy expenditure; (2) rebound effects; (3) problem shifting; (4) the underestimated impact of services; (5) the limited potential of recycling; (6) insufficient technological change; and (7) burden-shifting. **Rising energy expenditure** means less energy return on energy invested (EROI), which has been the case with fossil fuels, as extraction moves from easily accessible sources to more difficult ones, and with it an increase in the climate cost of energy (emissions per unit of primary energy used). Previously, EROI of renewable energy was considered substantially smaller than that of fossil fuels. The fast development of renewables, however, has led to a reassessment, and EROIs of renewable energy-based electricity are comparable to those of fossil fuels and increasing.<sup>103</sup> Therefore, energy needed to transition to a renewables-based economy should not become an issue, according to the latest evidence. The main constraints are available land area and critical materials, demand for which is forecast to increase significantly;<sup>104</sup> the European Commission is already putting an emphasis on this with many initiatives, such as the proposed Critical Raw Materials Act.<sup>105</sup> To support implementation of the REPowerEU goals, JRC has developed a mapping tool to help identify 'go-to' areas for renewables.<sup>106</sup> The challenge will be to have prices at a level which makes the economic case for building sufficient capacity and producing energy, without making it unaffordable for consumers. This is an area where the energy crisis that started in 2022 has already forced the EU to propose energy market reform.<sup>107</sup>

**Rebound effect.** As efficiency gains free up resources, they can lead to an increase in consumption of the same product or service (as it becomes cheaper, for example) (*direct rebound*), or these resources are allocated elsewhere, inducing resource use in other products or services (*indirect rebound*), or a whole other sector (*structural rebound*). Recent studies attempting to capture economy-wide rebound effects (both direct and indirect) find the rebound in energy consumption to be 78 % to 101 % after two years in France, Germany, Italy, the UK and the US. Another study, focusing solely on EU countries and residential energy consumption, finds a bigger rebound effect

<sup>99</sup> Resource use includes biomass, fossil fuels, metallic and non-metallic minerals use trends, as reported by the [International Resource Panel](#).

<sup>100</sup> Emission intensity is emissions per GDP [kg CO<sub>2</sub>-e per EUR].

<sup>101</sup> Vaden T. et al., [Raising the bar: on the type, size and timeline of a 'successful' decoupling](#), 2021, and Antal M. and van den Bergh J., [Green growth and climate change: conceptual and empirical considerations](#), 2016.

<sup>102</sup> Anderson K., Broderick J. and Stoddard I., [A factor of two: how the mitigation plans of 'climate progressive' nations fall far short of Paris-compliant pathways](#), 2019.

<sup>103</sup> This is, to a large degree, due to the low efficiency of generating electricity by fuel combustion in the case of fossil fuels. See also [Brockway P. et al.](#), 2019, and [Diesendorf M. and Wiedmann T.](#), 2020.

<sup>104</sup> Carrara S. et al., [Supply chain analysis and material demand forecast in strategic technologies and sectors in the EU – A foresight study](#), Publications Office of the European Union, 2023.

<sup>105</sup> See the Critical Raw Materials Act [as announced on 14 September 2022](#).

<sup>106</sup> See the [Energy and Industry Geography Lab](#).

<sup>107</sup> For more information, see the [European Commission press release from 23 January 2023](#).

in the middle- and low-income countries of the EU, whereas some high-income countries seem to avoid almost any rebound in energy consumption.<sup>108</sup>

**Problem shifting** is when the solving of one environmental problem creates new ones and/or exacerbates the other ones. A well-known example of this is related to first generation biofuels, which, while addressing GHG emissions of transport fuels, has led to land use change and loss of biodiversity, not to mention concerns related to food security. For this purpose, the Commission recommendation<sup>109</sup> on life cycle data with environmental footprint methods encompasses the assessment of 16 impact categories, beyond climate change, to prevent trade-offs among environmental issues as well as along the life cycle (e.g. improving energy consumption during use while increasing the impacts of manufacturing).

**Underestimation of the impact of services** in the economy, or overestimation of the 'dematerialisation' of the economy when the EU and other advanced economies move from extractive industries and manufacturing to services is another reason for decoupling not happening at the scale and pace needed. Thanks to digitalisation, many activities can be performed online and thus seemingly reduce the energy and resource consumption. However, ultimately many of these services require resource use (e.g. food delivery) and therefore generate an impact. In addition, digitalisation in itself demands energy use, e.g. data centres and their cooling needs. Moreover, while transition to a net-zero energy system may make the question about energy consumption irrelevant, the tremendous demand for materials needed for clean energy technologies, as mentioned, may actually lead to 'rematerialisation' of the economies.

The circular economy is already recognised as an essential tool to mitigate the increasing demand for materials, including rare earths and critical materials needed for renewables, and to minimise the environmental impact of the end-of-life stage of products. Nevertheless, the contribution of recycled materials back to the economy (substituting for primary raw materials) was less than 12 % in the EU in 2021.<sup>110</sup> Even if recycling rates improve, getting the circularity rate to 100 % in any economy is practically impossible. The supply of critical raw materials for renewables in the EU is a good example. There is simply not enough waste yet for recycling to match the growing demand in the very short term.<sup>111</sup> Therefore, while the circular economy is very important, **the recycling potential is limited**.<sup>112</sup> Furthermore, innovation may be an important driver of growth and can also contribute to solving environmental problems (see Section 2.2); however, **insufficient technological change**, such as deployment and replacement of polluting technologies and processes, slows decoupling. While renewable energy production is increasing, it is not necessarily replacing fossil fuels at the same rate. According to the International Energy Agency (IEA), in 2021 global renewable energy supply rose by 7 %, but its share in the total global energy supply increased by just 0.1 percentage points, reaching 5.2 %.<sup>113</sup>

Directionality of innovation is an important factor, which is set by the broader economic incentives and frameworks. As long as environmental impacts and life cycle footprints of products are not fully captured as a cost factor, innovation and technological progress is likely to continue to go more towards labour- and capital-saving innovations and products, as firms tend to economise on the

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<sup>108</sup> Berner A. et al., [Do energy efficiency improvements reduce energy use?](#), 2022. In addition, see Balezentis T. et al., [Exploring the limits for reaching increasing energy efficiency on the residential sector of the European Union](#), 2021.

<sup>109</sup> For more information, see [Recommendations on the use of Environmental Footprint methods](#).

<sup>110</sup> See the [EU Circular Economy Indicators](#).

<sup>111</sup> JRC, [Raw Materials Scoreboard](#), 2021.

<sup>112</sup> Giampietro M., [On the Circular Bioeconomy and Decoupling: Implications for Sustainable Growth](#), 2019.

<sup>113</sup> See [IEA](#), Renewables, 2022.

most expensive factors of production. At EU level, carbon pricing through the EU emissions trading system (EU ETS) and carbon pricing in general have been shown to have a positive impact on innovation towards climate mitigation. Nevertheless, in the absence of global carbon pricing there remains a risk of **carbon leakage and burden shifting** to those jurisdictions with less strict environmental regulation. Furthermore, other environmental impacts, not to mention ecosystem services, are still either discounted or not priced at all.<sup>114</sup>

Finally, decoupling has traditionally been measured according to economic growth (mainly in terms of GDP) rather than human wellbeing. For example, the Consumption Footprint Platform assesses the decoupling of the consumption footprint and domestic footprint of the EU and EU countries not only in terms of economic growth (as GDP) but also human wellbeing, as the Human Development Index (HDI). While the EU consumption footprint shows relative decoupling from GDP, there is no decoupling when it is assessed against the evolution of the HDI (see Figure 39 in Sanyé Mengual & Sala (2023)). This indicates that further efforts to reduce the environmental impacts of production and consumption activities are still required to achieve environmental decoupling when considering wellbeing aspects beyond economic growth.

### 3.2.2 Making peace with nature

In 2021, the United Nations Environment Programme (UNEP) synthesis report entitled 'Making Peace With Nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies' was published.<sup>115</sup> It identifies human-induced environmental changes as one of the impeding factors not allowing poverty and hunger to end, inequalities to be reduced and sustainable economic growth to be achieved. The report goes further to mention that natural capital needs to be included in decision-making and that environmentally harmful subsidies need to be stopped. Finally, the report acknowledges that everyone has a part to play in a shift from transforming nature to transforming their relationship with nature.

In line with this argument, the latest IPBES report<sup>116</sup> states quite explicitly that the current values and worldviews dominating western cultures, rooted in individualism, materialism and anthropocentric worldviews, are driving ecological breakdown. While these values are drivers of the current economic system, they are in turn constantly reinforced by it, through marketing and advertisement fostering extreme individualism, often at great cost to our mental health.<sup>117</sup>

These worldviews are deeply rooted in our western culture, as the relationship with other-than-human nature has been framed in terms of separation, objectification, and domination<sup>118</sup> since the very beginning of the scientific revolution.<sup>119</sup> IPBES introduces several 'life frames', aimed at capturing in broad terms the way humans relate to nature. They find that the dominant life frame in the West has been 'living from nature', in which 'nature is conceived as resources contributing to and providing conditions for human sustenance and prosperity'. In this worldview, nature is mainly seen through instrumental values, as a means to satisfy human needs and wants, and as such it is commodified and transformed into 'natural capital'. Diverse indigenous cultures, on the other hand,

<sup>114</sup> Venmans F. et al., [Carbon pricing and competitiveness: are they at odds?](#), 2020; Calel R. and Dechezlepretre A., [Environmental Policy and Directed Technological Change: Evidence from the European Carbon Market](#), 2016; Dasgupta P., [The Economics of Biodiversity: The Dasgupta Review](#), 2021.

<sup>115</sup> See [Making Peace With Nature](#), UNEP, 2021

<sup>116</sup> IPBES, [Summary for Policymakers of the Methodological Assessment of the Diverse Values and Valuation of Nature of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services](#), 2022.

<sup>117</sup> See e.g. Hari J., *Lost Connections: Why You're Depressed and How to Find Hope*, 2018.

<sup>118</sup> Merchant C., *The Death of Nature: Women, Ecology, and the Scientific Revolution*, 1980.

<sup>119</sup> Lent J., *The Patterning Instinct: A Cultural History of Humanity's Search for Meaning*, 2017.

have embraced a different frame, 'living as nature', in which humans are seen as deeply interconnected within the web of life, together with other-than-humans.<sup>120</sup>

Even though the whole life frame of western cultures will not change or significantly transform in a short period of time, sustainability science increasingly sees interventions on these values to be an essential leverage point for change.<sup>121</sup> Indeed, the IPBES suggests the need to move towards what they call 'sustainability-aligned' values, rooted in care, respect, and reciprocity with and for other humans and other-than-humans.

## Reflections from Part 1

The EU has been active in operationalising its green and inclusive growth policy, the European Green Deal, which puts carbon neutrality and decoupling economic growth from environmental damage, while ensuring inclusion, high on the EU agenda. As Part 1 has highlighted, though some indicators, such as CO<sub>2</sub>, might show a decoupling trend, the EU is struggling to deliver adequate societal structures to ensure wellbeing for all, and our consumption within the Union is far above our share when considering planetary boundaries. For social issues, it should be noted that the EU has less executive power than on environmental aspects.

The long-term priority objective of the 8th environment action programme for 2050, at the latest, is that 'Europeans live well, within planetary boundaries, in a well-being economy where nothing is wasted. Growth will be regenerative, climate neutrality will be a reality, and inequalities will have been significantly reduced'.<sup>122</sup>

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<sup>120</sup> See Chapter 2.3 of Anderson et al. in the IPBES values [report](#), 2022. Life frames are summarised in IPBES, Values Report, Chapter 1, p. 10 as: 'in the *living from nature* frame, nature is seen as a resource that contributes to, and provides conditions for human sustenance and prosperity. The *living with nature* frame sees nature as non-human, with its own interests, ecological processes or wild spaces, emphasizing stewardship and responsibility towards nature. The *living in nature* frame considers nature as land and landscapes, emphasizing belonging and place identity. In the *living as nature* frame, there is no separation between humans and nature; people are understood to be connected to nature physically, mentally or spiritually. This frame emphasises interdependence and reciprocity.'

<sup>121</sup> See e.g. Oliver et al., 2022, [A Safe and Just Operating Space for Human Identity: A Systems Perspective](#); Oliver T., 'Changing Human-Nature Relationships – Implications for Bioeconomy Strategy in [Exploring new visions for a sustainable bioeconomy](#), 2023; Abson et al., [Leverage Points for Sustainability Transformation](#), 2017.

<sup>122</sup> See the European Commission's environment action programme to 2030, [monitoring and reports](#).



## Part 2 – Welcome to the Anthropocene?

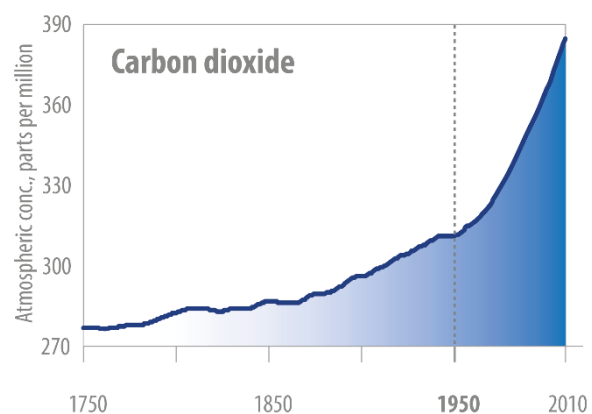
The Holocene Epoch, covering the past 11 700 years or so, allowed humans to flourish with its mild and rather stable climate, compared to earlier time periods. Though humans existed well before, all of humanity's recorded history has taken place in this period.

In 2000, Nobel Prize winner Paul Crutzen and biologist Eugene Stoermer suggested that our planet had moved into a new epoch – the Anthropocene. The Anthropocene, as the present geological time interval, has received increasing attention in scientific debate since 2000. It is broadly accepted as a period in which human impacts have grown into a state-altering force for many conditions and processes on Earth, moving us out of the Holocene Epoch.

Crutzen and Stoermer based their claim on the evidence of the scale of impact on Earth and its atmosphere stemming from population growth and resource extraction, visible at all scales from global to local. The authors suggested the late 18th century as the starting point of the Anthropocene, coinciding not only with the invention of the steam engine in 1784, but also with the start of growing concentrations of GHG found in glacial ice cores.<sup>123</sup> Not all agree with the term Anthropocene, which broadly places the 'shift' blame on all of humanity, and argue for an earlier start aligned with capitalism – the Capitalocene Epoch.<sup>124</sup> It is up to the Executive Committee of the International Union of Geological Sciences to decide on a new geological period; a working group under its auspices affirmed in 2019 that the idea merits further consideration and has identified nine potential markers to base the start of the period, though all fall in the mid-20th century. Ratification of a new period is still a way off.<sup>125</sup>

Research exploring linkages in Earth systems and impacts on these from human activity has also brought forward the mid-20th century as a defining point. The research lays out evolution in 12 key socio-economic trends from the start of the industrial revolution in 1750 to the present day. It then shows the simultaneous evolution in 12 Earth systems (see Annex 1 – The Great Acceleration for the full 24 graphs). This overlay of patterns showed, as the authors stated, that: 'The last 50 years have without doubt seen the most rapid transformation of the human relationship with the natural world in the history of humankind'.<sup>126</sup> The Great Acceleration graphs, as they were subsequently coined, is considered an iconic symbol of the Anthropocene and the best illustration of the unprecedented growth in population, economic activity and resource exploitation and the direct effects from this on Earth's life support systems – making human enterprise the main driver pushing us out of the Holocene.

Figure 6 – Atmospheric CO<sub>2</sub> concentration trend



Source: Steffen W. et al., [The trajectory of the Anthropocene: The Great Acceleration](#), 2015.

<sup>123</sup> Crutzen P. and Stoermer E., [Have we entered the Anthropocene?](#), 2000.

<sup>124</sup> Moore J., The Capitalocene, [Part I: On the nature and origins of our ecological crisis](#), 2017.

<sup>125</sup> See [results of binding vote](#) of the Anthropocene Working Group, released in May 2019, with details on the further process. See also the December 2022 process update, [Are we in the Anthropocene?](#), accessed on 23 March 2023.

<sup>126</sup> Steffen W. et al., [Global Change and the Earth System: A Planet Under Pressure](#), 2005.



In 2015, Will Steffen and others updated the socio-economic graphs to include shares linked to regional entities. They included 1) OECD countries, 2) BRICS countries (Brazil, Russia, India, China and South Africa) and 3) Others (the rest of the world).<sup>127</sup> Data until 2010 and with these divisions were only available for 10 of the original 12 trends, but responded to criticism received on the masking of equity issues in the original graphs. The subsequent analysis highlighted, in particular, the fact that accelerated population growth from 1950 is mainly attributed to BRICS countries and Others, yet the vast majority of real GDP growth remained within the OECD block (see Figure 7 and Figure 8). Thus, it shows the unequitable distribution of economic growth within the global economic system.

In March 2023, the EEA addressed the issue of the Anthropocene. It highlighted that what lies at the core of the Great Acceleration is humanity's capacity for techno-scientific advances and increases in living standards and life expectancy, but what drives environmental impacts today is increased consumption, as also illustrated in Part 1. The EEA report notes our current issues with uneven distribution and climate justice, whereas top polluters reap the gains and the lowest polluters get the pain. It concludes that there is no simple fix to the challenges of the Anthropocene and that it will require systemic changes. It highlights in particular the necessity of transforming our mindsets and paradigms – placing an emphasis on the issue of consumerism, in order to recognise the inherent value of nature, and not just seeing it as a source of capital.<sup>128</sup>

The debate in subsection 3.2.2 on values and relationships between us (humans) and them (other species) is relevant. The dominant discourse is not inclusive of nature, but focuses on the capital and resource value available to humans rather than intrinsic values and rights of nature broadly. According to the EEA, this points to weak sustainability, driven by economic logic, and as recently presented by the JRC, a need to reassess our relationship to and valuation of nature in policymaking.<sup>129</sup> Part 2 of this study dives into theoretical concepts, policy options and specific operational tools brought forward in the beyond growth debate to help realise sustainability transitions.

Figure 8 – Socio-economic trend – Population growth

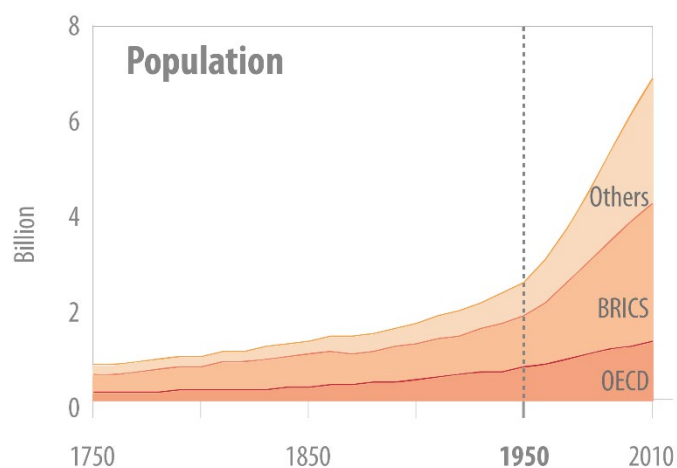
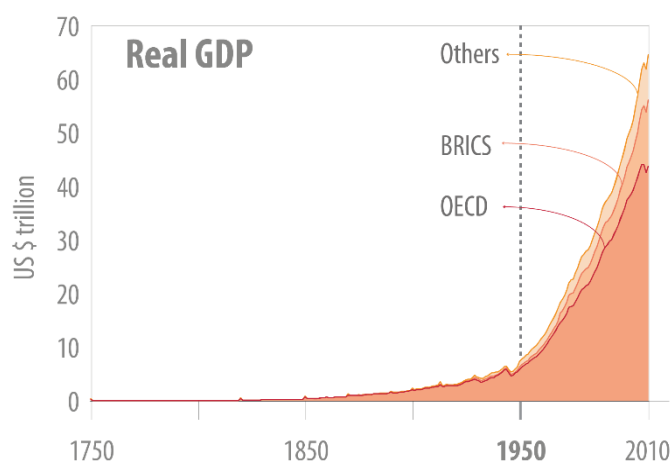


Figure 7 – Socio-economic trend – Real GDP growth



Source for both figures: Steffen W., et al. [The trajectory of the Anthropocene: The Great Acceleration](#). 2015. Adapted by EPRS.

<sup>127</sup> Steffen W. et al., [The trajectory of the Anthropocene: The Great Acceleration](#), 2015.

<sup>128</sup> EEA, [Exiting the Anthropocene? Exploring fundamental change in our relationship with nature](#), 2023.

<sup>129</sup> See JRC, [Exploring new visions for a sustainable bioeconomy](#), 2023.

## 4. Delivering societal transformations

Our society consists of several interconnected systems and actors, including households, businesses, various government levels and public institutions. We are intrinsically intertwined with our natural environment, yet the current economic frameworks are also deeply embedded in humanity's relationship with planet Earth. So how can we enable moving beyond growth?

In the context of environmental processes and global sustainability, the nine planetary boundaries introduced in 2009 are argued to be interdependent, and crossing one may shift others, or induce changes that would lead to further crossings and eventually phase shifts. Similarly, the impact on global supply chains and resulting shortages during the COVID-19 pandemic or the 2008-2012 financial crisis – and recent ongoing fall-outs from the collapse of Silicon Valley Bank – should be a stark reminder to decision-makers to look at global interconnectedness and interdependencies rather than just individual enterprises, institutions or sectors.

From the very local to the multilateral global level, it is important to consider the systems within which people, businesses and society at large are situated. Transformation depends on the overall system interlinkages, but transition starts with change at a specific point – and can lead to a transformed overall system. The dynamics are not always clear, and neither is the end result from them. This chapter touches upon the complexity of systems and gives examples of the important role of individuals and communities and how key concepts can be essential to drive a transformation of society towards a beyond growth state.

### 4.1 Complex systems thinking

Our society is a complex system: it is self-organising and behaves differently at different scales. It does not always respond to changing stressors in linear, continuous and predictable ways. Similarly, the relationship and interactions between social and ecological systems can be seen as intertwined into complex adaptive social-ecological systems, which co-adapt and co-evolve together.<sup>130</sup>

Thinking in systems is not only a different way of studying the world, but it presents a completely different paradigm compared to the reductionist, mechanistic, Newtonian view of the world which has dominated western culture since the birth of the scientific revolution. Preiser et al. speak of a new 'complexity worldview', which revolutionises the way we see the world. While a deep historical and conceptual discussion on systems thinking is outside the scope of this report, it is important to note that a crucial difference between reductionist and holistic ontology is that: 'A CAS-based worldview allows us to regard such **non-material causes, relations** and **organisational patterns as being real** and regard the emergent nature of phenomena as essential systemic properties.'<sup>131</sup> A consequence of this new worldview is that ideas and cultural traits become key drivers of change, and in the Anthropocene human imagination and human self-identity become planetary forces of change.<sup>132</sup>

<sup>130</sup> See e.g. Preiser R. et al., [Complexity-based social-ecological systems research: philosophical foundations and practical implications](#), The Routledge Handbook of Research Methods for Social-Ecological Systems, 2021.

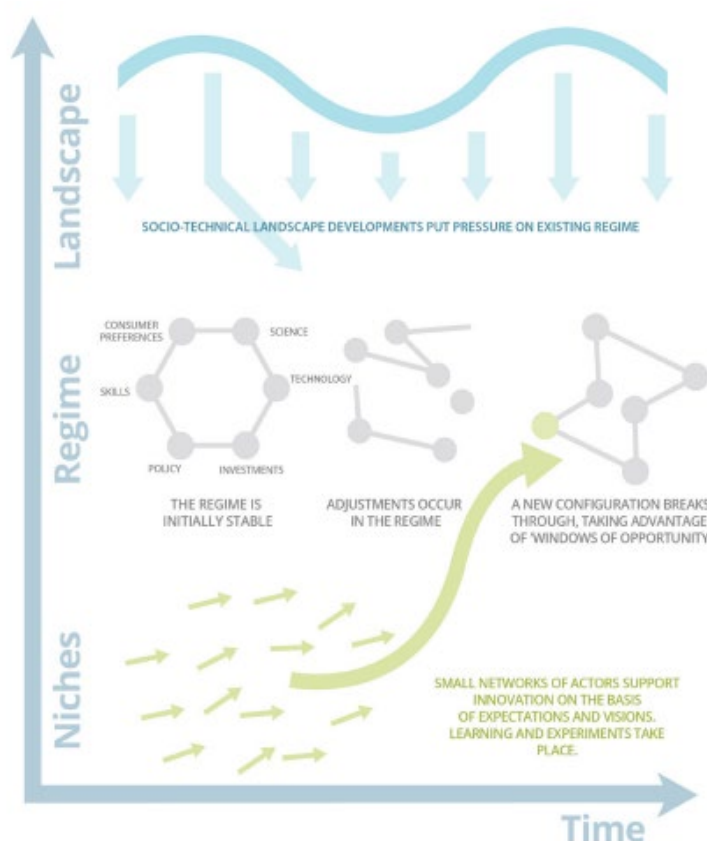
<sup>131</sup> Ibid, p. 35. CAS-based is an abbreviation for complex adaptive systems-based.

<sup>132</sup> Oliver et al., [A Safe and Just Operating Space for Human Identity: A Systems Perspective](#), 2022.

### 4.1.1 Fostering transitions and realising system transformation

Complex adaptive systems are characterised, among other principles, by non-linearity and complex causality.<sup>133</sup> Once stressors have pushed it beyond a 'tipping point', a sudden regime shift can occur. After that, even if stressors return to their previous levels, the system may not revert to the previous state. Instead, it may switch to a 'new normal', with losers and winners. One can think of disastrous climate tipping points, for instance the collapse of Greenland's ice cap.<sup>134</sup> Positive tipping points can also occur, opening up new avenues for systems innovation and renewal leading to transitions and eventually transformations. Researchers from the Dutch Research Institute for Transitions (DRIFT) argue that the terms 'transition' and 'transformation', often used interchangeably, stem from different research communities but have moved closer in recent years. They are not mutually exclusive but supplemental, providing different nuances. Transitions – meaning 'going across' – focus on the how and on the processes of supporting non-linear change from one state to the next. Transformations – meaning 'change in shape' – focus on what changes and what the systemic level outcomes are.<sup>135</sup> The multi-level perspective from transition research (see Figure 9 below), illustrates this difference in focus on process versus end result.

Figure 9 – Multi-level perspective on transitions



Source: Adapted from [Sustainability transitions: Now for the long term](#), EEA, December 2016.

<sup>133</sup> See e.g. Preiser R. et al., [Social-ecological systems as complex adaptive systems: organizing principles for advancing research methods and approaches](#), 2018.

<sup>134</sup> For more detail on tipping points, see the recent EPRS publication [Ten issues to watch in 2023](#).

<sup>135</sup> Hölscher K., Wittmayer J. and Loorbach D., [Transition versus transformation: What's the difference?](#), 2018. See also [DRIFT page](#).

Other researchers argue that differences are also found in the level of ambition and scale of change. Ramcilovic-Suominen (2023) points out the sectoral, policy or geographical focus in much of the transition literature, with the change processes embedded in existing traditions, institutions or political structures. Technological, policy and practice adjustments, supported by innovation and pathways thinking, often including social aspects for acceptance, is seen as the standard transition approach which, it is argued, delivers mainly incremental changes.<sup>136</sup> The European Green Deal, one could argue, fits well in this categorisation. Ramcilovic-Suominen argues that transformations break away from the dominant current ways of thinking and being, delivering large-scale societal shifts, through the questioning of systemic root causes and challenges. Feola (2020) expands on these arguments by critiquing sustainability transition research's lack of engagement in terms of questioning capitalism at the landscape level in its multi-level perspectives.<sup>137</sup>

Regardless of the distinction, which remains somewhat fluid, the use of either term often expresses a desire to shift from focusing on problems to focusing on solutions to instigate change.

#### 4.1.2 Identifying leverage and positive tipping points

Donella Meadows, lead author of the Club of Rome's 1972 flagship report 'The Limits to Growth', was a proponent of focusing on leverage points. As she famously noted, leverage points are places in a complex system where a small shift can lead to system-level changes. One point to note is the counterintuitive nature of many leverage points – such as economic growth. Meadows illustrates several examples of how we often know the main leverage points, yet continue to push them in the wrong direction, due to our assumptions as to how they should work, when in fact the positive push would come from the opposite application of the same leverage point.<sup>138</sup>

The question is how to avoid 'development cracks' (harmful tipping points and other changes, leading to a permanent degradation of our society and the environment) while managing and navigating useful levers to deliver system-level transformation. The quickly evolving discipline of transition management deals with persistent societal problems by exploring and furthering more sustainable systems, connecting complexity theory, social theories and insights from the field of governance (see DRIFT as an example in footnote 135).

The changes needed are multi-decade processes of fundamental transitions in a society's culture, structures and practices. They are intrinsically complex, showing elements of co-evolution (when different ingredients are shaping but not determining each other) and self-organisation. Transitions are vital for sustainable development, as this is a never-ending process of progressive social change, involving multiple transitions or system innovations.<sup>139</sup> The scale of change required is generally considered to involve 'radical transformations towards a sustainable society, as a response to a number of persistent problems confronting contemporary modern societies'.<sup>140</sup>

<sup>136</sup> Ramcilovic-Suominen S., Chapter 7 in Giuntoli J. et al., [Exploring New Visions for a Sustainable Bioeconomy](#), Joint Research Centre of the European Commission, 2023.

<sup>137</sup> Feola G., [Capitalism in sustainability transitions research: Time for a critical turn?](#), 2020.

<sup>138</sup> Meadows D., [Leverage Points: Places to Intervene in a System – The Donella Meadows Project](#), 1999.

<sup>139</sup> Kemp R., Loorbach D. and Rotmans J., [Transition management as a model for managing processes of co-evolution towards sustainable development](#), 2007.

<sup>140</sup> Grin J., Rotmans J. and Schot J., [Transitions to Sustainable Development: New Directions in the Study of Long Term Transformative Change](#), 2010.

As Otto et al (2020) point out, these societal changes may be induced by social tipping mechanisms, a contagious spread of behaviour or opinions in social networks. The 2001 book 'The Tipping Point' by Malcolm Gladwell views a tipping point as 'the moment of critical mass, the threshold, the boiling point'. The book identifies three key factors that can lead to such a social epidemic: the messenger (certain types of people are especially effective at spreading ideas), the presentation of the message (having a lasting impact), and the environment in which the message is delivered.

## 4.2 The role of citizens and communities

Every person belongs to different social groups: families, and communities based on a common language, interest, traditions, religion, political or social norms. Social capital – the strength of social ties, volunteering, interpersonal trust – is a resource for the future, and at the same time an important factor for coping with challenges and driving sustainability (and other) transitions. Social processes and human interactions are also sustainable satisfiers of human needs, which have been excessively commodified.

Communities provide an exchange mechanism that can be an alternative to markets: instead of explicit and one-off (market) transactions, communities may build on trust and relationships (repeated transactions).<sup>141</sup> Though community-based transactions have been on the decline both recently and historically, there is a growing recognition that giving them a more prominent role is crucial to cope with our current and future challenges.

### 4.2.1 Communities and coping

Relationships can facilitate access to credit and provide insurance, which are crucial ingredients for coping. Historically, these were provided by the community, but this role was later taken up by the market (debt contracts), and the state (sectoral and eventually universal social insurance). Though the market and the state tend to be more efficient in providing these services, relational elements have also retained an important role. They are particularly useful when monitoring the behaviour of 'debtors' is difficult, or there is limited contract enforceability. These can also enable an important community-based insurance mechanism. With their face-to-face interactions, communities can contribute to coping beyond providing insurance, as demonstrated by the following example.

Of all climate-related extreme weather events, heatwaves take the largest toll of human lives in EU countries, as well as in the US.<sup>142</sup> According to the JRC's Peseta IV study, the figure for the EU is expected to increase substantially even under the mildest scenario of 1.5°C global warming. Communities have been found to influence the mortality rates from heatwaves substantially. US sociologist Eric Klinenberg (2002) found that mortality rates during the deadly 1995 Chicago heatwave differed even among nearby neighbourhoods with similar demographic structures. Looking behind the numbers, he uncovered the fact that, in close-knit and safe communities, people had friends and family to visit them. Safe streets, stores and libraries offered escapes from the heat of private homes. People not showing up in libraries and other public spaces at their usual times prompted their friends to visit them, and thus discover risks to lives early. Pursuing this idea, Klinenberg argues in his 2019 book 'Palaces for the people' that shared spaces – libraries, childcare centres, churches and parks – can help us to face many of our societal challenges, including loneliness (see box below).

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<sup>141</sup> This distinction dates back at least to the classical work 'Gemeinschaft und Gesellschaft' (Tönnies F., 1887). Its treatment in this chapter draws mostly on Rajan, *The Third Pillar* (2019).

<sup>142</sup> See [EEA](#) and [Heat kills more in the U.S. each year than any other extreme weather event](#).

## Loneliness

**Loneliness** is increasingly recognised as a serious policy problem with detrimental effects on mental and physical health, as well as on **social cohesion and community trust**. The strength of a person's **social network and relationships** has been proposed as the most direct determinant of loneliness, with other factors affecting loneliness through it. All risk factors for loneliness ultimately relate to different aspects of people's social networks and personal relationships. Barjaková and Garneró (2022) emphasise that more than the mere size of the network, its **quality and functioning** matter. Hence, community approaches also play a role in mitigating loneliness. Examples of **community-based interventions** that aim to reduce loneliness by fostering connectedness and belonging include the coordination of resources and services at a local level, intergenerational housing, and group interventions.

See: Hawkey L. et al., From social structural factors to perceptions of relationship quality and loneliness: the Chicago health, aging, and social relations study, 2008, and Barjaková M. and Garneró A., Risk factors for loneliness, 2022. The JRC is working on the topic of loneliness in the framework of a project that the European Parliament assigned the European Commission Directorate-General for Employment, Social Affairs & Inclusion (see also the JRC Mapping of Loneliness Interventions).

### 4.2.2 Communities and transitions

Cuba's experience after the collapse of the Soviet Union is often viewed as an early and powerful illustration of the link between communities and sustainability transitions. The country was faced with a drastic drop in oil and food availability.<sup>143</sup> Its success in mobilising community power is an example of how society can respond to hardship and organise itself more sustainably. As Hopkins (2008) explains, the Transition Network propagates a similar community-based approach to sustainability transitions, enabling local but coordinated answers to global challenges.<sup>144</sup> Launched in 2005, the movement now has 25 hubs and over a thousand initiatives in over 80 countries.

The Paris Agreement recognises and engages local and sub-national governments in climate action. A major example of community engagement is the Covenant of Mayors for Climate & Energy. There are currently more than 11 500 signatories from the 27 EU Member States, covering almost 200 million inhabitants, many of whom have committed to conduct vulnerability and risk assessments, and develop, implement and report on adaptation plans. In the EU, an estimated 40 % of cities with over 150 000 inhabitants have adopted adaptation plans to protect citizens from climate impacts.<sup>145</sup>

A key ingredient for sustainability transition is a move towards a lifestyle of sufficiency; communities can facilitate this shift. Sufficiency, alternatively referred to as 'strong sustainable consumption', provides an alternative to the 'faster, further, more' orientation of the consumer society, by stressing the need to restrict resource consumption in line with the planetary boundaries.<sup>146</sup>

At the core of sufficiency strategies is the distinction between **needs** and **satisfiers of needs** (for example, education is a satisfier of the need for understanding). The standard neoclassical assumption is that while human needs are a man-made constant and limited in number, these are infinite when looking at satisfiers. However, empirical evidence and daily experience suggests that fundamental human needs are finite, while the quantity and quality of satisfiers for needs can vary. As an example, some needs can be well satisfied also by **social processes** and **human interactions**, rather than by only consuming material goods, as manifested by movements like urban gardening,

<sup>143</sup> See [The Community Solution](#) and [Environment and Society](#).

<sup>144</sup> See [Transition Network](#).

<sup>145</sup> See [COM\(2018\) 738 final](#), Report from the Commission to the European Parliament and the Council on the implementation of the EU Strategy on adaptation to climate change.

<sup>146</sup> Spangenberg J. and Lorek S., [Sufficiency and consumer behaviour: From theory to policy](#), 2019.



repair cafes, or slow food. In this context, sufficiency calls for needs satisfaction through different means, where material consumption is limited to the planetary boundaries.<sup>147</sup>

Sufficiency is also explicitly referred in the latest IPCC report on mitigation of climate change, which calls for more sufficiency policies in buildings (in combination with energy efficiency and renewable energy adoption), defined as 'a set of measures and daily practices that avoid demand for energy, materials, land and water while delivering human wellbeing for all within planetary boundaries'.<sup>148</sup>

To achieve sufficiency, citizens (above all, those on high incomes) are called upon to make substantial behavioural changes, but this is difficult if the **social environment** continues to reinforce the social norms around a product consumption;<sup>149</sup> the lens of behavioural economics could well fit the purpose of understanding how to promote those behavioural changes (see Section 6.5). Such behavioural shifts may be easier with community support, reinforcing positive examples, sharing practices, finding common solutions, and celebrating achievements together (see box).

At the same time, the call for behavioural changes to mitigate the consequences of climate change needs to be accompanied by structural measures to avoid jeopardising concerns around fairness.<sup>150</sup> For instance, the energy poor might already be forced into energy limiting behaviours to afford other basic needs, but in doing so they restrain their energy needs. Alternatively, they would be keen to meet their energy needs in a less polluting way, but, due to the distributive injustices in income and power they face, they could not afford or do not have the power to engage in alternative pro-environmental actions to meet their needs. That is why sufficiency will also aim to overcome poverty, not glorify it.<sup>151</sup> A mix of multi-aspect interventions should be designed to address the structural injustices that cause consumption limiting behaviours that do not enable the meeting of basic needs, like energy. As an example, energy renovation projects, which help reduce energy consumption, could be complemented by measures to support **trusted intermediaries**, as these latter enable the most vulnerable to strengthen their **coping capacities**.<sup>152</sup>

#### Citizens' energy communities

Energy communities as carriers of social innovation play a crucial role in the energy transition and are groups of individuals and organisations that come together to generate, manage and consume their own energy. They can take many forms, such as co-operatives, community-owned utilities, or neighbourhood-scale renewable energy projects.

Energy communities can help to decentralise energy production and distribution, making it more resilient and adaptive to local conditions. By owning and controlling their own energy systems, energy communities have more control over the energy mix, and can prioritise the use of renewable energy sources. They also help to democratise the energy system, by giving individuals and organisations a greater say in how energy is produced and consumed, and by creating new opportunities for community engagement and participation while helping to reduce energy poverty by providing access to energy for vulnerable groups and creating jobs and economic opportunities in the local area.

Source: JRC, [Energy Communities: An Overview of Energy and Social Innovation](#), 2020; Lupi V. et al, 2021.

<sup>147</sup> Spangenberg J., [Institutional change for strong sustainable consumption: Sustainable consumption and the degrowth economy](#), 2014.

<sup>148</sup> IPCC, [Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change](#), 2022.

<sup>149</sup> Speck M. and Hasselkuss M., [Sufficiency in social practice: searching potentials for sufficient behavior in a consumerist culture](#), 2015.

<sup>150</sup> Della Valle N. and Sareen S., [Nudging and boosting for equity? Towards a behavioural economics of energy justice](#), 2020.

<sup>151</sup> Spangenberg J. and Lorek S., [Sufficiency and consumer behaviour: From theory to policy](#), 2019.

<sup>152</sup> Della Valle N. and Czako V., [Empowering energy citizenship among the energy poor](#), 2022.



The digital transition, with automation and the spreading use of AI technologies, is expected to transform the nature of work and put major pressure on people and firms to change and adjust. As argued earlier, communities can play an important role in providing an extra safety net to face such challenges. Digital technologies can help communities to communicate and organise themselves. Social media and other channels can expand the geographical reach of communities. People can benefit from simultaneous access to multiple communities, though the resulting interpersonal ties are likely to be weaker. More open and dynamic communities can expand the range of relationship-based exchanges and potentially increase the capacity to cope with changes. Moreover, employment is not just paid market work: it also includes work at home and in communities, and has an important intrinsic value. Some researchers argue that 'jobs provide not only income but also other mental services such as meaning, dignity and fulfilment to humans'.<sup>153</sup> Others highlight that one needs to tackle both the question of how to 'shape a society in which people can find fulfilling ways to spend their time', and how to provide a 'stable and fair distribution of income'.<sup>154</sup> This gives communities not only an important role but a major opportunity, too.

In practical resilience-building and transition management, citizen engagement is essential. Citizens need to be prepared and equipped with tools and knowledge. Public debates, training, and exercises on these subjects would ensure that citizens trust in their institutions and values. Kuik et al. (2016) and Hernández-González and Corral (2017) argue that such participatory approaches raise awareness and increase citizen engagement in shaping policies, from the very beginning to the end of the process. According to Sharifi (2016), unlike top-down approaches that are mainly outcome-based, they take account of the significance of the decision-making process itself.

#### 4.2.3 The state, markets and communities: A need for rebalancing?

In his 2019 book 'The Third Pillar', renowned economist Raghuram Rajan makes a case for the importance of communities: 'The proximate community still helps define who we are. It gives us a sense of empowerment, an ability to shape our own futures in the face of global forces. It also offers us help in times of adversity when no one else will.' He calls for restoring the balance among the state, markets and the community, as 'the appropriate offset to an expansion in the market cannot be an expansion in the powers of the state, it has to be a strengthening of the community through local empowerment'. His proposed **inclusive localism** would give communities decentralised power at the local level. More empowered communities could address the 'relational crises', and the need for 'social embeddedness', touched upon earlier in this study. At the same time, communities could enable people to maintain their various identities (cultural, ethnic, religious, or various minorities) while agreeing to a set of shared values and laws at the country or global level.

Kate Raworth, the developer of 'doughnut economics' (see Section 5.6), went even further in a 2022 interview and her intervention at the 2022 ESPAS conference.<sup>155</sup> She argued that 'it may well be that actually public provisioning or commons provisioning is a far more effective starting point than the market'. In her view, moving 'beyond markets' is a crucial step for sustainability.

Recent research also points to the importance of social identity, arguing that our social affiliations influence our values and moral code. Taking this further, groups or individuals with a stronger sense of global identity and citizenship often make more environmentally friendly consumer choices.<sup>156</sup>

<sup>153</sup> Korinek A. and Stiglitz J., [Artificial Intelligence and Its Implications for Income Distribution and Unemployment](#), 2019.

<sup>154</sup> Stevenson B., [Artificial Intelligence, Income, Employment, and Meaning. In: The Economics of Artificial Intelligence: An Agenda](#), 2019.

<sup>155</sup> See [Rethink Endless Growth With Doughnut Economics](#).

<sup>156</sup> Oliver T. et al., [A Safe and Just Operating Space for Human Identity: A Systems Perspective](#), 2022.

## 5. Strategies to go beyond growth

Chapter 5 offers examples of policy frameworks and strategies, either already implemented or put forward, that aim to address some of the shortcomings of our current socio-economic system. The chapter starts out by presenting core steps for the development of mission-oriented policies and their key characteristics. It then moves on to present existing policy frameworks, aiming to deliver improvements on social and environmental aspects, either individually or both at the same time. This will include the 2017 European Pillar of Social Rights, followed by the universally agreed UN 2030 Agenda with the Sustainable Development Goals (SDGs). In Section 5.4, we present the EU resilience strategy, tightly linked to the Union's implementation of the SDGs, with its new feature of resilience dashboards integrated into the European Semester. The chapter will conclude its presentation and analysis of existing frameworks with the Wellbeing Economy, adopted in 2019 by the European Council, with European Semester indicators as well.

The specific frameworks that we touch upon in sections 5.2 and 5.3 seek to address key issues fuelling the beyond growth debate. In doing so, they address social and environmental concerns of the growth-based economy, though they seek to do so in tandem with continued growth. In Section 5.4 we present the concept of resilience as a framework for sustainability. Resilience approaches can be integrated within a growth-driven society; however, its aspirations lie beyond growth.

The chapter will round off by presenting two far-reaching proposals for economic policy frameworks to move beyond growth and fully integrate social and climate justice, equality and planetary boundaries into the functioning of societies. This concerns, firstly, doughnut economics and, subsequently, the recently proposed Earth4All model framework.

### 5.1 The mission-oriented policy approach

A mission-oriented policy aims to address a societal challenge. It increases the impact of public policy by triggering synergies at various levels. The mission's rationale goes beyond fixing market failure, to pursuing the design of new markets and activities, which are instrumental to reaching the goal. In the EU, as illustrated in Section 2.3, the European Green Deal can be seen as the most ambitious mission-oriented policy today. Conceptually, a mission-oriented approach builds on five complementary pillars: directionality, actors, experimentation, learning, and upscaling.<sup>157</sup>

Setting a **directionality** in public policy might seem, but is not, straightforward. First, the direction must be *legitimate*, based on a transparent process, high-level communication and clear target-setting. The objective of the mission must be understandable, connecting to the aspirations and dreams of large parts of the population, or to solutions of perceived threats. Consequently, the mission must be supported at the highest political level (at the centre of government), and widely communicated in speeches by the head of state. Ideally, the target-setting process must aim at an objective that is measurable, with a *sufficiently high level of granularity* to be concrete and tangible. The best objective is a quantified target set within a timespan, allowing actors to adjust and reorient. Finally, the objective of the mission must be comprehensive, at a *sufficiently low level of granularity* to allow for the involvement of several policy areas, synergies with alternative strategies, and the use of different policy mixes and industrial interfaces, resulting in alternative solutions.

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<sup>157</sup> This academic reflection of the design of mission-oriented policy is inspired by a collective effort of many leading scholars in innovation policy, in particular Mariana Mazzucato (2018, 2019), the ESIR expert group report (2017) led by Luc Soete et al., the RISE expert group mission report (2018) by Luke Georghiou et al., studies by the Joint Institute for Innovation Policy (2018) ([Mission-oriented research and innovation](#)), and the OECD (2021).

Second, the mission must be *credible*, i.e. ambitious but achievable. To back up the ambition, the policy must have stability over time, with a sufficient level of scale and scope to leverage private investment and modify the existing framework conditions, setting in place a movement of change. Therefore, public authorities must mobilise all available policy levers in the same direction – resources (investment), regulations, reforms, and fiscal measures. Finally, the mission must be *resilient* over time. Typically, the mission sets a target within a medium-long time span, which contrasts with short-term pressures on the policy process in terms of external shocks, crises, or discontinuities. In many cases, the transformation set in place by the mission will meet resistance from both dominant groups (fighting for the status quo or defending sunk costs) and vulnerable groups (risking job losses or further exclusion). Policymakers leading the mission over time must show persistence and solidarity in a process of creative policy resilience.

Introducing directionality in public policy creates 'traction'; a positive energy mobilising '**actors-of-change**'. Citizens and end-users value the legitimacy and inspirational dimension of the directionality, while entrepreneurs and investors will call for credible and stable framework conditions with a granularity allowing for multiple innovations with the potential for large-scale new markets. Policymakers can position themselves either top-down or bottom-up.

In broad terms, there are two types of missions: 'accelerators', focusing on reaching the objective faster than business-as-usual policy, and 'transformers', requiring a systemic, sometimes even societal transformation to reach the objective. The more transformative a mission is, the larger the number of actors involved and the tension between actors-of-change and actors-of-resistance. A mission must have strategies to address resistance, since it also involves 'creative destruction'. A transformative mission engages both supply- and demand-side actors and cut across sectors. Actors can be individuals or networks, public-private partnerships, organisations or firms. Last but not least, the actor approach must include initiatives to enable upskilling of and incentives for the civil servants who manage the mission.

**Experimentation** is closely associated with innovation. From the outset of the mission, nobody knows which solutions will emerge and if they will be complementary or sufficient. The traction created by the directionality, the transposition of regulations, the launching of portfolios of projects and the mobilisation of actors will also catalyse change at local level. Without place-based innovation for sustainability, there is little probability of real-life transformation on the ground. The top-down traction must be accompanied by proactive bottom-up engagement and creativity. There is no single solution that fits optimally everywhere, in each context. From an experimentation perspective, a central question will be how Europe's cultural and social diversity can be turned into a competitive advantage. How can experimentation capitalise on Europe's diversity to show how products and services can be customised in different environmental settings, and how different solutions trigger transformation in different cultural and social environments, creating both social and economic value?<sup>158</sup>

Such experimentation will have to be accompanied by continuous (real-time) and transparent monitoring and **learning** over time and across different places and locations. Progress indicators and reporting systems will use traditional data and scientific analysis as well as more recent altmetrics and citizen participation. The overall purpose is three-fold: provide learning for entrepreneurs to advance or pivot, for policy governance to confirm or revise decisions, and for citizens to follow and debate progress. What works and what does not? Are we on track in our roadmaps? What can we improve? Who can help? Is everyone on board, leaving no one behind?

<sup>158</sup> European Commission, Directorate-General for Research and Innovation, [Europe's future – open innovation, open science, open to the world: reflections of the Research, Innovation and Science Policy Experts \(RISE\) High Level Group](#), 2018.

Where has 'destructive creation' occurred and how can it be alleviated? When analysing why a specific mission has been successful in making progress or not, it will be essential to consider each building block in the design of a mission-oriented policy: the directionality, experimentation, actors, learning, and scale-up. This is not a linear, but a circular process, with many loops and backlashes.

A mission-oriented policy triggers action at multiple levels, involving a variety of actors: global firms and investors, innovative SMEs, clusters and local firms, industrial alliances and European partnerships and projects or community initiatives. Solutions emerge in Member States, regions, cities, villages and islands. Some solutions will have the scale to become commercialised in global markets. Other solutions will remain small-scale and local, calling for **upscaling** through collaboration between firms or territories. This may require standardisation of customised solutions, or investment in larger-scale manufacturing or service delivery. Connecting new value chains can ensure that manufacturing and service jobs are generated or maintained in Europe, while lowering unit costs at the same time. Finally, spillovers to other industries and systems can contribute to industrial diversification and new products in previously unrelated sectors.

Since the current Commission entered into office in November 2019, it has launched five European missions.<sup>159</sup> In addition to this, the overarching European Green Deal initiative has many features of mission-oriented policy (see Section 2.3).

## 5.2 European Pillar of Social Rights

Building on earlier strategies<sup>160</sup> and communications,<sup>161</sup> the Juncker Commission (2014-2019) sought to advance the social dimension of the EU, rebalance economic policies with social considerations and reconnect with EU citizens, while promoting higher social standards.<sup>162</sup> The European Pillar of Social Rights (the Pillar) was jointly proclaimed by the European institutions at the Gothenburg summit in 2017, to 'serve as a compass towards a strong social Europe that is fair, inclusive and full of opportunity'. It sets out **20 principles** in three main areas: (1) equal opportunities and access to the labour market, (2) fair working conditions, and (3) social protection and inclusion. All EU countries agreed to implement the 20 principles and the Pillar has been integrated into the European Semester process.<sup>163</sup> Non-binding legally, the Pillar does not give the EU any extra power or competences. However, its delivery is a shared responsibility for the EU institutions, national, regional and local authorities, social partners and civil society.

An action plan, adopted under the von der Leyen Commission at the Porto summit in 2021, translated these principles into concrete actions and established three headline targets to be achieved by 2030: (1) at least 78 % of the population aged 20 to 64 should be in employment, (2) at least 60 % of all adults should be participating in training every year, and (3) a reduction of at least 15 million in the number of people at risk of poverty or social exclusion. Considered against the data

<sup>159</sup> See [COM\(2021\) 609 final](#) on European Missions, addressing cancer, carbon-neutral cities, climate adaptation, clean soil and restoring oceans and water. The missions are established in the Horizon Europe regulation.

<sup>160</sup> The 2000-2010 [Lisbon strategy](#) sought to make the EU 'the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion' by 2010. The [Europe 2020 strategy](#) outlined reorientation towards smart, sustainable and inclusive growth (2010-2020).

<sup>161</sup> Communication from the Commission to the European Parliament and the Council on strengthening the social dimension of the Economic and Monetary Union, [COM\(2013\) 690 final](#).

<sup>162</sup> Pochet P., 'From the enlargement to the crisis: from no European social dimension to a questioning of European social policies (2005-2015)', [Social policy in the European Union 1999-2019: the long and winding road](#), OSE-ETUI, 2020.

<sup>163</sup> See European Commission, [The European Pillar of Social Rights in 20 principles](#) and [The European Semester](#). See also Section 6.1.

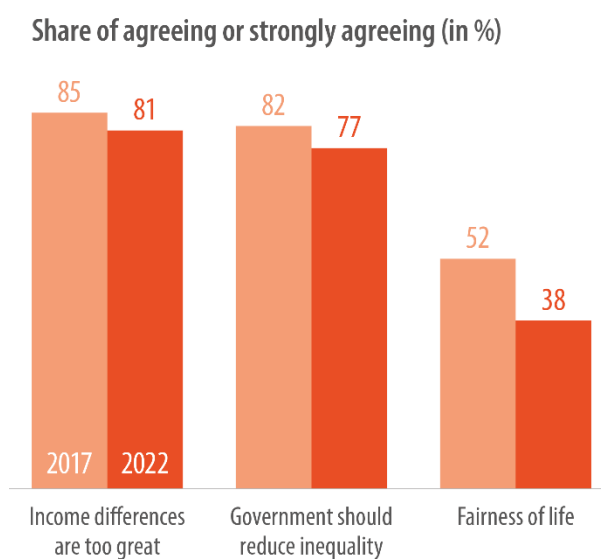
available, these headline targets are ambitious. The employment rate was 72.4% by the end of 2020, after the pandemic had reversed previous progress, 37% of adults were participating in learning activities in 2016 and around 91 million persons (of which 17.9 million were children aged 0-17) were at risk of poverty or social exclusion in the EU in 2019.<sup>164</sup>

In June 2022, EU employment and social affairs ministers presented their national targets. Combined together, these commitments would achieve the headline targets of employment (78.5%) and poverty reduction (15.6 million), but not the one for skills (57.6%). What is more, the social and economic consequences of the Russian war on Ukraine added further challenges and increased pressure on public services in a number of EU countries. The European Commission will monitor the implementation of the targets in the 2023 cycle of the European Semester.<sup>165</sup>

The employment and social performance of EU Member States is monitored, covered regularly in the Joint Employment Report and has been gradually incorporated into the European Semester. The Social Scoreboard of key indicators has been developed, which also serves as a reference framework to measure 'societal progress'.<sup>166</sup> Most of the data are provided by Eurostat and come mainly from social statistics collected within established surveys such as the EU Labour Force Survey or the EU Statistics on Income and Living Conditions.<sup>167</sup> In addition, several monitoring and benchmarking frameworks are used in analytical assessments in the EU.<sup>168</sup>

Beyond these indicators, which are based mostly on data from quantitative surveys, the Commission also conducts thematic surveys reflecting people's perceptions (qualitative surveys). For instance, the JRC, in collaboration with the Directorate-General for Employment, Social Affairs & Inclusion (DG EMPL), carried out a Special Eurobarometer survey to capture aspects relevant to fairness, inequality and intergenerational mobility in 2022. A similar survey was conducted in 2017, allowing some trend analysis in public opinion over five years, spanning the pandemic.<sup>169</sup>

Figure 10 – Inequality concerns and fairness perceptions in the EU



Source: Special Eurobarometers [471](#) and [529](#), EU-27 averages (population weighted).

<sup>164</sup> See European Commission, [The European Pillar of Social Rights Action Plan](#).

<sup>165</sup> See European Commission, [2023 European Semester: Proposal for a Joint Employment Report](#), Section 1.3: EU headline and national targets by 2030, pp. 29-33.

<sup>166</sup> See Eurostat, [Social scoreboard of indicators](#). It covers 18 out of 20 Pillar principles (those not covered are principles 7 and 8). The 2021 data show as indicators, with the largest number of Member States in 'critical situations': early leavers from education and training, gross disposable household income (GDHI) per capita, the share of people at risk of poverty or social exclusion (AROPE) rate for children, and the impact of social transfers (other than pensions) on poverty reduction.

<sup>167</sup> See Eurostat, [Employment and unemployment \(LFS\) – Overview; Income and living conditions \(EU-SILC\) – Overview](#).

<sup>168</sup> See European Commission, [Monitoring and benchmarking frameworks](#).

<sup>169</sup> See Eurobarometer on [Fairness, Inequality and Inter-Generational Mobility](#) and [Fairness, inequality and inter-generational mobility](#).



The outcomes show that in 2022, more EU citizens agreed rather than disagreed that, overall, most of the things that happen in their lives are fair and that they have equal opportunities to everyone else in their country. However, since 2017, perceptions of life fairness have decreased in many EU countries (by -14 percentage points, the most prominent downward trend), especially among young people and students. In contrast, the level of concern about income inequality, while remaining high, decreased slightly (from 85 % to 81 %). Obtaining a good education and working hard are still seen as the two most important factors for success in life. As before the pandemic, the majority of respondents would support more spending on certain social aspects, in particular health care, long-term care and education, but also pensions, housing, income support and families.

Building on the policy momentum, the von der Leyen Commission put forward strategies or actions on most Pillar principles, within the limited competences granted by the Treaties, in a rapidly evolving global context and often with the pandemic acting as a catalyst.<sup>170</sup> EU funding has also been better geared to the Pillar.<sup>171</sup> Two recent major EU strategies, the 2019 European Green Deal and the post-pandemic EU recovery strategy, Next Generation EU (NGEU), both have the 'green transition' among their key objectives. Both strive for a just transition approach that combines policies in economic, environmental and social areas in a compatible and, if possible, mutually reinforcing way. Though the desired outcomes and action areas are defined, it remains to be seen to what extent the specific policies to meet such objectives simultaneously will prove efficient.

In the European Green Deal, the Commission affirms that it will improve the wellbeing and health of citizens in a number of ways, including the provision of future-proof jobs and skills training for the transition. Nevertheless, the transition also entails concerns. The most often cited ones are the socio-economic consequences of closing down carbon-intensive industries, higher costs for energy and fuel, declining living standards as well as possible political instability resulting from public discontent with the implementation of the Deal. New funding mechanisms seek to partially address such concerns.<sup>172</sup> It appears, however, that more is needed – for instance, training workers for jobs that are environmentally and economically sustainable in the long term.<sup>173</sup>

In the 2021 NGEU, the regulation establishing the RRF sets up quantitative thresholds for spending on climate and digital targets.<sup>174</sup> In comparison, the spending on social issues is formulated in vague terms, even though Member States have to report on how their national recovery and resilience plans contribute to the implementation of the Pillar.<sup>175</sup> No minimum spending shares were imposed and the effort in the national plans is clearly tilted towards spending on 'green' targets. This imbalance between social objectives on the one hand and fiscal and green priorities on the other raises the risk that the reforms and policies will not be sufficiently embedded in a social framework.<sup>176</sup>

The Conference on the Future of Europe, a citizen-led series of debates that ran from April 2021 to May 2022, mapped a path for addressing the weaknesses in the EU system. The solutions proposed

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<sup>170</sup> OSE-ETUC, [Social policy in the European Union: state of play 2022](#), 2023.

<sup>171</sup> See European Commission, [European Social Fund Plus](#).

<sup>172</sup> The [Just Transition Fund](#) supports the territories most negatively impacted by the transition towards climate-neutrality, targeting their economic diversification and reconversion. The recently adopted [Social Climate Fund](#), should, among other objectives, support vulnerable households at risk of energy or mobility poverty.

<sup>173</sup> ECFR, [Europe's green moment: How to meet the climate challenge](#), 2021.

<sup>174</sup> See European Commission, [Recovery and Resilience Facility](#) and [Regulation \(EU\) 2021/241 establishing the Recovery and Resilience Facility](#).

<sup>175</sup> See the [EPRS series](#) for more details on the national recovery and resilience plans of each Member State.

<sup>176</sup> ETUI, [Balancing Objectives? Just Transition in National Recovery and Resilience Plans](#), 2022.

to deal with some of these shortcomings included recommendations for Treaty changes, among others in health and social policy areas.<sup>177</sup>

Within the European Semester process, EU Member States annually receive country-specific recommendations (CSRs), made by the Council on a proposal from the Commission. An analysis of the 2022 CSRs<sup>178</sup> has concluded that, while the 2022 CSRs do pay attention to the social dimension, compared to the pandemic-influenced 2020 CSRs, there is a renewed emphasis on sustainable public finances and the macroeconomic situation of EU countries, temporarily relaxed during the pandemic.

### 5.3 UN Sustainable Development Goals

The 17 Sustainable Development Goals (SDGs, 2015-2030), the core part of the UN 2030 Agenda (2015), aim to end poverty, protect the planet, and ensure prosperity and peace. The SDGs were conceived as integrated, indivisible and intrinsically connected. Social, economic and environmental objectives all need to be achieved simultaneously and universally by all countries, richer and poorer ones. Under the UN's auspices, national governments carry the primary responsibility for implementing the SDGs and they have committed to reporting systematically on progress towards achieving them (even though the goals are voluntary in nature).<sup>179</sup>

#### Integration of the SDGs in EU policymaking

The von der Leyen Commission has committed to make the SDGs a guiding principle for all EU policies. The interconnected nature of the SDGs translate into what the Commission calls a 'whole of government approach', i.e. comprehensive policymaking, taking into account the fact 'that most SDGs contribute to varying degrees, to several priorities'. This is notably reflected in broad frameworks, such as the EU Green Deal, the Annual Sustainable Growth strategy, or the policies addressing the COVID-19 outbreak (common European response) and recovery (Next Generation EU). The EU statistical office has adapted its SDG indicators in order to assess trends towards measurable targets – mostly for 2030 – as these targets are clearly laid down in a growing number of EU policies or strategies (some of the strategies are discussed in other sections of this study). Since 2015, the Commission has been monitoring the status and progress of EU Member States towards the SDGs, based on the EU's set of indicators.

Main sources: European Commission's webpage on the [EU holistic approach to sustainable development](#); Eurostat's [monitoring report on progress towards the SDGs in an EU context](#), 2022 edition. Find data [here](#).

A widely accepted conceptualisation of the SDG framework highlights that social justice and economic wellbeing cannot be achieved without the support of healthy ecosystems, and vice versa. This is well illustrated in the 'wedding cake' representation of SDGs (see Figure 11) that considers the biosphere as the foundation for economies and societies. In this hierarchical visualisation, the biosphere and related SDGs stay at the basis of the cake. These are 'non-negotiable' SDGs to achieve social goals, the economy being a means of achieving these goals. This representation of SDGs emphasises society's and the economy's dependency on the wellbeing of ecosystems in the biosphere – thus moving away from the classical conceptualisation of three separate pillars of sustainability (social, economic and environmental) all at the same level of importance.

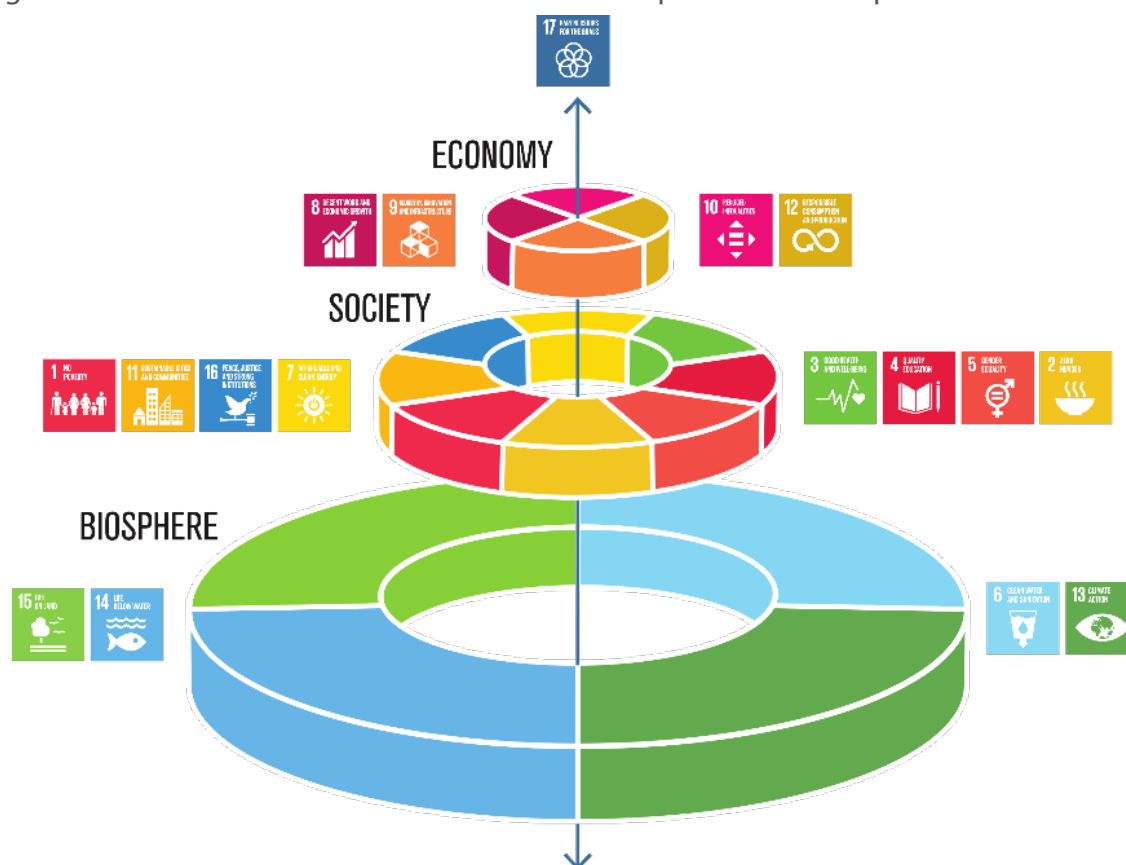
<sup>177</sup> See European Commission, [Conference on the Future of Europe](#); the [Report on the final outcome](#); The European Council, [Timeline – Conference on the Future of Europe](#); the European Parliament, [Parliament activates process to change EU Treaties](#).

<sup>178</sup> ETUI, [The 2022 Country Specific Recommendations in the social field: quo vadis, EU recovery? An overview and comparison with previous European Semester cycles](#), 2022.

<sup>179</sup> Between 2016 and 2022, 291 [national reviews](#) were submitted.



Figure 11 – Economies and societies as embedded parts of the biosphere



Source: Azote for [Stockholm Resilience Centre](#), Stockholm University ([CC BY-ND3.0](#)).

Each SDG includes a number of specific, often quantified, targets for 2030. There are 169 targets in total for the 17 SDGs. Progress towards a target is measured with recommended indicators.<sup>180</sup> Its wide range of indicators (qualitative and quantitative) and data collection methods undoubtedly put the SDG monitoring framework beyond the mere measurement of GDP. However, the 2030 Agenda does not reject GDP growth, provided it is not contradictory to achieving the SDGs.

As a compromise between all the UN member states, SDGs do not question the dominant liberal structure of the global economy<sup>181</sup> – from which it also borrows the vocabulary of performance (goals, targets, indicators). Economic growth is actually part of the SDGs, specifically in SDG8 (Decent work and economic growth). Economic growth and productivity are included as targets to achieve the SDGs – with GDP growth as an indicator – notably in developing countries where it is assumed that growth is needed to lift people out of poverty (see Table 2). These targets should be reached without compromising the achievement of social, climate, or environmental targets, as laid down notably in SDGs 3 (Good health and wellbeing), 6 (Clean water and sanitation), 13 (Climate action), 14 (Life below Water) and 15 (Life on Land). To this end, the UN member states should 'endeavour to decouple (see subsection 3.2.1 above) economic growth from environmental degradation' (SDG 8) and individuals and companies should minimise their waste and carbon footprint (SDG 12 (Responsible consumption and production)).

<sup>180</sup> The Inter-agency and Expert Group on SDG Indicators ([IAEG-SDGs](#)), composed of UN organisations' and UN member states' representatives, drafted and regularly reviews a [global indicator framework](#) for the SDGs.

<sup>181</sup> Several research articles contending this view are listed in Robra B. and Heikkurinen P., [Degrowth and the Sustainable Development Goals](#), in [Decent Work and Economic Growth](#), Encyclopedia of the UN Sustainable Development Goals, online, accessed on 6 February 2023.

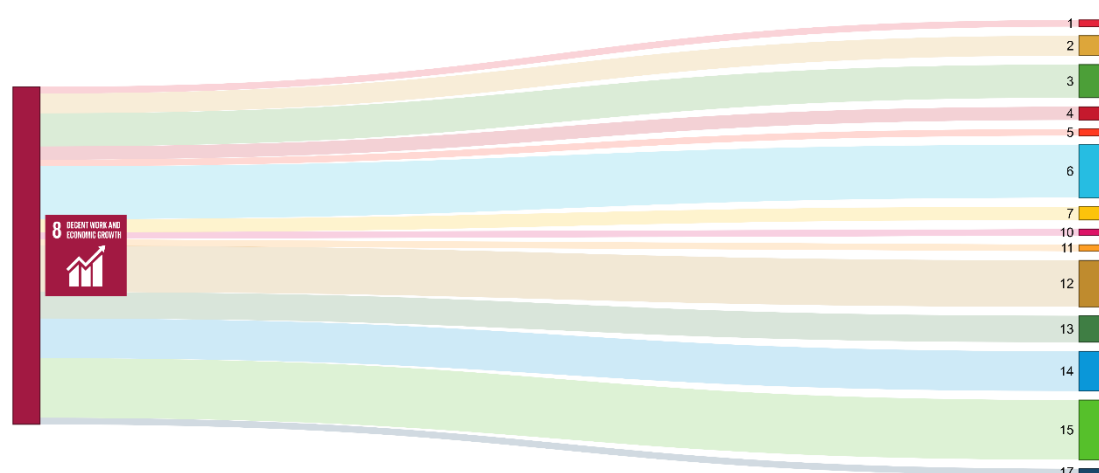
Table 2 – GDP, productivity and their decoupling from environmental degradation in SDG 8

SDG 8 – Decent work and economic growth	
Targets	Indicators
8.1 <b>Sustain per capita economic growth</b> (...) in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries	8.1.1 Annual growth rate of real GDP per capita
8.2 <b>Achieve higher levels of economic productivity</b> (...)	8.2.1 Annual growth rate of real GDP per employed person
8.3 Promote development-oriented policies that <b>support productive activities</b> , decent job creation (...)	8.3.1 Proportion of informal employment in total employment, by sector and sex
8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and <b>endeavour to decouple economic growth from environmental degradation</b> (...)	8.4.1 Material footprint, material footprint per capita, and material footprint per GDP 8.4.2 Domestic material consumption, per capita, per GDP

Source: [SDG Indicators](#), UN Department of Economic and Social Affairs (emphasis added).

As SDGs are indivisible and must all be achieved simultaneously, their interactions in terms of synergies and trade-offs must be carefully accounted for, as some trade-offs might be difficult to reconcile (see Figure 12). In particular, as Coscieme et al. (2020) point out, the GDP indicator for SDG 8 seems to be incompatible with the need to reduce production and consumption patterns and limit pressures on resource use and the environment, thus endangering the success of many other SDGs. The pursuit of growth can lead to environmental degradation and the depletion of natural resources, which can harm the sustainability of the planet and future generations. The JRC notably pointed out 'the inverted relationship between socio-economic goals and environmental ones, in particular SDG 12 (responsible consumption and production) and SDG 13 (climate action) ... The negative relationship between goals is a sign of trade-off, whereby some countries that have poor performance on SDG 12 and SDG 13 have good performance on all the other goals and vice-versa'.<sup>182</sup>

Figure 12 – Trade-offs between SDG 8 and other SDGs, based on a literature review



Line thickness depends on the number of publications that record the trade-offs existing between two SDGs. Source: [JRC interlinkages tool](#), based on a detailed literature review of SDGs interlinkages.

<sup>182</sup> [JRC Statistical Audit](#) of the Sustainable Development Goals Index and Dashboards, 2019.

Several (richer) countries have managed to follow 'decarbonisation pathways'<sup>183</sup> and to sustain GDP growth while reducing their CO<sub>2</sub> emissions. However, the former still goes hand in hand with the latter in most low- or middle-income countries.<sup>184</sup> Developing countries do not dismiss the objective of sustained growth to reduce inequalities<sup>185</sup> – SDG 8 even sets a target of 7 % GDP growth per year for least developed countries (LDCs) – even though they acknowledge that they cannot follow the same path as industrialised countries but should 'leapfrog' to resource-efficient development.<sup>186</sup> However, several analysts contend that, globally, replacement of fossil fuels by renewables will not be quick enough to cover energy needs if the economy continues to grow at the usual rates. In other words, the pace of decoupling will be insufficient to meet the +1.5°C or +2°C targets to limit global warming.<sup>187</sup> Furthermore, fossil fuel exports still provide revenues to many low- and middle-income countries, notably in Africa, with increased prospects due to the high oil and gas prices and shortages induced by Russia's war on Ukraine.

Trade-offs between economic growth and social sustainability are also possible – for instance, a widening income gap between rich and poor, with the wealthiest members of society benefiting disproportionately from the increased wealth. This can result in higher levels of poverty and social exclusion for those at the bottom of the income scale (trade-offs between SDG 8 and SDG 1). Economic growth associated with increased consumption in richer countries can also exacerbate social inequalities in poorer countries through transboundary effects (e.g. embedded in trade), and place additional burdens on the environment and depletion of their natural resources.

As absolute decoupling is increasingly portrayed as infeasible in literature, some researchers argue that the promotion of 'decoupling', as the means to deliver contradictory SDGs, is a mere fantasy, encouraged to defer the difficult reflections on whether the SDG mission is in fact possible.<sup>188</sup> To circumvent this issue, a number of researchers have proposed to exclude GDP and monetary indices from the SDG indicator framework. Kreinin and Aigner suggest, for example, to rather measure 'the extent to which households, state/societies, and economic stability is dependent on economic growth ... and if the respective country is able to degrow the economy without wellbeing loss, social instabilities, or harmful economic disruptions, to stay within planetary boundaries'.<sup>189</sup> This is also partly recognised within the SDG framework, with SDG 17's (Partnership for the Goals) target 17.19 advocating to 'build on existing initiatives to develop measurements of progress on sustainable development that complement GDP'.<sup>190</sup> Already in 2015, the International Council for Science (ICSU) highlighted the need to disentangle GDP from sustainable development metrics and to promote new approaches to measure economic progress.

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<sup>183</sup> Long advocated by the Sustainable Development Solutions Network (SDSN) and its president, Jeffrey Sachs, who provided expert input in the drafting of the SDGs, see Sachs J. and Thwaites J., [Reflecting on 10 Years of SDSN](#), 2022.

<sup>184</sup> See detailed [Greenhouse gas emissions country profiles](#) in Our World In Data (accessed on 6 February 2023).

<sup>185</sup> However, an [analysis of correlations](#) finds that, when poverty reduction is mainly due to an increase in per capita GDP, it has a negative effect on the target of reducing CO<sub>2</sub> emissions.

<sup>186</sup> See e.g. Pichon E., [The African Union's first climate strategy](#), EPRS, European Parliament, 2022.

<sup>187</sup> A 2020 [review](#) of 835 peer-reviewed articles concludes that 'large rapid absolute reductions of resource use and GHG emissions cannot be achieved through observed decoupling rates'.

<sup>188</sup> Fletcher R. and Rammelt C., [Decoupling: A Key Fantasy of the Post-2015 Sustainable Development Agenda](#), 2017.

<sup>189</sup> Kreinin H. and Aigner E. [From "Decent work and economic growth" to "Sustainable work and economic degrowth": a new framework for SDG 8](#), 2022.

<sup>190</sup> Cook D. and Davíðsdóttir B., [An appraisal of interlinkages between macro-economic indicators of economic well-being and the sustainable development goals](#), 2021.

## 5.4 A resilience-based strategic framework

### 5.4.1 Resilience as a concept for policies

Fostering resilience is key to enhance preparedness for future shocks, to cope with long-lasting structural changes, including climate change, biodiversity loss and demographic change, and to navigate the ongoing green and digital transitions successfully. The World Economic Forum's Resilience Consortium views resilience as the 'long-term ability of organizations and economies to create the capabilities needed to deal with disruptions, withstand shocks, and continuously adapt as disruptions and crises arise over time. This is the strategic prerequisite for long-term, sustainable, and inclusive growth.'<sup>191</sup> The European Commission has worked on the role of resilience to deal with challenges and to manage transitions, pointing to its role also 'beyond growth'.

The Commission's 2020 strategic foresight report (SFR) identifies resilience as the new compass for policymaking. Building on Manca et al. (2017) and De Smedt, Giovannini and Radermacher (2018), it defines resilience as the 'ability not only to withstand and cope with challenges but also to undergo transitions, in a sustainable, fair, and democratic manner'. This section develops the underlying concept further, and explains how it links to the general notion of sustainability (as discussed in the introduction to Part I), representing a balance between planetary health and the wellbeing of all people of the current and future generations.

According to these approaches, focusing on resilience is not an attempt to abandon sustainability but instead to retain or restore it when responding to shocks and threats; sustainability is and remains the ultimate objective.<sup>192</sup> Such a strong link between resilience and sustainability is increasingly recognised. Nevertheless, there are also different opinions, arguing that, while sustainability looks at how current generations can meet their needs without compromising that ability for future generations, resilience considers a system's ability to prepare for threats, to absorb impacts, and to recover and adapt after disruptive events.<sup>193</sup>

#### Three shades of resilience: Absorb, adapt, and transform

At its simplest, resilience refers to the ability of a system to bounce back or return to its pre-shock position. The faster it returns to its pre-shock position, the more resilient it is. This is known in literature as 'engineering resilience', as defined by Holling in his 1973 seminal paper. A variant of this definition replaces the focus on bouncing back to the original system to absorb shocks without any major distress or change in the structure of the system.

Recognising that the absorptive capacity might take the system back to a situation that is no longer favourable, resilience also requires flexibility: adaptation and transformation. As argued by Linkov, Trump and Hynes (2019), a resilience approach accepts that the system may not return to some previous equilibrium, and that 'new normals are normal'. The main difference between adaptation and transformation is in the degree of change and the outcome they imply. While the former is concerned with maintaining or restoring the functionality of the system in a narrow sense, the latter allows it to change but keeps the inner functionality of the system in a broad sense, as argued by Keck and Sakdapolrak (2013).

The Stockholm Resilience Centre defines resilience thinking as an attempt to create a new understanding of how humans and nature interact, adapt and impact each other amid change.<sup>194</sup> It is about generating increased knowledge about how we can strengthen the capacity to deal with

<sup>191</sup> See World Economic Forum, [Resilience for sustainable, inclusive growth](#), 2020.

<sup>192</sup> De Smedt M., Giovannini E. and Radermacher W., 'Chapter 9: Measuring sustainability', in [For Good Measure: Advancing Research on Well-being Metrics Beyond GDP](#), OECD Publishing, 2018.

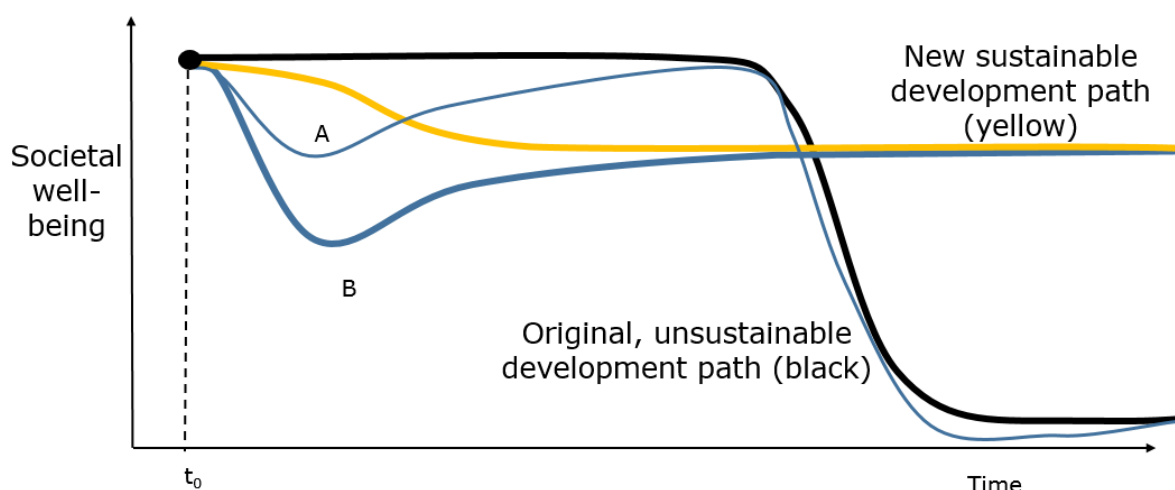
<sup>193</sup> See Carnow A., [Resilience and Sustainability, the definitions, difference, and applicability of GIS](#), 2022.

<sup>194</sup> See [What is resilience?](#).

the stresses caused by environmental change and societal distress. Resilience is a crucial principle and ingredient for sustainability transitions. With resilience thinking, we can use the same innovative capacity that has pushed our planet dangerously close to its boundaries also to push us out of the current environmental predicament.

The SFR 2020 approach to resilience also emphasises its link with sustainability, since it is used as one of the key criteria to assess whether a societal response to a shock or a transformation is 'good' from a societal perspective. Indeed, if the current situation is unsustainable, then bouncing back to the previous unsustainable situation would lead to a collapse in the future (path A of Figure 13). At the same time, a seemingly sub-optimal reaction (path B) may ensure a transition towards a new sustainable path (transformation). For example, returning to the pre-crisis financial intermediation environment (with excessive risk-taking and over-borrowing) would represent bouncing back to a situation that has already proven to be unsustainable.

Figure 13 – Bouncing back or forward: The role of sustainability



Note: A shock hits at time  $t_0$ . The black line represents the original path, which has been made unsustainable by the shock (a collapse in future wellbeing). The yellow line represents the new sustainable development path. Paths A and B are alternative responses to the shock.

Source: JRC.

Resilience is thus an important element in navigating transitions and facing challenges in general. As such, it could be an important ingredient in the emerging new social narratives, in particular beyond growth, which are badly needed. A resilient society should be able to cope with challenges in a way that strikes a balance between the inclusive wellbeing of current and future generations, not leaving anyone behind. It should be able to stay on its sustainable development path in case of shocks. It should also be able to move successfully from an unsustainable to a sustainable development path, or to navigate transitions along the sustainable path.

#### 5.4.2 Policies to support resilience capacities

Policies can enhance individual and community-level abilities to cope with disturbances. As proposed in Manca et al. (2017), economic, social and environmental policies could be classified according to a five-group framework: prevention, preparation, protection, promotion, and transformation. Preventive measures aim to reduce the impact of transition (e.g. by information dissemination about industries at risk). Preparation measures aim to prepare for handling them successfully (e.g. re/upskilling of the labour force towards new jobs). Protection measures are

required to mitigate the impact and support the absorptive capacity (e.g. unemployment benefits). Promotion measures serve to increase the adaptive capacity or flexibility. Finally, transformation measures play their part when the adaptation needed is too large, or when aiming to bounce forward after the shock (e.g. by promoting investment into green sectors, etc.).

NGEU, with its centrepiece, the RRF, is an example of a transformative measure. Offering grants and loans to support reforms and investments, to help the economic recovery from the coronavirus pandemic and build a greener, more digital and more resilient future, its goal is 'to emerge stronger from the pandemic, transform economies and societies, and design a Europe that works for everyone'.<sup>195</sup>

#### A resilience narrative

The recent series of shocks and crises (the 'permacrisis'), and the ongoing and the still missing transitions and transformations, seem to cause concern, discontent, and a growing sense of uncertainty. People feel that they are disconnected and lack control. They fear a loss of their identity and traditional ways of life. Recent shifts in the political landscape both in Europe and worldwide clearly signal a longing for security, protection, control, and overall 'strength'.

Looking back at our history, however, changes and transformation have been at the core of human and societal evolution. Distress has often been and can be the catalyst for future improvements. Is there a way to learn from history, avoid collapses, mobilise such changes and harness them for the benefit of our societies? How can we be resilient, steer our future together and navigate successfully amidst old and emerging challenges?

Resilience is – in very generic terms – the ability to thrive despite adversity. It is not just about preventing difficulties but also facing them successfully. In turbulent times, we may not always be able to prevent bad outcomes, so we must also strengthen our ability to deal with them. Resilience means complementing, and sometimes even substituting, strength with flexibility. As put by Norio Mitsuya, Parliamentary Senior Vice-Minister of Japan in 2014: 'In winter, snow falls on the bamboo trees. They bend but never break, and come spring, the trees start to grow straight again.'

### 5.4.3 Measuring and monitoring resilience

Given the importance of resilience for EU policies, the European Commission has devoted substantial efforts to quantifying and monitoring resilience. This is needed to answer the question: Are our policies and strategies making the EU more resilient?

On the initiative of Vice-President Šefčovič, the resilience dashboards were developed in a process of collective intelligence including all Commission services, Member States and other stakeholders under the lead of the Secretariat-General and the JRC. Their aim is to monitor resilience, providing a holistic assessment of the ability to make progress amid challenges.

A visualisation tool of the detailed dashboards with all information on the underlying indicators is available on the Commission's webpage.<sup>196</sup> A monitoring device to help Member States identify areas for further analysis and potential policy actions, the dashboards are also an important step towards a more integrated approach for measuring wellbeing beyond GDP.<sup>197</sup>

Dashboard indicators illustrate relative weaknesses ('vulnerabilities') or strengths ('capacities') that will or may become relevant in the future, both to achieve societal, economic, digital, and green transformations and to cope with potential future shocks. The dashboards cover four interrelated dimensions of resilience to future crises and societal transformations, offering a multidisciplinary

<sup>195</sup> See [Next Generation EU](#).

<sup>196</sup> The full dashboards and supporting material are available on the Commission's [Strategic Foresight webpage](#).

<sup>197</sup> See [COM\(2021\) 750 final](#), 2021 Strategic Foresight Report: The EU's capacity and freedom to act.



picture. The social and economic dimension includes indicators that illustrate the potential social impact of the green and digital transitions (e.g. vulnerable groups that might emerge from jobs at risk of automation or in energy-intensive sectors); health, education and work; economic and financial stability and sustainability. The green and the digital dimensions capture vulnerabilities along the green and digital transitions (e.g. biodiversity loss for the green or lack of broadband access for the digital transition) and capacities and opportunities that will enable the transformations (e.g. GHG absorption by ecosystems for the green or digital skills for the digital transition). The geopolitical dimension relates to Europe bolstering its 'open strategic autonomy' and global leadership role. It monitors Member States' external dependencies (e.g. import dependencies on raw materials), but also their capacities to harness the advantages of interconnectedness (e.g. through intra-EU trade in base metals). For a subset of indicators, the dashboards also show how the EU-27 is doing with respect to selected countries outside the EU.

The 2022 Semester Spring Package recognised the dashboards as a tool to add evidence to country reports on Member States' vulnerabilities and resilience capacities.<sup>198</sup> Starting from 2023, the resilience of Member States will be systematically monitored in the European Semester.

## 5.5 The wellbeing economy

### 5.5.1 What is the wellbeing economy?

The concept of the wellbeing economy has many definitions. According to the OECD, the economy of wellbeing can be defined as the 'capacity to create a virtuous circle in which citizens' wellbeing drives economic prosperity, stability and resilience, and vice-versa, that those good macroeconomic outcomes allow to sustain well-being investments over time'.<sup>199</sup> Other accounts see a looser link between wellbeing and economic growth in defining the wellbeing economy. For instance, post-growth academics define it as 'an economy that pursues human and ecological wellbeing instead of material growth',<sup>200</sup> while the Wellbeing Economy Alliance describes it as 'an economy designed to serve people and the planet, not the other way around. Rather than treating economic growth as an end in and of itself and pursuing it at all costs, a Wellbeing Economy puts our human and planetary needs at the centre of its activities, ensuring that these needs are all equally met, by default.'<sup>201</sup>

Policy-relevant elements of the economy of wellbeing usually include education and skills, health, social protection systems, and initiatives addressing poverty, social exclusion and gender equality. Others also highlight the importance of nature and resources.<sup>202</sup>

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<sup>198</sup> See [COM\(2022\) 600 final](#), 2022 European Semester – Spring Package.

<sup>199</sup> OECD, [The Economy of Well-Being](#), 2019.

<sup>200</sup> Fioramonti L. et al., [Wellbeing economy: An effective paradigm to mainstream post-growth policies?](#), 2022.

<sup>201</sup> See Wellbeing Economy Alliance, [What is a wellbeing economy?](#).

<sup>202</sup> European Environmental Bureau, [Towards a wellbeing economy that serves people and nature](#), 2021.



## 5.5.2 Applying the wellbeing economy framework and its indicators

The OECD's 'Better Life Initiative' aims to provide a comprehensive measurement of wellbeing and progress.<sup>203</sup> It identifies several aspects of wellbeing, which the initiative tracks in the form of an 'index of wellbeing' called the Better Life Index (see Figure 14). It is part of a broader OECD Framework for Measuring Well-Being and Progress.

Countries around the world have experimented with applying the wellbeing economy framework in policy. Italy has been measuring 'equitable and sustainable well-being' (Benessere Equo e Sostenibile – BES) as part of its economic planning since 2016.<sup>204</sup> The BES report is published every year, together with a set of indicators, and presented to the Italian Parliament. In 2010, the United Kingdom launched its 'Measuring national wellbeing' programme to 'start measuring our progress as a country, not just by how our economy is growing, but by how our lives are improving; not just by our standard of living, but by our quality of life'.<sup>205</sup> A dashboard of national wellbeing provides an overview of indicators and feeds into a publication series called 'Quality of life in the UK'. In 2015, Wales implemented a 'Well-being of Future Generations Act', which introduces a legal obligation to consider the long-term impacts of public decisions on social, cultural, environmental and economic wellbeing.<sup>206</sup> Similar initiatives exist in the rest of Europe and beyond.<sup>207</sup> One of the best known global examples beyond Europe is New Zealand, which uses a living standards framework that aims to facilitate the analysis of drivers of wellbeing, with a focus on distribution, resilience, productivity and sustainability.<sup>208</sup> New Zealand is also a pioneer in creating a wellbeing budget.

In 2018, a network of Wellbeing Economy Governments (WEGo) was launched to provide a platform for collaboration between governments dedicated to placing human and ecological wellbeing at the centre of policymaking and building wellbeing economies. It currently includes six national governments: Scotland, New Zealand, Iceland, Wales, Finland and Canada.<sup>209</sup>

Figure 14 – Better Life Index



Source: [OECD](#).

<sup>203</sup> OECD, [Better Life Initiative: Measuring Well-Being and Progress](#) and [Well-being research](#); OECD, [How's Life?](#), 2020.

<sup>204</sup> ISTAT, [The measurement of wellbeing](#).

<sup>205</sup> UK government collections, [National Wellbeing](#), 2013. See also [Dashboard](#).

<sup>206</sup> See the [Well-being of Future Generations Act 2015](#).

<sup>207</sup> For an overview, see Berger G., [Country Approaches to the SDGs and Well-being: Overview Survey on National Activities in Europe and Beyond](#), May 2022.

<sup>208</sup> New Zealand Treasury, [Our Living Standards Framework](#), [Measuring wellbeing: the LSF Dashboard](#) and [Wellbeing Budget 2022: A Secure Future](#) (accessed on 7 March 2023).

<sup>209</sup> WEAll, [Wellbeing Economy Governments \(WEGo\)](#), accessed on 28 February 2023.

## Wellbeing economy in the EU

Wellbeing is mentioned as one of the EU's aims in the Treaty on the European Union. In October 2019, the Council of the EU adopted its conclusions on the economy of wellbeing. This was also a priority for the Finnish Presidency at the time. The conclusions point out that 'the Economy of Wellbeing is a policy orientation and governance approach, which aims to put people and their wellbeing at the centre of policy and decision-making'.

They highlight the importance of addressing issues such as poverty and social exclusion, the changing world of work, employment and active labour market policies, education and training, gender equality, equal opportunities and social inclusion, well-designed social protection systems, health and social services, promotion of healthy lifestyles, and digitalisation.

However, the conclusions also underline 'the mutually reinforcing nature of wellbeing and economic growth'. Several policy initiatives seen as supporting the wellbeing economy are mentioned, notably the European Pillar of Social Rights, the socially-oriented recommendations under the European Semester and the UN 2030 SDGs. The conclusions invite the Member States to conduct a cross-sectoral assessment of policy impacts on wellbeing, using relevant wellbeing indicators, and the European Commission to include an economy of wellbeing perspective in EU policies.

Sources: Article 3 [Treaty on the European Union](#): 'The Union's aim is to promote peace, its values and the wellbeing of its peoples'; Council of the European Union, [Economy of Wellbeing: Council conclusions](#), 24 October 2019.

The use of wellbeing economy frameworks can potentially drive the change towards a socio-economic model beyond growth. However, this depends on the specific variables chosen, the concrete policies linked to the concepts and indicators and, perhaps most importantly, the level of integration in policymaking. If these frameworks remain at the level of monitoring, their impact is likely to be low. Using them to design policies, including them in legislation or budgeting could lead to a much higher impact, as seen in the examples above.

## 5.6 'Doughnut economics'

Kate Raworth is a British economist and firm critic of the mainstream economic theory assumption; that continued growth means improved welfare. Acknowledging that economic thinking is intrinsically entwined into human society, Raworth set out to define what the goal or purpose of economies should be.

In her 2017 book 'Doughnut economics – Seven ways to think like a 21st-century economist', Raworth digs into the history and evolution of economic thinking. It shows the reader how the purpose or goal-orientation of economies, which was defined by James Steuart in 1767 as 'to provide a secure living and jobs for all', and in 1776 by Adam Smith as 'to supply the subsistence of people and revenue sufficient for public services', got lost along the way.<sup>210</sup>

In an attempt to redirect the focus of economies towards ensuring thriving societies to meet the needs of all within the means of the planet, doughnut economics was born – building on the visual concept of 'The Doughnut' (see Figure 15).

Using the doughnut to symbolise a safe and just space for humanity to thrive, breaking the inner or outer rings would jeopardise this goal.

<sup>210</sup> See Raworth K, Doughnut economics, 2017, p. 33.

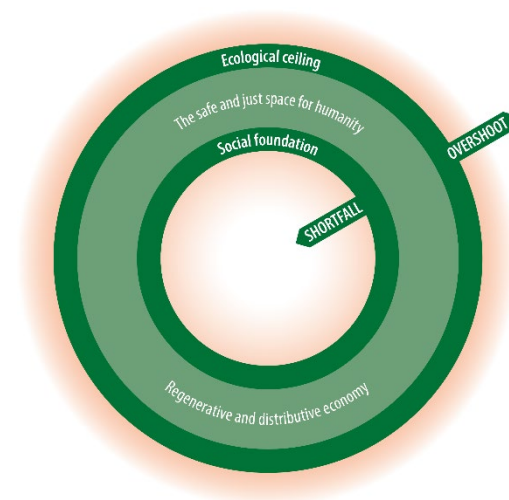
The inner ring represents the **social foundation** important to human wellbeing. It is based on the SDGs' minimum social standards for 12 life essentials and includes: food; health; education; income and work; peace and justice; political voice; social equity; gender equality; housing; networks; energy; and water. See also discussion on social wellbeing in Section 3.1 for further reflections.

The outer ring is the **ecological ceiling**, with the nine planetary boundaries, which we must not overshoot. The research, starting from 2009 with Johan Rockström and others, described earlier, was the basis of this choice. The researchers argued that specific Earth-system processes have associated pressure thresholds, where overshooting a specific threshold could trigger a shift to an undesired environmental state or trigger a tipping point in other areas. When the researchers published in 2009, three out of nine planetary boundaries were transgressed; the latest research from 2022 indicates that it is the case for six out of nine today (see Section 3.2 for more details).

Raworth proposes using the indicators developed to support the SDGs and to evaluate status according to a planetary boundary as metrics to inform decision-making from the global to the local level. Failing to stay above the social foundation or within the ecological ceiling, Raworth argues, increases human deprivation and cause negative feedback loops. The Doughnut is meant to serve as a '21st century compass' that can guide economists and policymakers alike on how to bring humanity into a safe and just space. Seven key ideas lie at the heart of doughnut economics, including the need to change the goal – from GDP to 'The Doughnut' – but also recognising the economy as embedded in society and nature. We must acknowledge the dynamic complexity of our socio-ecological systems where socially adaptable humans – rather than the rational economic man – interact with each other and nature (see also discussion on aspects for wellbeing in Section 3.1, human-nature relationships in subsection 3.2.2 and the role of communities in Section 4.2). Furthermore, our economy needs to be distributive by design, ensuring equitable wealth and fair income distribution. To realise this requires looking at how money is dispersed into society as well as who controls land, enterprise, technology and knowledge. Yet, our economic system should not only be distributive but also regenerative by design, which means employing circular economy across all sectors. Finally, the addiction to growth needs to be relinquished, so humanity can focus on thriving regardless of growth.

In 2018, based on calculations of the EU's planetary boundaries overall and its per capita overshoot, and using work from 2016 that maps the SDGs to existing EU policies, researchers from the Stockholm Resilience Centre linked each of the nine areas to the relevant SDG and identified the corresponding EU policies. The technical report, prepared for the EEA, then explored options for further operationalisation of the planetary boundaries concept.<sup>211</sup>

Figure 15 – 'The Doughnut'



Source: Raworth, 2017. Adapted by EPRS.

<sup>211</sup> Häyhä T. et al., [Operationalizing the concept of a safe operating space at the EU level – first steps and explorations](#), Stockholm Resilience Centre Technical Report, 2018.

## 5.6.1 Applying the Doughnut

In 2020, the Doughnut Economics Action Lab (DEAL) platform came online. It provides tools and connects organisations, citizens, policymakers and researchers wishing to work more closely with 'The Doughnut' in practice, thereby building an evolving community network of practitioners. DEAL also highlights stories of implementing doughnut economics at various levels, such as the case below.<sup>212</sup>

### 5.6.1.1 Amsterdam City Doughnut

Having developed an ambitious circular economy strategy – aiming to make the city 100 % circular by 2050, Amsterdam seized the momentum and joined the Thriving Cities Initiative (TCI) pilot on applying 'The Doughnut' on a city scale. In April 2020, as a global first, Amsterdam, with their 'City Portrait' in hand, adopted 'The Doughnut' as the tool to guide its post-pandemic recovery.<sup>213</sup>

Using methodologies developed by TCI to downscale doughnut economics to the local level, using four lenses (see Figure 16), Amsterdam was able to envision its social and ecological goals at the local level and reflect on global responsibilities in relation to those goals.

The collaborative process connected public, private and non-profit stakeholders, as well as communities, in exploring opportunities, inspiring new initiatives and defining metrics to evaluate progress. Using available data, the current status or city snapshot, can show how far from a goal the city is. Per capita footprints can be used to determine the responsibility for improving global progress. More European cities and regions are working with the methodologies, among them the Tampere Region and the cities of Barcelona, Grenoble, Brussels and Copenhagen.

Figure 16 – Linking local to global through the four lenses

	SOCIAL	ECOLOGICAL
LOCAL	What would it mean for the people of Amsterdam to thrive? <b>1</b>	What would it mean for Amsterdam to thrive within its natural habitat? <b>2</b>
GLOBAL	What would it mean for Amsterdam to respect the wellbeing of people worldwide? <b>4</b>	What would it mean for Amsterdam to respect the health of the whole world? <b>3</b>

Source: Adapted by EPRS from the [Amsterdam City Portrait](#).

### 5.6.1.2 Towards an EU resilience doughnut

As shown in Section 5.4, the European Commission's 2020 foresight report, released at the height of the COVID-19 crisis, presented the goal and narrative of a resilient EU economy. The resilience dashboard (see Section 5.4) supports the implementation of policies meant to ensure resilience.

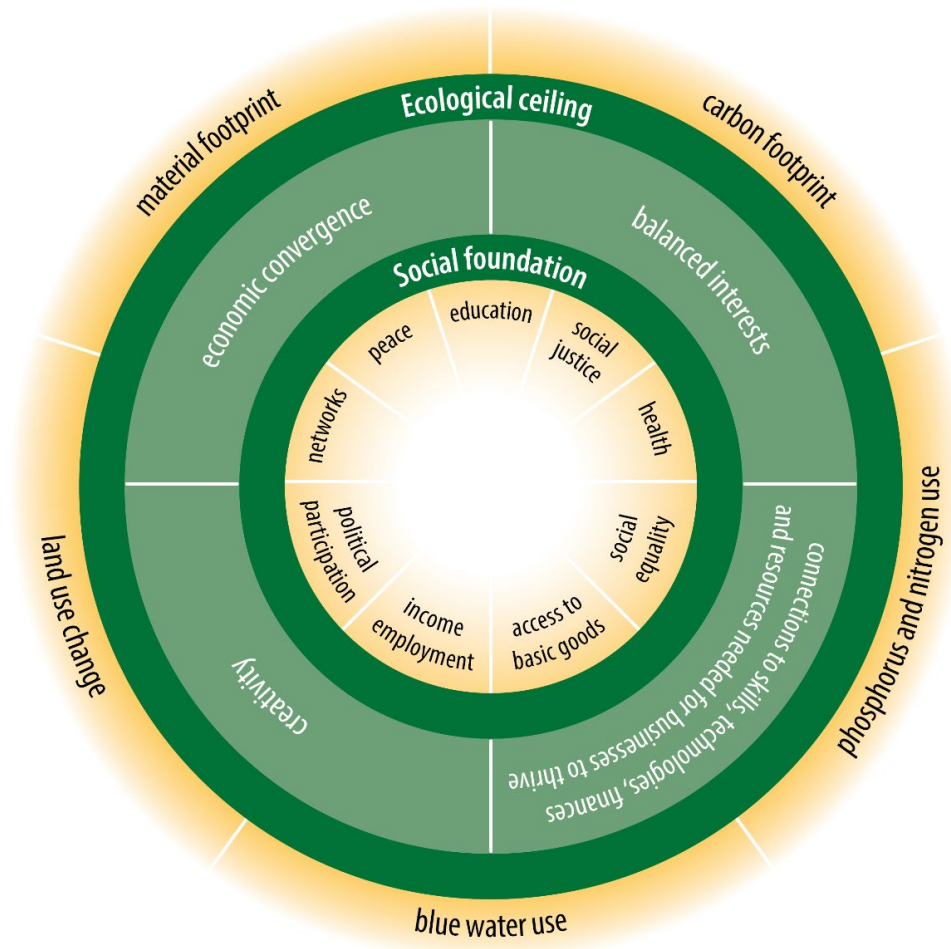
In a short 2021 publication, the Zoe Institute, in collaboration with the Club of Rome, highlights the potential benefits of applying a doughnut economics framework to the goal of a resilient Europe. They argue that 'The Doughnut' could help the resilience agenda and broader policy goals by acting as an integrative framework to mainstream indicators and as a broader narrative across all policy areas.

<sup>212</sup> The [DEAL platform](#), also hosting a [map](#) of cities or regions implementing 'The Doughnut'.

<sup>213</sup> For details, check out the [Amsterdam Circular strategy](#) and the [Thriving Cities Initiative](#) case of the [Amsterdam City Portrait](#).

In the report, the authors highlight areas which are not covered sufficiently by the dashboard indicators, and which, by applying a doughnut framework, could be corrected and could provide suggestions for additional indicators. Four economic objectives are integrated into the framework to highlight how it can assist in driving the EU's economic agenda (see Figure 17 – inside the green doughnut). As noted by the authors, growth, inflation rates, macroeconomic equilibria and competitiveness are not integrated as objectives, as they are means to an end but not the end itself.

Figure 17 – Doughnut-based integrative policy framework



Source: Adapted by EPRS from [Towards a Resilience Doughnut](#), Zoe Institute, 2021.

## 5.7 Earth4All: A survival guide for humanity

In 2022, 50 years had passed since the publication of the flagship report on 'The Limits to Growth' in 1972. The report highlighted the risk of societal destabilisation during the 21st century, linked to population growth and limits of the economic model based on the use of finite natural resources.<sup>214</sup> To mark the occasion, and the urgency of the action needed today, a follow-up report – 'Earth4All' – was published in September 2022.<sup>215</sup> Earth4All, an international research initiative, was established in 2020 by the Club of Rome, the Norwegian Business School, the Stockholm Resilience Centre and

<sup>214</sup> Meadows D. et al., [The Limits to Growth: a Report for the Club of Rome's Project on the Predicament of Mankind](#), 1972.

<sup>215</sup> Dixon-Declève S. et al., [Earth for All: A Survival Guide for Humanity](#), A report to the Club of Rome, 2022.



the Potsdam Institute for Climate Impact Research to explore how to achieve wellbeing for all within planetary boundaries this century.

Their work uses computer modelling to forecast and project evolution in ecological, economic and societal trends. Ideas from and research by the Transformational Economics Commission (TEC), an international group of economic thinkers, are passed through the models. In doing so, several policy approaches and corresponding levers for change have been tested in societal development scenarios. Along with the work on 'The Limits to Growth', the authors note the planetary boundaries and doughnut economics (see sections 3.2 and 5.6) as their scientific starting point.

Two different systems dynamics models were used by the Earth4All project: a global-level model and a regional-level model covering 10 world regions. System dynamics modelling attempts to capture the non-linear behaviour resulting from interactions between parts of a system, with exponential changes, delays or feedback loops as possible outcomes. The models were used to generate internally consistent scenarios on a variety of variables towards the year 2100.<sup>216</sup> A similar dynamic system model – World3 – though with significantly less computing power, as noted by the authors, was used for the scenarios in the 1972 report. In 2020, TEC member Gaya Herrington analysed the 1972 scenarios against empirical data and found a close alignment.<sup>217</sup>

The Earth4All process allows the researchers to test hypotheses and impacts of policy choices in order to identify the most relevant leverage points (see subsection 4.1.2) to deliver a systemic transformation. Integrated assessment models (IAMs), similar in nature to the approach of the Earth4All modelling, are extensively used by various stakeholders to evaluate combined impacts of policy choices on human and natural systems.<sup>218</sup>

### 5.7.1 'Too Little Too Late' or 'The Giant Leap' – Scenarios for the 21st century

In the final report, the authors chose to focus on two key scenarios, one entitled 'Too Little Too Late' and the other 'The Giant Leap'. In both scenarios, readers follow four fictional girls born in 2020 in four different world regions, and see the likely impacts on their lives resulting from the policy decisions made in order to deal with the ecological and social challenges faced by humanity.

The first of the two scenarios makes a strong case for the likely results of policy inertia and short-termism delivering only incremental changes and non-systemic transitions in our current economic framework. As the scenario title indicates, the model projections show a decline in wellbeing combined with severe impacts from ecological and climate breakdown and social tension rising, resulting in societal collapses in some vulnerable countries and regions.

The second scenario, however, shows that upgrading the economic system is possible. It provides policymakers with five examples of extraordinary turnarounds and the policy tools, or levers, needed to deliver these. Through the redesign of economic and social policies, a paradigm shift is possible which enables a pathway towards wellbeing for all within planetary boundaries.

The scenarios build on major societal trends from 1980 to 2020, a selection of which, as presented in the book, includes the rising wealth gap and increased power of the financial sector; globalisation, privatisation and free trade policies; population growth; a focus on short-term profit over long-term value creation; increased GHG emissions, but also cost-competitiveness of clean energy

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<sup>216</sup> The code is [available](#) in both Stella and Vensim system dynamics software for download.

<sup>217</sup> Herrington G., [Update to limits to growth: Comparing the World3 model with empirical data](#), 2020.

<sup>218</sup> See Carbon Brief's 2018 [explainer](#) on IAMs: the [Dynamic Integrated Climate Economy \(DICE\) model](#) used by the US Environmental Protection Agency, and the [description](#) on how the OECD applies IAMs.



technologies; increased inequality undermining public trust in institutions; and poverty reduction but not eradication.

In the next section we present the identified key turnarounds and the 15 policies, which, according to the authors, have the potential to deliver significant systemic and long-term effects on human wellbeing and planetary health. Key topics which one might expect to have a dedicated turnaround focus, such as consumption, governance, digitalisation or health, are interwoven into the scenarios. In addition, the authors argue that the five turnaround levers indirectly build change and progress in these areas.

## 5.7.2 The turnarounds

The Earth4All multidimensional interventions to achieve five extraordinary turnarounds are based on the interacting synergies and feedback loops across our complex and interlinked human societies and natural environment on Earth. Key policy goals are defined for each of the five turnaround areas:

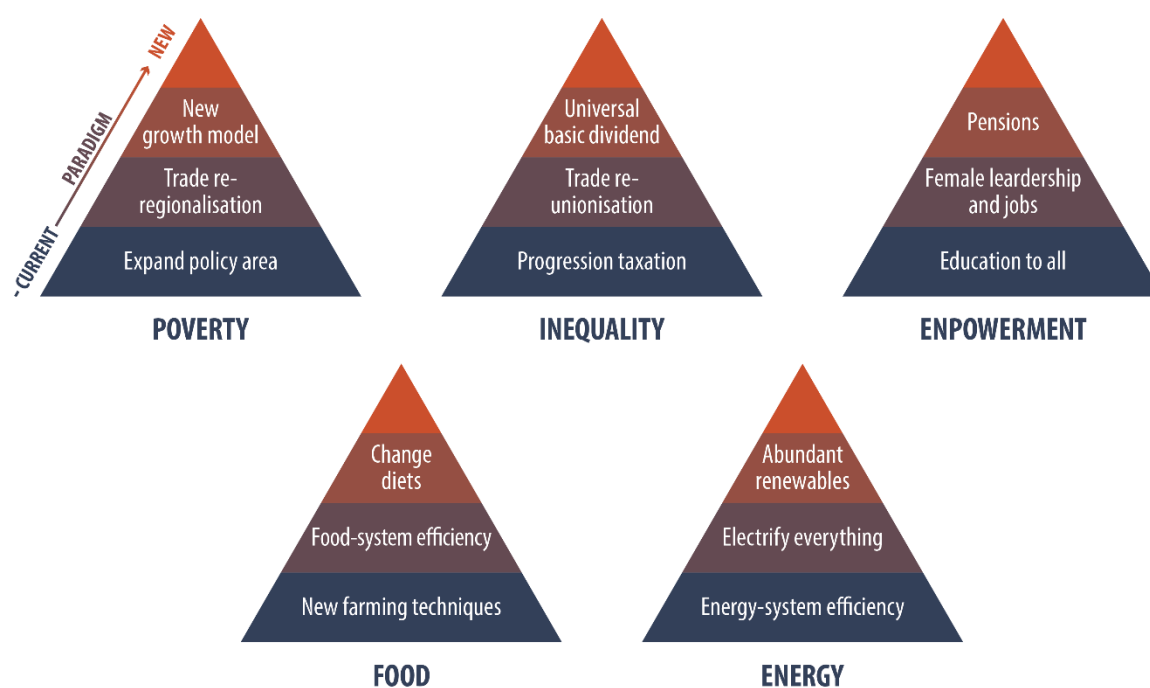
- **Poverty** - Key policy goal: Annual 5 % GDP growth in low-income countries until they achieve US\$15 000 per capita/year income, combined with new wellbeing indicators.
- **Inequality** - Key policy goal: Richest 10 % take less than 40 % of national income.
- **Empowerment of women** - Key policy goal: Gender equity contributes to stabilising global population below nine billion by 2050.
- **Food** - Key policy goal: Avoiding expansion of agricultural land and ensuring soil and ecosystem protection to ensure healthy diets for all, while reducing food waste.
- **Energy** - Key policy goal: 50 % emission reduction per decade to reach 2050 net-zero.

These policy goals all have an accelerating effect on achieving the subsequent turnarounds. Poverty eradication is necessary to increase wellbeing and build trust. The redistribution of wealth increases equality and enables gender equity, in turn making the food turnaround feasible through a stabilised population, all of which opens the way for energy transitions.

The specific policy tools brought forward to deliver the turnarounds and drive a paradigm shift are not for the faint of heart. Figure 18 shows the three essential levers per turnaround. The top lever of each triangle is the most transformative within the specific turnaround and the more disruptive towards our current dominant societal structures.

Starting with **poverty**, in order to expand the policy options available to low-income countries to enable growth, it is argued that significant debt relief and transformation of the financial architecture is needed to redirect resources to development. Secondly, it is argued that global coordination on corporate taxation and on ensuring shifts towards green production systems, and restricting investment in brown industries in low-income countries by transnational corporations, will ensure not only a broadened tax base but also resilient job futures, and will reduce low-income countries' risk of lock-in to polluting economic activities. Trade transformation includes, among other things, more detailed consideration, with regard to carbon taxation and regulations, of whether emissions are linked to consumption or production; the aim is to place the carbon price on the source of the demand, rather than on economies in a development phase, with the added benefit of reducing consumption footprints. The re-regionalisation of trade is further meant to promote and protect trade across low-income countries, including measures to shield new industry from global competition. A new growth model is needed to allow these changes, and it should be one in which intellectual property rights ensure access to technology and technology transfers, and which will make 'leapfrogging' possible.

Figure 18 – The levers of five key turnarounds delivering a paradigm shift



Source: Dixon-Declève S. et al., [Earth for All](#), 2022. EPRS adaptation by Samy Chahri.

To turn around rising **inequality**, the initial policy tool is taxation (see also Section 6.2). Progressive taxation on income as well as wealth – targeting in particular the wealthiest 10 % and corporations,<sup>219</sup> while closing tax havens and loopholes – is seen as essential.<sup>220</sup> This would, as a synergy, also reduce luxury over-consumption.<sup>221</sup> The rights of workers, along with economic protection and lifelong learning opportunities, should be strengthened via trade re-unionisation measures. Giving workers a voice on governing boards or through employee co-ownership can help drive change, instead of opposition. Finally, and most significantly, the authors present the arguments in favour of a Universal Basic Dividend (UBD) (see related discussion in subsection 6.6.2). The discussion focuses on possible revenue sources and moral arguments for why such a measure would be beneficial universally – as a measure for greater equality. Citizens' funds would allow fees to be collected from companies who exploit common resources, which governments could then pay out as a dividend to all citizens. Such a dividend would give the individual the power of choice and a safety net through economic freedom.

**Empowerment** through gender equity involves, in particular, access to education for all, as a starting point for access to jobs, assets and power. Women and men should be equally represented in leadership positions across public and private entities. Ultimately, ensuring equal rights and protection enables agency and opens up space for new types of economic ideas and relationships; therefore, universal social protection and pension systems should be established.

<sup>219</sup> As a first, a [global 15 % minimum corporate tax](#) was agreed in 2021. A European Parliament [opinion](#) on its implementation in the EU noted the need for a higher tax rate and an impact assessment for developing countries.

<sup>220</sup> According to the [World Inequality Report 2022](#), 76 % of global wealth is in the hands of the richest 10 %, while 50 % of the global population share only 2 % of total global wealth (at purchasing power parity).

<sup>221</sup> A 2020 [Oxfam brief](#) shows how the richest 1 % have caused 15 % of cumulative emissions, while the richest 10 % are linked to 52 % of global emissions (in the period 1990-2015). This equates to the richest 10 % having used a third of the global carbon budget.

Today, we simultaneously witness problems with undernourishment and obesity in different parts of the world. Rising food waste (see Section 3.2) is a serious paradox in this context and a sign of inefficient **food systems**. To respond to market demand, the excessive use of fertilisers seems a necessity for many farmers, yet to the detriment of soil and aquatic health and, over time, climate. Food systems will be heavily impacted by climate change, but land use also causes around 25 % of global emissions. The supply-chain fragility of our global interconnected food system leaves societies vulnerable to price volatility and shortages, with the authors giving concrete examples beyond the most recent impacts of the Russian war. They argue the need to establish regenerative agriculture, increasing yields and reducing harmful chemicals through sustainable intensification.<sup>222</sup> This would require looking further into trade, subsidies and procurement practices. With a growing population, we cannot continue the land-grab-for-food approach to feed ourselves, but must ensure efficiency in the system; this also means producing and consuming locally and reducing food waste. Finally, Earth4All points to the western diet, marketed as aspirational but linked to a number of health issues. They argue that there is a need to change dietary habits and ensure access to healthy food for all. This includes reduced meat and dairy consumption in some areas and furthering innovation in climate-neutral foods.

For the **energy** turnaround, the authors note the progress made through innovations and cost reductions, already facilitating energy transitions. To reach a full transformation they argue more is needed, starting with system efficiency. This efficiency concerns not only the energy system, but also the economic system, which needs to increase circularity to avoid producing from scratch, using less energy in daily life and changing demand for certain products and materials that are too energy-intensive for their purpose.<sup>223</sup> An end to fossil fuel subsidies is essential to make the energy transformation a reality.<sup>224</sup> It is also noted that fairness will need to be monitored, and new support designed to avoid energy poverty during the transition. The path includes broad electrification based on renewable expansion, which will require support and path dedication by governments worldwide. The authors note the potential of carbon pricing, if taken seriously, and the responsibility of the largest economies, including the EU, to ramp up domestic investment and climate finance further, while supporting the expansion of clean industries and energy in low-income countries (see paragraph on 'poverty' above).

Each of the three levers related to a specific turnaround would consist of entire toolboxes of measures, and their content echoes proposals made by sustainability science scholars and points for attention in the overall debate on moving beyond growth. The modelling exercise performed within the Earth4All initiative reminds us that the impacts from the pressure humanity has put on our planet are only increasing, while inequality will only ever make it harder to act. Beyond the details of the five turnarounds, the book dedicates a chapter to the impact of capitalism on our societies and the need to change the role of assets and restructure the financial system.

The authors argue that the 2008 financial crash showed the failure of the financial system to provide a working social contract between citizens and governments and that, to ensure functioning democracies in the Anthropocene, the turnarounds could form the basis of a new social contract.

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<sup>222</sup> Chapter 6 of the book gives examples of key approaches and supplies references to research and case studies.

<sup>223</sup> Grubler A. et al., [A low energy demand scenario for meeting the 1.5°C target and sustainable development goals without negative emission technologies](#), 2018.

<sup>224</sup> Parry I., Black S. and Vernon N., [Still not getting energy prices right](#), IMF working paper, 2021.

## 6. Tools and instruments for moving beyond growth

This chapter presents a range of concrete tools and levers for the EU, existing or new, with a potential role to play in executing a transition to go beyond growth in human society. The principal mechanism for policy dialogue between the European Commission and its Member States is the European Semester.

The underlying priorities for this dialogue are established yearly in the 'Annual Sustainable Growth Survey' (ASGS). The previous policy, with an 'Annual Growth Survey', was focused on growth and productivity. In contrast, the von der Leyen Commission introduced a policy directionality to the European Semester, adding the word 'sustainability' to its title and introducing the overall priority of 'competitive sustainability'.<sup>225</sup> The 2020 ASGS highlights that 'economic growth is not an end in itself'. The 2022 Commission communication on orientations for a reform of the EU economic governance framework, mentions sustainable and inclusive growth as the objective of such a renewed policy framework. As the discussion on aspects of the beyond growth debate and systems change in previous chapters may have shown, though directionality has been added and some transitions are under way, it is the scale of commitment and the specific tools and levers pulled which will ultimately determine whether a full system transformation will be achieved.

The topics in the sections below vary in impact as well as their potential to drive transformative agendas. As the potential to effect change depends on how policy levers are designed, the order can be open to interpretation. Core existing policies and structures, including trade, taxation and capital, are presented first, mainly with regard to their driving forces, which a design change could potentially alter, with some examples of possible adjustments. The chapter then moves down to the micro-level, looking at the role and responsibilities of businesses and their applied values in relation to growth, before presenting the potential impacts of behavioural economics tools on individual behaviour and consumption. We dedicate a chapter to presenting some alternative tools under discussion today and examples of how dedicated policymaking and impactful tools can make change happen rapidly when needed. The chapter finishes off with a dive into the role of indicators, a constant in the beyond growth debate, on how can we measure where we are, where we want to go and how to communicate it clearly.

### 6.1 Trade policy: More than an engine for economic growth?

Adam Smith and David Ricardo developed economic theories that laid the scientific foundation for international trade, proving that trade liberalisation creates welfare and economic growth. Today, it is widely recognised that trade is an engine for social progress as well as growth. The OECD, for example, points out that trade has helped to create jobs in developed and developing economies alike, and has helped to lift millions out of poverty.<sup>226</sup> In doing so, trade is effectively contributing to achieving the United Nations Sustainable Development Goals – for example, by eradicating poverty (SDG 1) and promoting economic growth (SDG 8). However, as Part 1 has shown, economic growth does not ensure human and planetary wellbeing. Moreover, trade liberalisation may carry negative side effects such as job losses in specific sectors, where subsequent reallocation of workers can imply costs equivalent to multiple years of lost income.<sup>227</sup>

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<sup>225</sup> See the [Annual Growth Survey 2019](#), which focuses on investment as the 'engine for growth and job creation', versus the [Annual Sustainable Growth Survey 2020](#), which defines 'competitive sustainability' with four complementary dimensions: environmental sustainability, productivity, fairness, and macroeconomic stability.

<sup>226</sup> See OECD, [Trade and jobs](#).

<sup>227</sup> Hornok C. and Koren M., [Winners and Losers of Globalization](#), Economics without Borders, 2017.

Modern trade policy strives for more than opening markets and creating economic opportunities that lead to economic growth and jobs. Linking trade liberalisation with human rights and sustainable development provisions has gained ground over the past two decades among trade partners, particularly those that consider themselves to be normative international actors. The United States, for example, has prioritised trade linkages and Trade and Sustainable Development (TSD) provisions since the North American Free Trade Agreement (NAFTA) raised the prominence of both labour and environmental issues in trade policymaking. The US was also one of the first countries to incorporate transparency and anti-corruption measures into its trade agreements.<sup>228</sup> According to an International Labour Organization (ILO) publication, as of mid-2019 there were 85 regional trade agreements with labour provisions, representing almost a third of the 293 regional trade agreements (RTAs) registered with the World Trade Organization (WTO) and in force at the time. More than half of these agreements featuring labour provisions have been concluded by G7 members; the EU had concluded the biggest number of such agreements compared to the rest of the G7.<sup>229</sup>

### 6.1.1 EU free trade agreements

The EU's approach towards trade and sustainable development has evolved since the entry into force of the Lisbon Treaty, which radically changed the EU's trade policy by (among other things) establishing the European Parliament as co-legislator. Acting as one trading bloc has strengthened the EU's abilities to influence countries bilaterally, regionally and in the multilateral fora. A milestone in the Union's common commercial policy was the 2015 'Trade for All strategy', in which the Commission set the goal of using EU trade agreements and trade preference programmes as levers to promote global values like sustainable development and human rights. Human rights and sustainability clauses have thus increasingly been introduced in the EU's trade policy regime, in its generalised system of preferences (GSP) and its free trade agreements (FTAs).

By spreading values, norms and standards through FTAs, the EU acts as a normative power with the ambition of improving living conditions in third countries or regions and creating a level playing field between trading partners. The EU currently has 41 trade agreements with 72 countries in place.<sup>230</sup> However, only the modern trade agreements, starting with the 2011 EU-South Korea Free Trade Agreement, include trade and sustainable development chapters implementing international labour conventions and environmental provisions (to date, 11 of the 41 include such provisions). In principle, TSD commitments are legally binding and enforceable through an agreement's dispute settlement mechanism; the signatory parties also commit to working with the ILO to ensure the implementation of the ILO's core labour norms.

The number of sustainable development provisions in EU trade agreements has constantly increased. New provisions on, for example, gender equality, anti-corruption or climate change (e.g. references to the Paris Agreement) have been inserted in EU trade agreements. The involvement of civil society has also become a standard of modern EU trade agreements, the inclusion of which the European Parliament has advocated.<sup>231</sup> Today, in most trade agreements a domestic advisory group is set up in the EU and in the partner country or countries to advise on the implementation of the trade agreement or parts of it. They meet regularly and issue recommendations (in most cases) on how to improve the implementation of the trade and sustainable development chapters in FTAs.

<sup>228</sup> Velut J. et al., [Comparative Analysis of Trade and Sustainable Development Provisions in Free Trade Agreements](#), 2022.

<sup>229</sup> Zamfir I., [Labour rights in EU trade agreements](#), EPRS, European Parliament, 2022.

<sup>230</sup> See the European Commission webpage, [Negotiations and agreements](#).

<sup>231</sup> European Parliament, [A forward-looking and innovative future strategy for trade and investment](#), 2019.

Representative of how the EU's approach towards more trade and sustainable development has developed is the example of the sanction-based enforcement approach in the case of non-compliance with sustainable development commitments in FTAs. The Commission tried to address concerns regarding the implementation of trade agreements by creating, in 2020, the post of Chief Trade Enforcement Officer (CTEO). While the European Parliament and civil society organisations have systematically called for the improvement of the implementation and effective enforcement of the TSD chapters and for the possibility to use sanctions as a last resort, the Commission, until 2022, was of the opinion that, for various reasons, it was impossible to move to a sanction-based approach – although several EU trade partners, such as Canada, New Zealand and the US, have such mechanisms in place. With the June 2022 communication on 'The power of trade partnerships: together for green and just economic growth', the Commission reviewed its 15-point action plan from 2018 on trade and sustainable development and changed its approach.<sup>232</sup> The Commission now proposes the possibility of trade sanctions as a matter of last resort, in instances of serious violations of core TSD commitments, namely the ILO's fundamental principles and rights at work, and of the Paris Agreement on Climate Change. In such instances, trade sanctions could be appropriate as a means to foster compliance.

In the first decade following the entry into force of the Lisbon Treaty, the discussion on trade and sustainable development focused mainly on labour and human rights and, more particularly, the implementation of the related provisions in the TSD chapters of EU FTAs. However, in recent years the urgency of the climate crisis has lifted another topic up the trade policy agenda: the nexus between trade and climate change. The discussion on the envisaged EU-Mercosur Association Agreement, for which an 'agreement in principle' was reached on 28 June 2019, underlines the dimension of the role that the fight against climate change plays in modern trade policy. The agreement with Mercosur met resistance from several EU Member States, national parliaments and a coalition of over 450 civil society organisations from both sides of the Atlantic.<sup>233</sup> A report published in 2020, commissioned by the French government on the EU-Mercosur trade agreement, concluded that the deal would fuel deforestation and that the environmental costs were likely to exceed the economic gains.<sup>234</sup> The European Parliament emphasised, in a resolution of 7 October 2020 on the implementation of the common commercial policy, that the EU-Mercosur agreement cannot be ratified as it stands.<sup>235</sup> On 22 August 2022, Executive Vice-President Valdis Dombrovskis replied on behalf of the European Commission to a parliamentary question for written answer on the state of play of the agreement that the Commission and the EEAS have been working on an additional instrument to accompany the agreement, aimed at addressing concerns about sustainability and the potential environmental effects of the agreement, notably on deforestation.

### 6.1.2 Trade policy: A relevant lever?

A key question is how to shape trade policy in a way that makes it compatible with the fight against climate change. At first glance, the two seem to be mutually exclusive, as it is widely accepted that international trade produces GHG emissions. According to the WTO, in recent decades GHG emissions generated by the production and transport of exported and imported goods and services have increased and represent, on average, 20-30% of global GHG emissions.<sup>236</sup> However, the WTO also points out that trade and trade policies can foster the transition to a low-carbon economy by,

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<sup>232</sup> See the European Commission [press release](#).

<sup>233</sup> Grieger G., [Amazon deforestation and EU-Mercosur deal](#), EPRS, European Parliament, 2020.

<sup>234</sup> See [Rapport au Premier ministre](#).

<sup>235</sup> See European Parliament, [Implementation of the common commercial policy – annual report 2018](#).

<sup>236</sup> See WTO, [Trade and Climate Change](#), 2021.



among other things, providing access to and spurring innovation in low-carbon technologies. The World Bank also stresses that increased trade over time in the right types of goods and services, along with complementary regulations, can benefit the environment.<sup>237</sup> The European Commission evaluated that, for example, the EU-Korea FTA led overall to a net reduction of global CO<sub>2</sub> emissions by 4.1 million tons. The Commission explains the reduction of CO<sub>2</sub> emissions by trade diversion in favour of EU and Korean firms from more polluting producers in China and the US.<sup>238</sup>

The 2019 EU-Japan Economic Partnership Agreement is the first trade agreement ever to include commitments to implementing the UN Framework Convention on Climate Change, as well as the Paris Agreement.<sup>239</sup> The latest approach to using trade agreements to tackle climate change is the EU-New Zealand FTA, for which negotiations concluded in June 2022. It is the first EU trade agreement ever that provides for the possibility of trade sanctions, in instances of serious violations of core labour and climate commitments. Other initiatives to use trade policy as a tool to tackle climate change have been launched in the multilateral trade fora. In December 2021, the EU, together with a significant number of WTO countries, signed up to three initiatives to step up joint actions in the WTO.<sup>240</sup> In order to help mitigate the effects of climate change, the partners agreed to strive to facilitate trade in green goods and services, promoting sustainable supply chains and the circular economy. They will also cooperate on battling plastic pollution and enhancing transparency of fossil fuel subsidies.<sup>241</sup> Given the urgency of the climate crisis, it is clear that the legitimacy of any trade policy will be measured by the extent to which it contributes to a reduction in GHG emissions and the global fight against climate change. The new carbon border adjustment mechanism could potentially also become a blueprint for pricing other environmental externalities.

## 6.2 Taxation and benefits

Tax and social benefit instruments, at different government levels, are and will continue to be, crucial to influence economic and social outcomes towards beyond growth objectives.

First of all, direct tax and social benefit systems for households have **sizeable redistributive impacts in the EU**. Figure 19 shows that inequality of market income (income before taxes and transfers) is reduced by nearly half (top), and the risk of poverty is three times lower (bottom), once the tax and transfer systems of EU Member States apply. However, the extent of redistribution achieved through taxes and social benefits varies across EU countries.

Before COVID, tax and benefit policy measures (abstracting from demographic or other changes) tended to boost households' disposable income and were of a progressive nature in many EU countries, thereby often resulting in **inequality-reducing policies** overall, although the effects depended on the year and varied across countries.

<sup>237</sup> See World Bank Group, [The Trade and Climate Change Nexus](#).

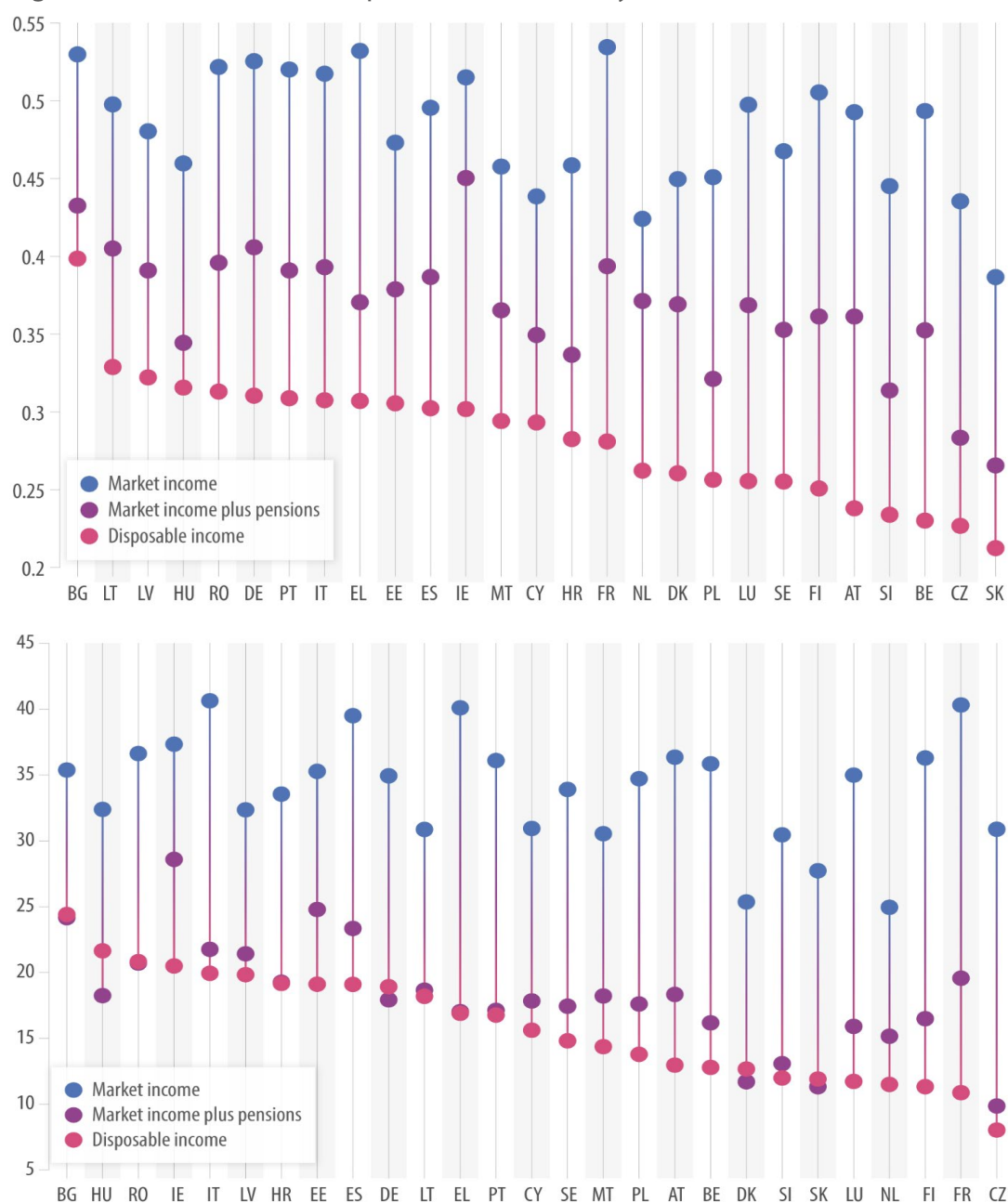
<sup>238</sup> See [An Open, Sustainable and Assertive Trade Policy](#).

<sup>239</sup> See [EU-Japan Partnership Commits to Paris Agreement, 2030 Agenda](#).

<sup>240</sup> See WTO, [Members note work in three environment initiatives and discuss anti-deforestation efforts](#).

<sup>241</sup> See Chatham House, [Global trade in 2023](#).

Figure 19 – Redistributive impact of tax benefits systems in the EU



Note: Graphs show income inequality (top) and at-risk-of-poverty rates (bottom) before and after taxes and social benefits by EU country in 2022.

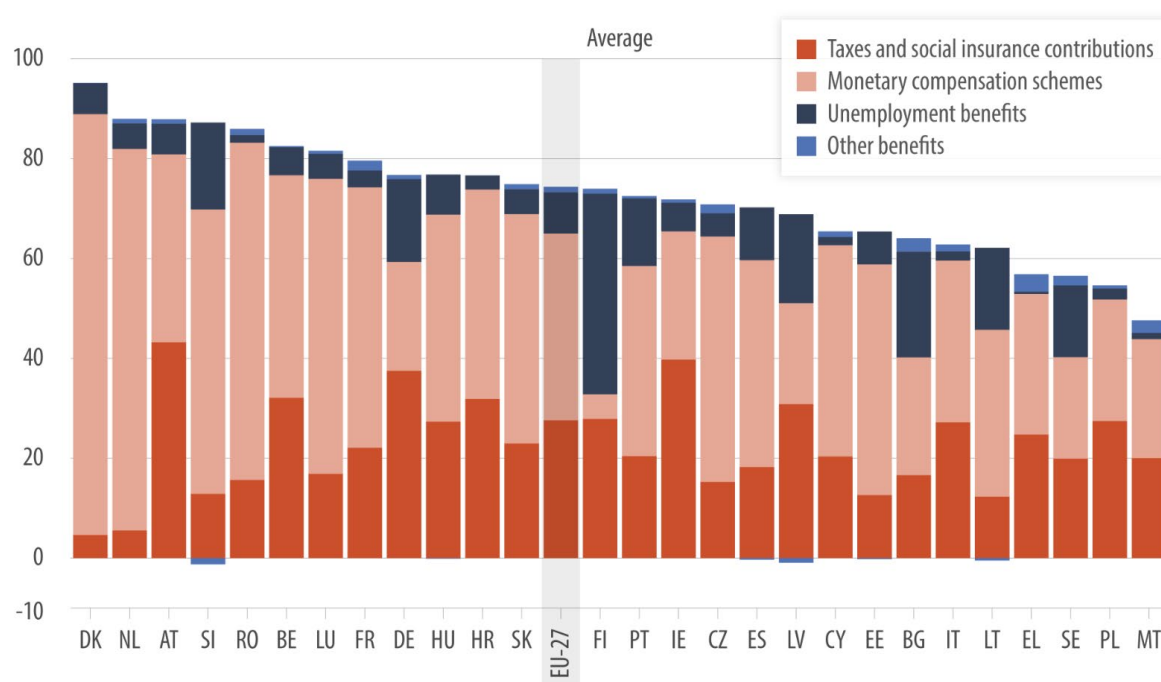
Inequality is measured by the Gini coefficients and at-risk-of-poverty rates use 60% of the national median equivalised disposable income as a threshold. The impact of the tax and social benefits systems is measured using the EUROMOD microsimulation model (version 15.0+, 2022 policy systems), which uses the information on individual characteristics and economic circumstances contained in survey data to simulate liabilities for direct taxes and non-contributory cash benefit entitlements for a representative sample of households in each EU Member State. Income is equivalised following the OECD modified scale. The estimates shown use 2020 EU-SILC input data (based on 2019 incomes updated to 2022) except for LU (2019 input data, 2018 incomes updated to 2022). All income and monetary variables are adjusted to the year of analysis using appropriate uprating factors.

Source: Calculations by the European Commission's Joint Research Centre.

Tax and social benefit systems are also important **automatic stabilisers**, buffering shocks to households' market income. At macro level, the automatic stabilisation properties of tax-benefit systems limit falls in demand, and at social level they cushion income losses, increases in inequality and poverty risk during crises. However, recent experience has shown that the automatic stabilisers may need to be complemented by discretionary policy during major shocks, leading to so-called 'discretionary-automatic stabilisation measures'.

These were particularly important during the COVID crisis, when instruments like short-term work schemes (policies that subsidise workers' wages in firms that have reduced working hours but preserved jobs) played a prominent role in cushioning the income shock. The tax and benefit systems of EU countries, including pandemic-related fiscal measures, are estimated to have absorbed about 75 % of the market income loss in 2020, almost twice the EU-average prevailing effect before the crisis (see Figure 20 and Figure 21).

Figure 20 – Income stabilisation by EU country

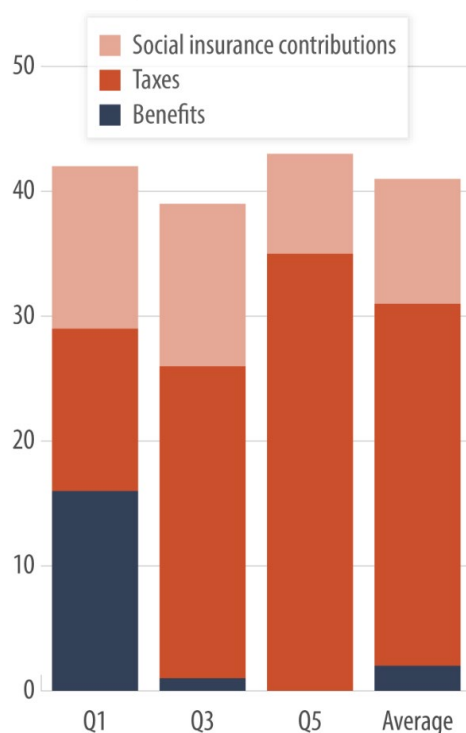


Note: Breakdown by fiscal instrument. Figure shows income stabilisation coefficients, which measure the share of the market income shock absorbed by the tax-benefit systems in place in 2020. Estimates are based on EUROMOD and microdata from the 2019 EU-SILC. Labour market shock is simulated to replicate the 2020 labour market conditions using the so-called 'labour market adjustment' (LMA) add-on.

Sources: Christl et al. (2022), [Monetary compensation schemes during the COVID-19 pandemic: Implications for household incomes, liquidity constraints and consumption across the EU](#), JRC Working Papers on Taxation and Structural Reforms No 03/2022.

More generally, beyond a crisis year, the extent to which tax-benefit systems smooth incomes is quite stable over the income distribution (see Figure 21, which looks at 2019). The relative significance of the different components in cushioning shocks changes across households, with social benefits being more important at the bottom and taxes at the top of the income distribution.

Figure 21 – Income stabilisation in the EU by income quintile (Q)



Note: The graph shows income stabilisation coefficients for 2019.

Source: Coady et al. (forthcoming); JRC Working Papers on Taxation and Structural Reforms No 01/2023. Calculations made using EUROMOD and microdata from the 2019 EU-SILC.

In the current context, **inflation** is severely and unevenly hitting households around the world. Besides the role of government interventions to limit the distributional consequences with ad hoc supporting measures, it is important to consider the size and structure of tax and benefit systems. This includes how their parameters are possibly indexed to inflation, to prevent further unintended distributional consequences due to nominal earnings increases.<sup>242</sup>

Looking forward, fiscal policy needs to put emphasis on **reforms to foster long-term inclusivity and sustainability** and adapt to the fast-changing global economy, ageing societies and technological progress. Recent examples of beyond growth-oriented fiscal policies at EU level include the proposal to modernise minimum income schemes to fight poverty and exclusion, while providing incentives and enabling labour market activation measures for those who can work.<sup>243</sup> Besides cash transfers, in-kind benefits, notably health benefits, should also have a prominent role in addressing poverty and inequalities, and stronger attention needs to be paid to issues like affordability of healthcare for all. Fiscal policies are also important to support gender equality, with examples ranging from tackling gender biases in tax systems (e.g. joint taxation schemes that disincentivise work for second-earners, usually

women) to public support of childcare to reduce the gender employment gap (for which a revision of the Barcelona targets on childcare<sup>244</sup> was recommended by the Council in December 2022). On the environmental front, green taxation should help support environmental objectives and the fight against climate change, while targeted compensating mechanisms can be designed to counter the potential regressive effect of this form of taxation on the most vulnerable households.<sup>245</sup>

Another view on the beyond growth concept is the idea of a **'tax shift'**, usually understood as moving away from labour taxation, which usually accounts for more than half of all tax revenue in the EU, towards taxes related to natural resource use and pollution.<sup>246</sup> Despite the growing awareness and importance of climate-related objectives, the role of environmental taxes in the overall tax system has been relatively stable in the EU. In 2019, 5.9% of all tax revenue in the EU

<sup>242</sup> For instance, wage increases due to inflation may move income earners to higher income tax brackets through the so-called 'fiscal drag' (or 'bracket-creep') effect.

<sup>243</sup> See [COM\(2022\) 490 final](#).

<sup>244</sup> As supporting evidence, see [The impact of alternative childcare policies on mothers' employment for selected EU countries](#).

<sup>245</sup> See the Impact Assessment of the Commission Proposal for a [Revision of the Energy Taxation Directive](#), including distributional impact assessments of various scenarios, as well as the effects of compensating mechanisms.

<sup>246</sup> See e.g. [The ExTax project](#).

came from environmental taxes (in 2008, this was 6%), although in some Member States, such as Bulgaria and Greece, these taxes represented almost 10% of all revenue. When implementing such tax shifts, it is important to consider the revenue flow of such Pigouvian taxes (taxes on negative externalities), which has the potential to decrease over time.

Another aspect to strengthen the beyond growth concept in public policies is the need to account for timely indicators on income inequality. Looking at income and consumption developments, rather than just production, emphasising the household perspective and giving more prominence to the distribution of income, consumption and wealth as measures of wellbeing are key recommendations for going beyond GDP. To support this, **real-time estimates of inequality developments** for timely policy responses (e.g. flash estimates of income inequalities and poverty) and the development of tools to assess distributional implications of policy reforms are of the essence.<sup>247</sup>

Changes to the tax system can also have unintended or uncertain results. In this context, there is a growing body of research regarding the concept of **'tax incidence'**, looking to make a distinction between those who are legally required to pay the tax, and those who bear the economic burden of the tax. One example is the corporate income tax, where there is disagreement as to what share of the costs related to corporate taxation falls on capital owners, workers and consumers.<sup>248</sup> Tax incidence can also be analysed by looking at price changes following changes in VAT or sales taxes. For example, when a number of EU Member States started to lower VAT rates on energy, following the Russian invasion of Ukraine, Commissioner for Economy Paolo Gentiloni sent a letter to EU Finance Ministers to express his concern and referred to 'the bad track record' of lower VAT rates in generating lower consumer prices.<sup>249</sup> These **'pass-through' effects** in the area of taxation cannot be easily predicted, but a beyond growth society should study such examples closely to avoid any negative distributional impact.

Most tax policies seek to fight poverty and exclusion, mainly by increasing participation in the labour market but also, as shown above, by redistribution of income. In a beyond growth society, the tax system would be one of the main levers to ensure transformation. Notably, progressive taxation and tax shifting towards resources and pollution are key areas brought forward in the debate. While it is argued that tax shifting promotes labour market participation, as labour costs would decrease with lower income taxation, shifting the taxes to resources and pollution would simultaneously reduce resource consumption, while giving incentives for circular economy approaches and a cleaner and more efficient production industry. Progressive taxation, on the other hand, is proposed to be strengthened to increase the redistributive effects of taxation, with a focus on reducing inequality and increasing inclusion by ensuring a level playing field for the societal participation of all citizens. The latter is deemed essential to increase wellbeing and reduce dissent and social tension within countries (see Section 5.7 and Chapter 7 for more details on this debate).

A key point of progressive taxation in the beyond growth debate centres around wealth taxes. In the OECD, 12 countries had net wealth taxes in place in 1990, but by 2017 only four countries still continued recurrent net wealth taxation of individuals. Decisions to discontinue such taxation were motivated by efficiency and administrative concerns. The revenues collected were mostly very low

<sup>247</sup> See e.g. [Dynamic scoring of tax reforms in real time](#).

<sup>248</sup> See OECD Taxation Working Papers, [Legal tax liability, legal remittance responsibility and tax incidence](#), 2017.

<sup>249</sup> In VAT, there appears to be [empirical evidence](#) that lower VAT rates are not passed on in full in consumer prices, although the effectiveness of rate changes can depend on the goods/services covered, size of the rate reduction and time horizon of the effects. Other empirical evidence suggests a high degree of pass-through to consumer prices in the short term (see e.g. a [JRC study](#) on the price effects of the recent temporary VAT cut for basic food in Spain).

and the taxes were not always successful in reaching their redistributive goals. Yet, the 2018 OECD report reviewing the net wealth taxation issues affirms that addressing inequality through wealth taxes can make sense in some cases. Where broad-based capital income taxes and well-designed inheritance and gift taxes are already in place, an additional net wealth tax will not change much. On the contrary, where the overall tax burden on capital is low, or where levying broad-based capital taxes or inheritance taxes is not feasible, net wealth taxes may be a good substitute.<sup>250</sup>

The policy challenges raised above are particularly testing when considering their implementation at EU level. Tax policy remains overall a national competence, with the EU having no power to raise or collect taxes. Even when the EU does intervene in tax affairs (mostly in relation to single market issues), all 27 EU Member States are required to support any tax-related initiatives unanimously, with a consultative role for the European Parliament. Granting the EU more power in the area of taxation, or changing the legislative procedure (for instance, by requiring qualified majority voting in Council on tax matters), would likely prove very controversial to (a number of) Member States, rendering the likelihood of such a change small. For the time being, a beyond growth approach in taxation is therefore likely to be largely driven at national level, but coordination at European level may be desirable in certain policies.

Taxation alone, however, cannot reduce inequality and ensure planetary wellbeing. Our financial and capital markets also need reforms, and this is touched upon in the next section.

### 6.3 Making capital work for society

Financial flows and capital markets have become key determinants in the overall economic system. In the beyond growth debate they often receive harsh criticism for propagating inequalities due to the way assets auto-accumulate in value, surpassing average increases in income earnings, and how, as the Friedman Doctrine posited,<sup>251</sup> corporations constantly chase profits and growth, without incorporating externalities, unless this is forced upon them, thereby asserting ever-increasing pressure on the planet.

It is a broadly held view that extreme concentrations of wealth undermine the social contract. To address rising global inequality, the question of how to tax income and wealth repeatedly attracts attention (see also sections 5.7 and 6.2). Wealth inequality is far greater than income inequality, has increased in recent decades and has been further sharpened by the pandemic according to the World Inequality Report 2022 (see also Section 3.1).<sup>252</sup> Researchers analysed key weaknesses of attempts within Europe to tax wealth, pointing at design flaws, tax competition between countries and loopholes, which eventually undermined such taxes, though the authors argue that a well-designed, modern wealth tax could overcome all these weaknesses.<sup>253</sup> During the 2019-2020 contest for the US Democratic presidential nomination, two prominent US senators galvanised the public debate with detailed proposals for progressive wealth taxation. Both proposals differed substantially from the European schemes, by proposing a broader tax base along with expanded enforcement, higher top rates and targeting of the super-rich, the main takeaway being that some form of regular taxes on wealth accumulation are likely to spur further debate.<sup>254</sup>

To make detailed suggestions for a makeover of financial and capital markets is beyond the scope of this study. The introduction to this section serves to highlight some of the structural issues of the

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<sup>250</sup> [The Role and Design of Net Wealth Taxes in the OECD](#), OECD Tax Policy Studies, 2018.

<sup>251</sup> [A Friedman doctrine – The Social Responsibility Of Business Is to Increase Its Profits](#), 1970.

<sup>252</sup> See [World Inequality Report 2022](#).

<sup>253</sup> Saez E. and Zucman G., [Progressive Wealth Taxation](#), 2019.

<sup>254</sup> Scheuer F. and Slemrod J., [Taxing our wealth](#), 2021.



global financial and capital system, to increase awareness of the focus in the debate and the potential for design improvements.

The subsections below present specific approaches to redirect flows within the existing financial system. Though, at the current stage, these need further mainstreaming and are likely to mainly provide incremental change, it is important to note the steps being taken and explored to make capital work for society. As the potential and role of tax policies was discussed in Section 6.2, the content below focuses more on financial flows and how to incorporate nature in economic decisions. The role and responsibilities of businesses at the micro-level is discussed in Section 6.4.

### 6.3.1 Incorporating social aspects in financial markets

Redirecting private and public capital to socially valuable activities is a standard point of discussion in the beyond growth debate. Firstly, there is a **call to financial markets** to better consider social aspects in their investment; secondly, there is **awareness** that an eventual transition of the economy to a beyond growth scenario cannot be achieved without appropriate public and private funding, including for social support to workers and communities most affected by the transformation. The COVID pandemic and the ongoing green transition represented an opportunity to experiment on a large scale with various forms of social finance, for employment support or just transition.

Social finance can be defined in different ways: **social impact investment**, generating measurable social impact alongside a financial return; **socially responsible investment**, avoiding investment in socially or environmentally harmful activities; and **venture or traditional philanthropy**, providing venture capital or grants to address societal challenges. Financial actors are looking to social finance with more interest. Retail investors see social investments as a possibility to pursue non-financial objectives (e.g. ethical objectives) together with financial objectives; institutional investors (e.g. investment funds) are adapting their portfolio accordingly, considering the ESG factors in terms of risk, and return on investment.

#### Social finance – strategies

**Negative/exclusionary screening:** the investor excludes specific activities or industries (e.g. tobacco, weapons) or companies for ethical reasons (e.g. human rights, labour conditions). **Positive screening/best-in-class selection:** the investor over-weights in his/her portfolio companies, sectors or countries with better or improving ESG performance. **Active ownership/voting/engagement/stewardship:** the investor uses ownership/voting rights to influence the ESG strategy and increase the ESG performance of the entity in which he/she has invested. **ESG integration:** the investor systematically includes ESG risks and opportunities in investment analysis, portfolio construction and risk management. **Thematic investing:** the investor focuses on specific themes (e.g. education, health and diversity, forestry).

#### Social finance – instruments

**Social impact bonds:** loan contracts where creditors are repaid depending on the result of the financed social investment/project. **Social bonds:** bond instruments committed to financing social projects, including projects aiming to sustain vulnerable groups, or to alleviate unemployment stemming from a socioeconomic crisis. **Social investment funds:** investment funds managed by a public authority or a multinational development bank, aimed at social investments. **Social venture funds:** venture capital investing in social enterprises, or in business and entities that are socially and environmentally responsible. **Social crowdfunding:** crowdfunding aimed at financing social projects or business initiatives, and used especially in the early stage of social projects at regional level.

Even if social finance can already count on different strategies, and instruments (see box above) developed mainly through market-led initiatives, the role of policymakers remains very important in defining how social aspects should be better incorporated in financial markets. The EU is working

on the development of a social taxonomy<sup>255</sup> based on three objectives: decent work; adequate living standards and wellbeing; and inclusive and sustainable communities and societies. The OECD is also working on a framework for social impact investment<sup>256</sup> to facilitate international cooperation in developing global standards on definitions.

### 6.3.2 Incorporating risks and greening finance

While labels and standards can help investors identify assets that are financing the transition of companies towards more sustainable activities and business models, another powerful lever to divert investments from unsustainable activities is to make investors aware of the **risks** that are associated with them. In particular, assets' returns could be negatively affected by risks stemming from the sustainability dimension, also known as ESG. Focusing on risks stemming from climate change and climate policy, the two main categories are physical risks, i.e. those linked to natural disasters and long-term climate change impacts, and risks linked to the low-carbon transition.

Related to the latter, in essence it is reasonable to expect that the implementation of sustainable finance policies will imply higher costs for firms with higher emissions, or obsolete production plants, as well as a depreciation of particularly energy-inefficient buildings. This could arguably cause a generalised drop in the dividend that polluting firms will be able to pay to their shareholders and increase the probability of default by more-polluting borrowers and bond issuers. In parallel, carbon-intensive assets will increasingly become 'stranded', particularly those linked to economic activities to be abandoned in the transition, e.g. electricity production from burning coal.

On the policy front, for some years central banks and supervisors have started investigating the exposure of financial institutions and the financial system as a whole to such risks.<sup>257</sup> Focusing on transition risks, the scientific literature provides an increasing number of studies assessing the financial impacts of climate transition risks, while transition risk is starting to be analysed also in relation to other environmental risks such as biodiversity loss and ecosystem degradation. Alessi and Battiston (2022) estimate the overall exposure of European investors to transition risk via their securities holdings at around 12 %. Even in the short run, financial dynamics could amplify an initially contained depreciation of high-carbon assets into a systemic crisis, all the more considering that fossil-fuel assets are riskier than comparable assets.<sup>258</sup> To make the financial sector more resilient to these and other types of climate-related shocks, the European Commission is undertaking policy action, including asking the EU's banking, insurance and securities regulators to conduct a climate stress test of the entire financial system.

Finally, are transition-related considerations actually driving investors' strategies? It seems so. For example, stock market investors did start to consider low-carbon assets as an appealing investment opportunity after the Paris Agreement, but did not yet penalise carbon-intensive assets.<sup>259</sup> Investors also reacted to Trump's election in 2016 by rewarding carbon-intensive firms; however, long-term investors also rewarded companies demonstrating more responsible climate strategies.<sup>260</sup> Moreover, after the Paris Agreement, the first global Climate Strike, and the announcement of the

<sup>255</sup> See Platform on Sustainable Finance, [Final Report on Social Taxonomy](#), 2022.

<sup>256</sup> See OECD, [Social Impact Investment](#).

<sup>257</sup> See e.g. the reports by the [European Systemic Risk Board](#) and the [Network for Greening the Financial System](#).

<sup>258</sup> See Alessi L., Di Girolamo F., Pagano A. and Petracco Giudici M., [Accounting for climate transition risk in banks' capital requirements](#), 2022, and Alessi et al., [Fossil Fuels: Are they worth the \(downside\) risk?](#), forthcoming, 2023.

<sup>259</sup> See Monasterolo I. and de Angelis L., [Blind to carbon risk? An analysis of stock market reaction to the Paris Agreement](#), 2020.

<sup>260</sup> See Ramelli S., Ossola E. and Rancan M., [Stock Price Effects of Climate Activism: Evidence from the First Global Climate Strike](#), 2021.

Green Deal, investors perceived green investments as less risky and demanded a lower return to hold greener and more transparent stocks.<sup>261</sup>

### 6.3.2.1 Green financial markets

Capital markets play a crucial role in scaling up the financing of investments and technological innovation that are needed to reach EU climate and environmental targets. On the back of impressive market growth since the first issuance in 2007, **green bonds** are so far the most successful sustainable finance instruments. As of the first half of 2022, the global cumulative green-labelled issuance had almost reached the milestone of US\$2 trillion.

Green bonds have been characterised by a strong focus on climate change mitigation. Fatica and Panzica (2021) document that, in a large sample of 1 105 green bonds issued worldwide by the corporate sector over the period 2007-2019, three contracts out of four (amounting to 80 % of the funds raised) are issued for projects with the purpose of climate change mitigation, either fully or partly. Importantly, the study shows that the carbon intensity of these green bond issuers is reduced by around 4 % compared to that of similar non-green bond issuers. When looking specifically at new green investment projects (by excluding bonds issued for refinancing purposes), the reduction is over 8 %. Hence, preliminary evidence suggests that they are a credible signal of firms' climate-related engagement.

From a corporate finance perspective, green bonds may be associated with a lower cost of funding for non-financial issuers, as shown by Fatica, Panzica and Rancan (2021). This is consistent with the fact that demand for green bonds by investors is still larger than available supply by issuers. However, the results of the study also suggest that the green bond label per se is not enough to raise funding at a lower cost. This is most likely due to the difficulties for investors to disentangle issuers with a genuine commitment to environmentally friendly projects from those engaging in mere 'greenwashing'. This argument is corroborated by the finding that, when a negative premium – that is, a lower yield for green issuances – exists, it is larger for bonds with external review and for those issued by return issuers, i.e. issuers that tap the green bond market more than once.

Research has further shown that green securities experienced lower sales by institutional investors on secondary markets during the COVID-19 pandemic, indicating that sustainable investments can exert a stabilising effect on financial markets even during episodes of market turbulence.<sup>262</sup>

Finally, by considering both the investment gap at the aggregate level and where we currently stand in terms of green financing, Alessi et al. (2019) derive estimates for the potential growth of European green financial markets. An updated analysis based on the same methodology shows that additional green bonds and loans needed to fill the investment gap will need to increase by a factor of 10, with even larger growth potential for green finance in particular economic sectors, notably utilities. Overall, these findings

#### EU Green Bond Standard

On 28 February 2023, negotiators reached an agreement on the Commission's 2021 proposal for a regulation on a voluntary European Green Bond Standard (EU GBS) to create a voluntary standard available to all issuers (private and sovereign) to help finance sustainable investments.

It will be the first regulatory standard for green bonds in the world and includes transparency measures and external review clauses, while mandating companies adopting the standard to implement green transition plans

Source: European Parliament [press release](#) of 28 February 2023.

<sup>261</sup> See Alessi L, Ossola E. and Panzica R., [When do investors go green? Evidence from a time-varying asset-pricing model](#), 2021.

<sup>262</sup> Fatica S. and Panzica R., [Sustainable investing in times of crisis: evidence from bond holdings and the COVID-19 pandemic](#), 2021.

suggest enormous growth potential for green finance. Still, the increased financial investment needed in relevant sectors appears to be feasible when assessed against outstanding amounts.

The 2021 EU 'Strategy for financing the transition to a sustainable economy' includes, among several actions, extending the framework of sustainable finance standards and labels to create transparent, credible frameworks to prevent greenwashing, and allow more environmentally committed firms to effectively communicate their business strategy. While developing a general framework for labels for financial instruments, the set of sustainable finance standards and labels will be extended to cover assets that finance the transition to sustainability and phased transition efforts, such as transition or sustainability-linked bonds, as well as an ESG Benchmark. The sustainable bond market is rapidly expanding and diversifying: innovative instruments are being developed to meet growing investor demand and corporate commitments to tackle environmental and social challenges. Next to the use-of-proceed instruments, such as green bonds, a new asset class that considers the issuers' broader sustainability performance seems particularly promising. The potential of the so-called 'sustainability linked bonds' to finance the Green Deal, and corporate transition plans, is still to be assessed. Moreover, with the aim of empowering retail investors and SMEs to access sustainable finance opportunities, work is ongoing on the definition and possible supporting tools for green retail loans and green mortgages.

### 6.3.2.2 The EU taxonomy

The EU taxonomy and the other tools developed in the context of the EU green finance agenda will help to mobilise the funds that the EU needs to reach its climate and environmental goals. In particular, implementing the 'Fit for 55' plan to reduce net GHG emissions by at least 55 % by 2030 will require investments amounting to almost 8 % of GDP, which means around €400 billion of additional investments each year compared to the 2011-2020 average. It is worth noting that these investments will also lead to annual savings exceeding €100 billion by 2030 on the EU's bill for fossil fuels imports.<sup>263</sup>

EU firms and larger financial institutions will only need to report on their taxonomy-alignment during 2023 and 2024 respectively. Therefore, to know what to expect in terms of green financing from the taxonomy, we can only currently refer to estimations.

Experts initially expected two-digit figures for the share of taxonomy-alignment of financial portfolios, before actually realising how strict the taxonomy is. Alessi and Battiston (2022) provide a top-down methodology to estimate taxonomy-alignment for firms' revenues based on standardised taxonomy-alignment coefficients, provided for all sectors of the economy. They come to an overall estimate of taxonomy-alignment for EU financial markets of 2.8 % based on 2022 data, considering activities contributing to the objective of climate change mitigation only.<sup>264</sup> Hoepner and Schneider (2022), using aggregate firm-level estimates of taxonomy-alignment from a set of data vendors for about two hundred companies, also find that the mean taxonomy-alignment of company revenues currently ranges in the low single digits. Interestingly, they document that the correlation of taxonomy-alignment estimates across various vendors can be as low as 0.04. However, alignment figures are bound to increase, as 1) the taxonomy is still being developed and the set of taxonomy-aligned activities will be extended, and 2) market and technological developments are expected to bring about an increase in the share of taxonomy-aligned activities.

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<sup>263</sup> Impact assessment accompanying the [2021 proposal by the European Commission](#) to strengthen and extend the EU emissions trading system (Table 39, MIX scenario).

<sup>264</sup> This is an update of the analysis in Alessi L. et al., [The EU Sustainability Taxonomy: a Financial Impact Assessment](#), 2019, which came to a similar conclusion.

### 6.3.3 Balanced valuation at the macro-level

National accounting could benefit from considering new dimensions of capital, to more fully incorporate the costs and benefits from its economic activities, or policies. As illustrated in Section 2.1, GDP is the standardised measure of the value of all final goods and services that are produced in a country in a given period. This measure of value production in a country and the general health of the economy then informs economic policy decisions at the national level. Ensuring financial or monetary representation of the costs of natural capital resource use/depletion and pollution linked to economic activity could give more nuanced directionality input to economic policymaking.

**Natural capital** is the world's stock of natural resources and ecosystem services, and it is a critical element to ensure the wellbeing of societies and the planet. The definition of natural capital has been met with criticism, as it treats nature as a commodity in the sense of the IPBES life frame 'living from nature'. Some critics of the natural capital approach maintain that nature is mainly seen through instrumental values, as a means to satisfy human needs and wants, and as such it is **commodified** and transformed into 'natural capital' (see subsection 3.2.2).

**Natural capital accounting** is a tool to measure changes in the stock and condition of natural capital at a variety of scales and integrate the flow and value of ecosystem services into accounting and reporting systems in a standard way.<sup>265</sup> Natural capital accounting is promoted through the EU regulation on European environmental economic accounts; a 2022 Commission proposal to amend it is currently under discussion.<sup>266</sup> An example of natural capital accounting at country level is the first report on the state of natural capital in Italy, published in 2017. Recently, Denmark finalised an extensive research project on modelling a Green GDP measure (see box below).

**Green budgeting** can help to preserve and increase natural capital by influencing policymaking and budget spending. It consists of a series of practices aimed at raising the transparency, visibility, and importance of the public budget dedicated to environmental protection and restoration. Among the practices are green budgeting tagging, environmental tax reform, climate and environmental impact assessments, and green budget assessments. As such, where natural capital accounting shows the status of stocks and flows of ecosystems and the pressure from economic activity on the services they provide, over a specific period, green budgeting is a forward-looking budgetary planning tool.

Green budgeting has emerged at local, national and international levels. **At local level**, as early as 1994, on the occasion of the first European conference on sustainable cities and towns, which took place in Aalborg (Denmark), over 2 000 European cities and towns signed the Aalborg Charter, with the pledge to 'seek to establish new environmental budgeting systems which allow for the management of our natural resources as economically as our artificial resource, "money"'. In the aftermath of the conference, a methodology was developed by ICLEI-Europe, implemented by four German municipalities as a pilot project (1995-2000), and later deployed on a larger scale in the ecoBudget project funded through the European LIFE programme.<sup>267</sup>

**At national level**, Italy has been one of the pioneers; since 1999, an environmental budget ('EcoBilancio') is produced alongside the draft budget, to highlight all resources allocated to the

<sup>265</sup> Definition provided by the [European Commission](#).

<sup>266</sup> See [Regulation \(EU\) No 691/2011](#) of the European Parliament and of the Council of 6 July 2011 on European environmental economic accounts. The proposal for an amendment is under way – see the [Legislative Observatory page](#).

<sup>267</sup> See the [EcoBudget description](#) on the LIFE webpage.



environment in the annual budget.<sup>268</sup> In 2019, France launched its first green budgeting exercise, which will also include, on a yearly basis, the publication of a document annexed to the budget bills.<sup>269</sup> The Danish research project mentioned above includes a green budgeting model, also presented in the box below. Based on this work, Denmark leads the macroeconomic modelling workstream in the Coalition of Finance Ministers for Climate Action.<sup>270</sup>

**At European level**, in 2021 the European Commission published the first review of green budgeting practices in the EU; the study showed how practices vary between countries, due to different underlying concepts and definitions of environmental objectives, and budget contributions. In January 2022, the Commission released a green budgeting reference framework, aimed at facilitating the harmonisation of countries' practices.<sup>271</sup> **At international level**, the OECD and the IMF have proposed other frameworks.<sup>272</sup>

#### Case study: Denmark's GreenGDP and GreenREFORM modelling exercises

On 27 January 2023, years of research culminated with the presentation in Denmark of two new models, developed for the purpose of including climate and environmental concerns in economic policymaking.

The first model integrates natural capital accounting with GDP to provide a GreenGDP measure. The model was presented as the most extensive approach to such an exercise ever undertaken. The project lead, Peter Birch Sørensen, argues such a measure is needed due to the overoptimistic assumptions of proponents of economic growth regarding associated negative impacts. The model aims not to put a value on nature overall, but to value the costs of deterioration or the benefits of environmental improvements due to economic activity. With this approach, the Danish GreenGDP was 10% lower compared to the classic GDP – equalling about -33 billion euros – in recent years.

The project's second model looks to the future to determine the short and long-term impacts on natural capital and services of planned budget and policy measures. The GreenREFORM tool is to be used in developing the annual national budget, and with detailed assessments on a sectoral level, it supposedly provides the most detailed modelling attempt to date to support green budgeting. Key parts of the Danish recovery and resilience plan measures are built in part on the indications of the GreenREFORM model.

Source: [Article](#) (in Danish) by Peter Birch Sørensen, 5 February 2023; Copenhagen University [press release](#) (in Danish) via Ritzau, 27 January 2023; GreenREFORM project and modelling [description](#) by DREAM.

**Green and social budgeting** is increasingly attracting the attention of experts and policymakers, as a possible solution to consider climate and social issues in a holistic way, and to facilitate a just transition. Climate and social budget tagging is one of the main tools used to implement it.

The forthcoming revision of the UN System of National Accounts in 2025 provides an opportunity to adjust GDP calculations, with task forces currently working on issues such as digitalisation, sustainability and wellbeing.<sup>273</sup> The existing alternative frameworks and indicator sets already provide possible blueprints for decision-making, while supporting policies are also available and being implemented.<sup>274</sup> Some of these frameworks have proven very popular and have sparked a number of national and local development strategies.<sup>275</sup>

<sup>268</sup> [Ecobilancio 2023](#), Ministero dell'Economia e delle Finanze, accessed on 2 April 2023.

<sup>269</sup> See the 2021 annex to the 2022 budget '[Rapport sur l'impact environnemental du budget de l'État](#)'.

<sup>270</sup> See the Coalition of Finance Ministers for Climate Action [webpage](#), Helsinki Principle 4, accessed on 2 April 2023.

<sup>271</sup> Commission webpages on the [review of green budgeting practices](#) and the subsequent [reference framework](#).

<sup>272</sup> See the [OECD](#) and [IMF](#) framework.

<sup>273</sup> See [Towards the 2025 SNA](#), United Nations. The methodology for calculating GDP has already seen many adjustments.

<sup>274</sup> See the ZOE Institute [policy database](#) for an overview of policy ideas supporting sustainable prosperity.

<sup>275</sup> See Widuto A., [Beyond GDP: Global and regional development indicators](#), EPRS, European Parliament, October 2016.



## 6.4 Making business sustainable

### 6.4.1 Rethinking business

The concept of post-growth, and its various declinations, have received considerable attention at macroeconomic level from academia, while few authors have analysed and proposed business models adaptable to its scenario at the micro-level. According to Niessen and Bocken (2021), 'research on businesses driving sustainable consumption strategically is still a niche'. Hinton (2021) identified five key **dimensions of post-growth business**: relationship-to-profit (e.g. not-for-profit business), structure (e.g. co-operative), governance (e.g. democratic and inclusive), strategy (e.g. societal needs, and wellbeing), and size and geographical scope (e.g. small and local companies). The author proposed to use them as a kind of taxonomy to analyse how aligned a company is with post-growth aims. He categorises three types of businesses, as either: growth-driving; potentially compatible with post-growth transition pathways; or ideal for post-growth economies.

In 2016, Bocken and Short proposed '**sufficiency**' (see subsection 4.2.2 for its individual and community-level aspects) as another driver of business model innovation for sustainability, and analysed how firms can contribute to sufficient consumption. Building on a literature review, Niessen and Bocken (2021) proposed a Business for Sufficiency (BfS) framework, consisting of a matrix (see Figure 22 below) populated with strategies that businesses may implement to drive sufficiency. Among them are 'support for repair & reuse', 'life extension service', 'long product warranties', 'exchange platforms', 'short distance promotion' and 'open-source creation'.

Other researchers propose to extend eco-efficiency and eco-sufficiency strategies to consumers. In their operations, companies can increase the quality of production (eco-efficiency), and decrease the amount of production (eco-sufficiency), but they can also influence customers to consume both better (extended eco-efficiency) and less (extended eco-sufficiency). The authors consider that an extended eco-efficiency strategy is pursuable by multinational companies of significant brand value, thanks to their power in the supply chains and their influence on consumption patterns.<sup>276</sup> The extended eco-sufficiency strategy supposes an intervention by the public sector through, for example, 'laws and regulations that would set higher taxes or even caps on the consumption/production'.

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<sup>276</sup> Heikkurinen P., Young C. and Morgan E., [Business for sustainable change: extending eco-efficiency and eco-sufficiency strategies to consumers](#), 2019.

Figure 22 – Business for Sufficiency (BfS) framework

	<b>Rethink</b> Consume differently	<b>Reduce</b> Consume less	<b>Refuse</b> Don't (over)consume
<b>Less clutter</b> <i>Simplified &amp; less</i>	No ownership Personalised production Green alternative	N O + price incentive Demand reduction service	Moderating sales Question consumption
<b>Less speed</b> <i>Slower &amp; more reliable</i>	Reuse Personalised production Green alternative	Life extension service Long product warranties	Question consumption
<b>Less distance</b> <i>Regional &amp; disentangled</i>	Green alternative	Short distance promotion	Question consumption
<b>Less market</b> <i>Beyond commerce</i>	Open-source creation Exchange platforms	Support for repair & reuse Exchange platforms	Support for self-sufficiency
	<b>Design</b>	<b>Self-awareness</b>	

Source: Niessen L. and Bocken N., [How can business drive sufficiency? The business for sufficiency framework](#) (2021).

Hankammer and Kleer (2017) analyse **collaborative value creation** (CVC), and its related technologies, as a possible alternative organisational model to solve social and environmental problems. CVC aims to integrate consumers into the value creation process, through ideas generation (e.g. crowdsourcing), financing (e.g. crowdfunding), or designing and configuring new products (e.g. commons-based peer production). Other authors have extended the concept to collaboration with business partners, and stakeholders.<sup>277</sup>

A **degrowth business framework** has also been proposed, centred around the environment, people and non-humans, and deviation from the profit maximisation imperative. The author focuses on three dimension: a) downscaling of economic activities, (b) wellbeing, and (c) a radical shift in values. Among the list of elements for businesses are: workers' wellbeing, decreased productivity, democratisation of decision-making, consideration of non-human life and its wellbeing, frugal and efficient use of resources, and alternative business models and ownership patterns (cooperatives, social enterprises, grassroots economic practice).<sup>278</sup>

Lloveras, Marshall, Vandeventer and Passera (2022) pointed out that '**alternative types of businesses cannot prosper** within institutional settings where growth continues to be the main policy objective', and without a change in lifestyles. Voluntary simplicity, mindful consumption, and decelerated consumer experiences should be elements of an anti-consumption 'degrowth agenda for marketing' (on marketing, nudging and behavioural economics, see also Section 6.5).

The **European Union** is contributing to a possible change of business models by proposing a series of measures going in this direction (see box below).

<sup>277</sup> Khmara Y. and Kronenberg J., [Degrowth in business: an oxymoron or a viable business model for sustainability?](#), 2018.

<sup>278</sup> Nesterova I., [Degrowth business framework: implications for sustainable development](#), 2020.

## Rethinking business: EU measures under discussion

### Rethinking products

**Design** is considered to determine up to 80% of a product's lifecycle environmental impact. In March 2022, the Commission presented a [proposal](#) for a regulation on ecodesign for sustainable products. It extends the current ecodesign framework by setting new requirements to make products more durable, reusable, upgradable, repairable, easier to refurbish and recycle.

**Textile products** can be a source of environmental harm. In March 2022, the Commission presented the new [strategy](#) for sustainable and circular textiles, aimed at ensuring more long-lived and recyclable textile products, produced in respect of social rights and the environment.

**Packaging** is a growing source of waste. In November 2022, the Commission presented a [proposal](#) for a regulation that would replace the Directive on Packaging and Packaging Waste. It would cover the entire life cycle of packaging, and would require a deposit and return system (DRS) for single-use plastic beverage bottles, and aluminium beverage containers. It also proposes recycling targets for Member States.

### Rethinking responsibilities

**Global value chains** may pose risks to human rights and the environment. In February 2022, the Commission presented a [proposal](#) for a directive on corporate sustainability and due diligence. This would introduce mandatory human rights and environmental due diligence, and a duty for directors to set up and oversee its implementation, and to integrate it into the corporate strategy.

**Decent work** worldwide is a priority for the EU, in combatting forced labour, including child labour. In September 2022, the Commission presented a [proposal](#) for a regulation to prohibit products made using forced labour on the internal market. It covers all products made available within the EU market, meaning products made in the EU for both domestic consumption and for export, and imported goods.

**Extended Producer Responsibility (EPR)** extends the producer's responsibility to the post-consumer stage of a product's life cycle. EPR is implemented at different levels in various directives; in October 2022, in its [proposal](#) for a recast of the Urban Wastewater Treatment Directive, the Commission also included EPR provisions targeting pharmaceuticals and cosmetics, in order to cover treatment costs.

### Rethinking consumer rights

**Consumer rights** can be a driver for making business more sustainable. In March 2022, the Commission presented a [proposal](#) for a directive empowering consumers for the green transition. The proposal includes a new right to information on the durability and reparability of products, and a ban on greenwashing and planned obsolescence.

**Green claims** have become popular among companies, when marketing their products and services, but they can be misleading if not based on real merits, but on greenwashing. In March 2023, the Commission presented a [proposal](#) for a directive to make green claims reliable, comparable and verifiable across the EU. It would establish a standardised regime for environmental claims and labels, and consumer organisations would be able to bring legal actions to protect the collective interests of consumers.

**Right to repair** products can help sustainable consumption. In March 2023, the Commission presented a [proposal](#) for a directive to facilitate repair and reuse. It contains provisions such as rights for consumers to claim repair from producers; producers' obligation to inform consumers; an online matchmaking repair platform, to connect consumers with repairers and sellers of refurbished goods in their area; a European repair information form; and a European quality standard for repair services.

## 6.4.2 Rethinking business values and valorisation

In his book 'Prosperity: Better Business Makes the Greater Good' (2019), Colin Mayer argues that corporations should move away from shareholder primacy to purpose primacy. Purpose is defined as producing profitable solutions to the problems of people and the planet, and not to profit from producing problems for the people or planet. Purpose-oriented firms can thus create both wealth and social wellbeing and be a source for social change and for social good. Mayer further calls for discarding the conventional Milton Friedman (1962; 1970) doctrine that the one and only social purpose of business is to increase profits so long as it stays within the rules of the game; instead, corporate purpose should reflect the interests of stakeholders as well as shareholders.<sup>279</sup>

Small and medium-sized enterprises (SMEs) can play an important role in the transition to a more sustainable and equitable socioeconomic system. Small business research stresses fundamental differences in the intentions and motives of small and medium-sized business owners and entrepreneurs. While managers in large enterprises follow the logic of growth and profit maximisation, many small business owners limit growth and want to achieve personal goals instead.<sup>280</sup> Moreover, entrepreneurs, as their level of awareness about the dangers of the local natural and communal environment increases, become keener to discover and apply sustainable business practices.<sup>281</sup> This is aligned to post-growth economic theories, where the social and environmental aspects engulf the economic aspects, and thus the potential transitional power held in local economic ecosystems and strategies towards community development based on small-scale co-ops, micro-enterprises and not-for-profit organisations is extensive.<sup>282</sup> The transition potential of entrepreneurialism through cooperatives, associations, publicly owned companies and social enterprises is also noteworthy, given their diverse forms of governance and their aim to operate beyond the mere goal of maximising profit/returns.<sup>283</sup>

Giving value to how a business contributes to the common good, or how it depletes our natural and human capital, may help to trigger more sustainable business through the effects of reputation, transparency and financial valorisation of eventual gains or costs linked to conduct. Economy for the Common Good and Natural Capital Accounting represent two interesting proposals in this sense.

### Economy for the Common Good

**Economy for the Common Good (ECG)** is a global movement proposing an alternative to the existing economic model, currently based on profit and growth. It advocates transitioning to an economic system having 'common good' ('a good life for everyone on a healthy planet') as its principal goal. Businesses should be committed to dignity, social justice, sustainability and democracy. In order to have this paradigm shift, it proposes to reward 'good' behaviour, and make 'poor' behaviour more visible to the public and less profitable. The model is based on three main points:

- 1) businesses produce a common good balance sheet;
- 2) products receive an ECG label with the common good score;
- 3) economic policies provide ECG businesses with advantages (e.g. taxation and incentives).

<sup>279</sup> Mayer C., [The Future of the Corporation and the Economics of Purpose](#), 2021.

<sup>280</sup> Hornaday R., [Dropping the e-words from small business research: An alternative typology](#), 1990.

<sup>281</sup> Patzelt H. and Shepherd D., [Recognizing Opportunities for Sustainable Development](#), 2011.

<sup>282</sup> Koukoufikis G., [The Role of Micro-Enterprises in Post-Growth Urban Transitions](#), 2020.

<sup>283</sup> Simms A., Johnson V. and Chowla P., [Growth isn't possible: why we need a new economic direction](#), 2010.

The contribution to the common good is assessed and scored through the common good matrix, which is used to draw up a **common good balance sheet**. In parallel, through the common good report, companies can explain how they implement and aim to develop common good values. Auditors review both the report and the balance sheet before they are available to the public.

More than 400 companies have implemented the common good balance sheet and report. The value of the ECG model has also been recognised by the European Economic and Social Committee (EESC) through its opinion on the Economy for the Common Good (September 2015),<sup>284</sup> adopted with a majority of 86 %, where it 'underlines that the ECG is a model to be realised within the market economy, it is not opposed to the market economy'.

### Natural capital accounting at the micro-level

The misuse of natural resources by business puts natural capital at risk. It is extremely important to consider the environmental externalities created by a business, both in the decision-making processes and its valuation models. In this context, implementing **natural capital accounting**<sup>285</sup> (see also subsection 6.3.3) at enterprise level can help to map an individual business's impacts or dependencies on natural resources. This, in turn, can be the basis for reporting on a business's performance in this regard, and to give monetary value to it.

Brown, Dickie, Harris-Confino, Lehtonen, Obst and Pitts (2018) argue that 'Businesses might use this natural capital information to help them to assess significant risks and opportunities at either a product, project or organisational level. Conducting these assessments allows organisations to decide which areas of their business are in need of better management or increased investment.' The authors indicate three dimensions to generate better information: taking care of *dependencies* more than impacts; *valuing* impact and dependencies more than measuring them; and adopting an *integrated approach* to natural capital, where its elements are seen as a connected system, and not as separate issues (e.g. climate, water, biodiversity).

#### Rethinking values: EU corporate sustainability reporting

Sustainability reporting is one of the main tools to show evidence of how a company is committed to minimising the risk of producing (negative) externalities through its activity. It implies **increased transparency and disclosure** of the way a company does its business and deals with its employees, its suppliers and the communities of the territories where its activities or its business partners are located. The European Union is actively participating in the international race to produce sustainability reporting [standards](#).

On 5 January 2023, the **Corporate Sustainability Reporting Directive (CSRD)** entered into force. It implies stronger rules for all large companies (>250 employees and turnover of €40 million) when reporting social and environmental information; lighter reporting standards apply to SMEs listed on public markets.

Various initiatives to systematise natural capital accounting have been launched worldwide, among them the EU-funded Transparent project.<sup>286</sup> This project has already delivered a benchmarking report providing a mapping of the natural capital accounting landscape, its applications, and its challenges. The report also provides recommendations for standardisation.

<sup>284</sup> EESC, Economy for the Common Good, Opinion [ECO/378](#), 17 September 2015.

<sup>285</sup> Natural capital accounting is a tool to measure the changes in the stock and condition of natural capital (ecosystems) at a variety of scales and to integrate the flow and value of ecosystem services into accounting and reporting systems in a standard way (source: [European Commission](#)).

<sup>286</sup> [Transparent](#) is an EU LIFE-funded project that aims to develop standardised natural capital accounting and valuation principles for business.

## 6.5 A more 'human' starting point for policymaking

Efficiency has long dominated policy discussions, enforcing a 'conception of technology as a panacea for global environmental problems'.<sup>287</sup> However, concerns about its associated market and non-market failure factors (such as rebound effects) have made clear that efficiency is not enough, and that consumption reduction needs to become central. The latest IPCC report<sup>288</sup> also explicitly calls for demand reduction policies, more particularly in buildings. Such policies shall be associated with 'a set of measures and daily practices that avoid demand for energy, materials, land and water while delivering human wellbeing for all within planetary boundaries'. Therefore, to achieve demand reduction, substantial behavioural changes are required. In this context, the lens of behavioural economics could fit the purpose of understanding how to promote systematically those behavioural changes.

In trying to identify effective ways to restrain behaviours harmful to the environment, policymakers have usually treated climate change mostly as a problem caused by market failures. Therefore, they tried to mitigate the negative impacts of climate change by using traditional economic interventions, such as mandates or bans (changing the availability of options), fiscal measures (monetary incentives and disincentives) and regulatory ones (such as mandatory disclosure of information and the regulation of the carbon market through ETS).<sup>289</sup>

Nevertheless, these kinds of interventions have so far proved insufficient for many reasons, notably because traditional policymaking does not sufficiently take into account people's behaviour based on psychological plausibility. The assumptions underlying this traditional policymaking rely on the *rational choice model*, according to which behaviour results in decisions based on an analytical comparison of the costs and benefits associated with alternative options, and can be altered mainly by changing economic incentives and providing more information.

However, this theory has been confronted with the empirical failure to depict actual individual behaviour by the field of behavioural economics. This field has shown that individuals are *bounded rational* and they use *heuristics* (mental shortcuts) to deal with their inherent inability to perform rational calculations; these mental shortcuts enable us to navigate complex environments. Simultaneously, they also often lead to systematic and predictable errors. As an example, a heuristic that individuals use to ease the cognitive load of making a decision is placing weight on information that is more **recent** and **readily available**. However, by doing so, individuals would take more precautionary behaviours against a risk that is familiar, like terrorism, and salient, like car accidents, than other risks that are less familiar and salient, like risks associated with climate change.<sup>290</sup>

The field of behavioural economics has also shown that, in addition to displaying **cognitive deviations**, individuals display **motivational deviations** from rational choice assumptions. Namely, individuals are not fully rational agents who would always seek the best option for their own interest, but are actually bounded rational agents who seek the option that is good enough, depending on contextual features and taking into account the implications on others (and the environment).<sup>291</sup> As an example, individuals are differently motivated by fairness concerns and,

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<sup>287</sup> Arvesen A., Bright R. and Hertwich E., [Considering only first-order effects? How simplifications lead to unrealistic technology optimism in climate change mitigation](#), 2011 (see p. 7452).

<sup>288</sup> IPCC, [Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change](#), 2022.

<sup>289</sup> Loewenstein G. and Chater N., [Putting nudges in perspective](#), 2017.

<sup>290</sup> Sunstein C., [The availability heuristic, intuitive cost-benefit analysis, and climate change](#), 2006.

<sup>291</sup> Della Valle N. and Bertoldi P., [Mobilizing citizens to invest in energy efficiency](#), 2021.



depending on how fair they perceive a certain distribution of costs and benefits to be, they will decide to engage or not in a certain behaviour, or to support or not a certain climate policy. Some would perceive actions to address climate change as too costly because the associated benefits are delayed into the future and, thus, decide not to perform them.<sup>292</sup> Some would, instead, be more willing than others to reduce their energy consumption even in the absence of benefits or financial incentives, because they are intrinsically motivated to protect the environment.

Overall, by espousing a more nuanced understanding of behaviour as not only responding to incentives and information but also being shaped by individuals' motivations, variable cognitive abilities and decision-making environment, the behavioural economic findings offer additional (and more human) lenses through which to approach policymaking. At the same time, they also enable enrichment of the policy toolbox. In particular, they offer ways to augment the efficacy of traditional interventions, and new policy tools to promote behaviours that benefit society, while promoting agency.<sup>293</sup>

### 6.5.1 Behaviourally informed traditional instruments

**Financial incentives** are traditionally implemented with the assumption that individuals would be more willing to engage in a certain behaviour if provided with a monetary motivation. However, insights from behavioural economics suggest that individuals are not only sensitive to monetary incentives of taxes and subsidies, but also to how these are framed. As an example, subsidies and tax credits can be more effective than an equivalent tax. Insights from behavioural economics also suggest that the effectiveness of financial incentives depends on the motivations they target. As an example, the provision of an extrinsic (monetary) motivation to engage in a certain behaviour could have a backfiring effect on those individuals who are already intrinsically motivated (e.g. because of altruism or because of their green identity). To make financial interventions more effective, it is thus crucial to take into account the underlying motivations in the target group, and eventually introduce a policy mix with messages that crowd-in intrinsic motivations.<sup>294</sup>

**Information instruments** disclose technical information, such as energy savings, mainly through labels, audits and information programmes. These are implemented traditionally with the assumption that individuals would be more willing to engage in a certain behaviour if provided with more information. However, research indicates that individuals are not only sensitive to the availability of relevant information, but also to how it is framed and who provides it. As an example, information campaigns could make 'decision-relevant information' salient, such as making operating costs salient at the point of purchase, or promoted by trusted members of the community.<sup>295</sup>

<sup>292</sup> Weber E, [What shapes perceptions of climate change?](#), 2010.

<sup>293</sup> Banerjee S., Grüne-Yanoff T., John P. and Moseley A., [It's Time We Put Agency into Behavioural Public Policy](#), 2023.

<sup>294</sup> Alt M., Della Valle N., Bruns H. and Murauskaite-Bull I., [Environmental policy mixes have a high potential, but must be handled with care](#), 2022.

<sup>295</sup> Münscher R., Vetter M. and Scheuerle T., [A review and taxonomy of choice architecture techniques](#), 2016.

**Regulatory instruments** are traditional interventions that change the options available to consumers by imposing bans on products that do not meet certain criteria. They are usually implemented based on ex-ante estimates of costs and benefits (e.g. energy savings), resulting from implicit modelling assumptions of individual behaviour. However, depending on the assumptions, estimated welfare losses from reduced available options can be more or less accurate. Insights from behavioural economics can be incorporated in the evaluation of welfare effects and better inform the choice of regulatory instruments.<sup>296</sup> Policymakers can also use behavioural insights for the identification and regulation of unethical practices by private actors who exploit individuals' cognitive biases to increase their profits.<sup>297</sup>

#### Traditional instrument for a new behaviour – Taxation on advertising

Over recent years, the regulation of marketing and especially the taxation of advertising have been proposed to encourage better consumer behaviour. For a long time, commercial advertisements were only seen as informative tools with a limited effect on the distribution of market share. Now, though, it has been revealed that not only do advertisers take advantage of consumers' cognitive vulnerabilities by using the persuasive functions of advertisements, but they also push ordinary people to change products that are still working (an example being the market for cell phones), thus creating a purchasing power crisis. This encourages the consumer, according to the latest research carried out in France, to work 6 % more (during the period 1992-2019), in order to be able to acquire the newest version of such goods, to the detriment of leisure time and the planet. In response to this, and also in reaction to advertisements for carbon-intensive or environmentally harmful products (e.g. big cars, long-distance flights, or fast foods), a new policy instrument is emerging in the fight against climate change: taxing big advertisers and banning the advertising of articles and commodities with a very high carbon footprint. Sectors beneficial to the ecological transition (e.g. organic, renewable energy, and reuse) would be exempted.

On the policy level, a first encouraging step in this direction is a recent own-initiative opinion of the EESC. In order to commit the advertising industry to reducing its carbon footprint, it recommends that the sector initiate a reflection to ensure that advertisements become a real lever for ecological transition. This should allow, on a factual and precise basis, the highlighting of products that contribute to the reduction of environmental impacts. Moreover, the own-initiative opinion calls for the European advertising regulation to be strengthened to combat greenwashing and misleading environmental claims.

Sources: Dupré M. and Fossard R., [La communication commerciale à l'ère de la sobriété – Taxer la publicité pour consommer autrement](#), Institut Veblen, 2022; [Advertising for modern, responsible consumption](#), own-initiative opinion of the EESC, 2021.

## 6.5.2 New policy instruments

**Nudging** is one concrete, influential application of behavioural economics to policymaking. Building on the evidence that the way choices are presented has an impact on the choice that individuals make, Thaler and Sunstein propose nudging as a cost-effective tool to redirect behaviour without foreclosing options or changing economic incentives. Nudges adjust the decision structure to help individuals execute their intentions and assist them in their decisions.

An exemplary nudge is changing the effort required to select the desired policy option (the so-called 'default option'). This can be achieved, for example, by changing the default settings on thermostats, or by decreasing the perceived effort of engaging in certain conservation-friendly behaviour.

<sup>296</sup> Tsvetanov T. and Segerson K., [The welfare effects of energy efficiency standards when choice sets matter](#), 2014.

<sup>297</sup> Thaler R., [Nudge, not sludge](#), 2018.

Nudges that assist decision makers are commitment devices, reminders and goal settings. As an example, basic visual or auditory reminders can prompt consumers to act.<sup>298</sup>

**Boosts** promote better decision-making by engaging and strengthening the cognitive system.<sup>299</sup> Boosts differ from nudges in that they target competencies, not immediate behaviour. They aim to promote human agency by targeting area-specific (e.g. understanding health information) and general competencies (e.g. statistical literacy) as well as the related context (e.g. information representation). As an example, training on energy literacy could boost the necessary skills to appreciate the benefits of energy conservation behaviour.

**Thinks and nudges plus** complement nudges and boosts by enabling citizens to be moved from being passive policy recipients to policy co-developers.<sup>300</sup> Thinks are broadly defined as deliberative interventions, where citizens can get involved by reflecting on a problem and having their say on the potential solutions, such as through citizens' juries, citizens' assemblies and participatory budgeting. Nudges plus add the deliberative element of thinks to a nudge and can result from a co-design process involving different forms of expertise, including citizens and local policymakers. As an example, when a policy has to be introduced to address environmental externalities, such as through a ban, local policymakers can initiate a design lab where they can reflect and deliberate on redistributive rules, and eventually co-design a nudge, such as one to address cost and benefit misperceptions. This more recent form of application can also contribute to overcoming the potential 'socially constructed ignorance'<sup>301</sup> as to how we address policy problems, to enhancing democracy<sup>302</sup> and to promoting justice-aware policy agendas.<sup>303</sup>

## 6.6 Alternative tools and targeted sectors

Reflections on a beyond growth economy need to answer the question of how to guarantee sufficient incomes if the economy no longer grows. Increasing labour productivity implies that fewer people will be needed to produce the same amount of goods and services, an outcome driven by automation and artificial intelligence. An expanding economy can offset such increases, but if the economy does not grow, there is a risk that people lose jobs. Job shortages, in particular among young people in southern Europe, were already acute before the pandemic,<sup>304</sup> and efforts to achieve the green transition add a further layer of uncertainty. Some jobs will be lost, while new ones will be created, likely requiring other skills and not necessarily corresponding geographically.

There are several policy tools that can be used to regulate the drivers of demand and supply in a beyond growth society, many of which we already use to achieve climate-related goals. Among these are: information and education programmes that aim to achieve behavioural change by individuals and organisations; financial incentives such as rebates, grants, and low-interest loans; flexible demand response programmes; and community-scale renewable energy and carbon offsetting projects.

<sup>298</sup> Frederiks E., Stenner K. and Hobman E., [Household energy use: Applying behavioural economics to understand consumer decision-making and behaviour](#), 2015.

<sup>299</sup> Hertwig R. and Ryall M., [Nudge versus boost: Agency dynamics under libertarian paternalism](#), 2020.

<sup>300</sup> John P. and Stoker G., [Rethinking the role of experts and expertise in behavioural public policy](#), 2019.

<sup>301</sup> Pereira Á. and Völker T., [Engaging With Citizens](#), 2020.

<sup>302</sup> Wagle U., [The policy science of democracy: The issues of methodology and citizen participation](#), 2000.

<sup>303</sup> Sovacool B. et al., [New frontiers and conceptual frameworks for energy justice](#), 2017.

<sup>304</sup> Mastini R., [A Job Guarantee Scheme for a Post-growth Economy](#), Friends of the Earth, 2018.

To ensure societal wellbeing independently of economic growth and within planetary boundaries, several avenues of action are being debated and tested, which address different aspects of these issues and entail trade-offs. The main takeaway from this debate is that, given the variety of national situations and traditions, no single solution is likely to work magic on its own in all contexts.<sup>305</sup>

### 6.6.1 Working time reduction

**Working time reduction (WTR)** is based on a collectively agreed reduction of time spent in employment, with no cut in pay or reductions in social security contributions and with compensatory staff recruitment as necessary. The most common form is a shorter working week (a reduction from 40 to 35 hours), usable for most jobs.<sup>306</sup> Other forms include an increased number of paid holidays or early retirement. WTR can be agreed at the level of a country, sector or company.<sup>307</sup>

The number of hours people work in a formal wage economy is arbitrary, an outcome of a political arrangement and social bargaining. Over the last century, the number of hours worked has been shaped by several historical stepping stones, such as the transition from the six-day working week to the five-day week, but also the decrease in weekly working hours within the five-day week.<sup>308</sup> Throughout their working life, many people approaching retirement have already experienced a WTR due to the implementation of pension schemes, mandatory education or introduction of paid leave. In response to the COVID-19 pandemic, countries across Europe introduced short-time working schemes to prevent layoffs. Compared to the global financial crisis of 2008, when austerity was the rule and short-time work was only available in a few countries, the impact on saving jobs was positive.<sup>309</sup>

Next to workers' wellbeing and fewer days of sick leave, frequently cited benefits include energy savings and lower carbon footprints for households, reduced office use and less commuting. While the effects of a redistribution of paid work ('job sharing') have proved difficult to measure, women appear to be the group most affected by WTR. It can increase their participation in the labour market, but also, more broadly, may help redistribute the amount of informal non-paid care and housework.<sup>310</sup>

Some critics point to reduced output and employment due to lower capital operating time. However, this has not materialised with the WTR in France, since firms compensated for the decreased hours of work with increased shift work. The world's largest pilot project, conducted in the United Kingdom over six months from June 2022, concluded that the four-day week not only boosted employee wellbeing, but also mostly preserved full-time productivity. Of the 61 participating companies, 56 (92 %) are continuing with the four-day week and 18 have adopted the change as permanent.<sup>311</sup>

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<sup>305</sup> For differences between the EU and the US debate, see e.g. Barnes P., [Can Basic Income Come to America?](#) 2016.

<sup>306</sup> As opposed to a 'compressed' working week that seeks only more flexibility without reducing the hours worked, as is currently being debated in [Belgium](#), for instance.

<sup>307</sup> Wiese K. and Culot M., [Reimagining work for a just transition](#), European Environmental Bureau, 2022.

<sup>308</sup> Ibid. France, for instance, has experienced WTR both at the country and company level. A 1996 law (Loi Robien) allowed companies to voluntarily reduce the working time of their employees, with government support. However, following the introduction of a generalised 35-hour working week (in 1998 and 2000) targeting greater time flexibility, the 1996 law was not renewed. On a company level, the Bosch factory in Vénisseux has had this work policy in place since 1998.

<sup>309</sup> [A fair recovery: only by saving jobs and securing wages](#), industriALL, 10 February 2020.

<sup>310</sup> Cárdenas L. and Villanueva P., [Challenging the working time reduction and wages trade-off: a simulation for the Spanish economy](#), 2021.

<sup>311</sup> [The results are in: the UK's four-day week pilot](#), Autonomy Research Ltd, 2023.

## 6.6.2 Universal basic income or a social dividend?

**Universal basic income (UBI)**, after years of mostly academic debates, has recently become debated more broadly, experimented with and integrated into various political campaigns as a tool to fight inequality. In 2018, the International Monetary Fund, pointing to the lack of a unified definition and a heterogeneous approach in trials, defined UBI as a cash benefit regularly paid out unconditionally to all residents in a country. It is benchmarked as a fraction of median equivalent income, either complementing existing social spending programmes or substituting some of them.<sup>312</sup> Most proposals suggest that UBI would have to be financed through progressive taxes and replace or complement existing income support schemes.<sup>313</sup>

The increased interest in UBI brought recent trials under greater scrutiny, shedding light on the reasons for their apparent popularity but also the challenges of gaining adequate support and resources for implementation. As trials usually fall short of being universal but tend to target certain groups or populations, the term 'unconditional' basic income is also being used.<sup>314</sup> The COVID-19 pandemic revived the interest in UBI as a possible relief measure and a potential tool against recession.

The proponents of the idea argue that UBI can help support structural reforms and address poverty issues better than means-tested programmes such as minimum income schemes, which may incur high administrative costs and require complex monitoring. UBI is not a developed country issue; trials have made available a wealth of data, albeit of inconsistent quality, and shown that UBI can perform both in stable and volatile settings. Financing remains key, whether it comes from oil, natural resource funding, carbon pricing, private sources or mixed options. While UBI is not a stand-alone solution and should be part of a system, paths to scaling-up remain unclear.<sup>315</sup> Critics point out that UBI could also be expensive to implement and maintain, discourage work, increase dependency on government assistance, disincentivise people from improving their skills, lead to inflation if not properly managed and be difficult to administer in a fair way.<sup>316</sup>

Inspired by growing interest in UBI, the Social Prosperity Network at University College London developed the concept of **universal basic services (UBS)** in 2017, as a potential policy that would provide the social capital people need to regain control and security in their lives and place them on a path of prosperity.<sup>317</sup> UBS encompasses goods and services deemed essential to meeting basic needs, which should be decommodified and provided universally for free (in-kind). The approach involves defending and improving existing public services, extended further into housing, care, transport and other everyday necessities. Based on pooled resources and shared risks, it proposes working together to help one another, backed by a transformed role for the state.

UBI and UBS have been discussed as suitable, but potentially competing, approaches that could support sustainable welfare. While UBI focuses on the consumption side of the economy, UBS addresses more directly the production or provision side. A recent analysis of how both approaches compare (in their potential contribution towards staying within planetary boundaries, satisfying

<sup>312</sup> Francese M. and Prady D., [Universal Basic Income: Debate and Impact Assessment](#), 2018.

<sup>313</sup> Büchs M., [Sustainable welfare: How do universal basic income and universal basic services compare?](#), 2021.

<sup>314</sup> Shanahan G., Smith M. and Srinivasan P., [Is a Basic Income Feasible in Europe?](#), 2019.

<sup>315</sup> Trials included Canada, Finland, Germany, the United Kingdom, the United States, Kenya, India, Mongolia and Namibia. See Crowley J. and Sevciuc I., [Basic income – on data and policy](#), UNESCO Inclusive Policy Lab, 2021.

<sup>316</sup> Wright R. and Przegalińska A., [Debating Universal Basic Income](#), 2022.

<sup>317</sup> Portes J., Reed H. and Percy A., [Social prosperity for the future: A proposal for Universal Basic Services](#), Social Prosperity Network, 2017.

individual needs, fair distribution and democratic governance) finds that they are not so much in conflict but can be complementary in supporting sustainable welfare.<sup>318</sup>

UBI provides people with cash – either to satisfy their needs or, at lower levels, contributing to needs satisfaction – and lets them choose how to spend it. One of the biggest advantages of UBI is that it would remove means testing, as well as the non take-up of benefits due to stigma and bureaucratic hassle. It also raises some concerns, however – for instance, that it favours market provision over collective provision of services and could crowd out the existing public service provision.

Starting from the opposite end, UBS identify basic needs, organise the collective provision of goods or services to satisfy them and offer people free access. While proponents argue that collective provision of basic services would be more efficient and effective than a market-based approach, to critics this amounts to a more prescriptive approach, inflating the state bureaucracy and working with assumptions on how best to satisfy people's needs.

Each approach has its strengths and weaknesses. Both approaches depend on the specific economic and political situation in a given part of the world and their financial viability depends on society's willingness to redistribute resources. A sustainable welfare system may require a combination of both, as the design of one would determine the design of the other. If, for instance, a basic amount of water were provided for free as a UBS, the UBI to cover basic needs would be lower. In addition, both would likely increase energy consumption, be it at home or for travel, generated by people who were previously under-consuming due to poverty. Therefore, approaches to eliminating poverty and satisfying basic needs would have to be counterbalanced with reductions in consumption at the top of the distribution.

In the EU, Unconditional Basic Income Europe (UBIE), an international network of activists and initiatives, advocates for UBI implementation and its recognition as a universal human right.<sup>319</sup>

The **social dividend** builds on the debate on how to fund UBI and make it greener with the idea of a carbon price-and-dividend, which consists of setting an economy-wide price on carbon across the globe. It is based on the principle that the gifts of nature belong to us all and those who use them, in the form of fossil fuels, should pay to those who do not, but who have to bear the consequences. While putting a price on carbon emissions generates powerful incentives for clean energy, it increases fuel costs for consumers. Boyce (2019) argued that the only way to make carbon pricing acceptable to public and politically feasible is to make it just by returning the revenue to the public as carbon dividends.<sup>320</sup>

Taking the global point of view, Paul (2021) affirms that the carbon dividend would more than offset the higher fuel prices for the vast majority of the world's population, as the rich and those living in high-income countries would pay the bulk of the tax.<sup>321</sup> While a carbon price-and-dividend exists in Canada and Switzerland and some forms of carbon pricing instruments are in place in a number of other countries across the globe, the idea that the revenue generated by climate action should be redistributed seems to be gaining traction.<sup>322</sup>

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<sup>318</sup> Büchs M., [Sustainable welfare: How do universal basic income and universal basic services compare?](#), 2021.

<sup>319</sup> [Unconditional Basic Income Europe](#) (UBIE). The initiative builds upon the European Citizens' Initiative for an Unconditional Basic Income in 2013-14, which gathered the support of over 300 000 EU citizens.

<sup>320</sup> Boyce J., [The Case for Carbon Dividends](#), Polity Press, 2019.

<sup>321</sup> Paul M., [Greening the basic income](#), Basic income – on data and policy, UNESCO, 2021.

<sup>322</sup> See discussion in Dixson-Declève et al., [Earth4All book](#), pp. 161-162.



Extending the scope for redistribution, Standing (2019) proposed to reclaim 'the commons', understood broadly as public assets and services, from 'enclosures' of various kinds. On the example of commons in the history of the United Kingdom, which for centuries guaranteed access to commoners to this common wealth for their subsistence, Standing explained the importance of 'commons' in education, healthcare, land, knowledge and other areas. He argues that all forms of rentier income stemming from private ownership of physical, financial and intellectual property should be subject to a fee, to be held in a common fund and shared.<sup>323</sup>

As Webster (2022) points out, this logic questions the established approach of taxing people's efforts at adding value by producing goods and services and then again at the point of consumption (labour, production and consumption). The suggested shift consists in taxing at source the people and organisations that benefit from global resources, capital gain and land value. As owners of property, either conventional or intellectual, do not add value but can collect unearned income (economic rent), an additional tax could be levied where this imposes costs on society. Dividends redistributed directly to citizens, as opposed to being re-invested, may be an approach that faces less public opposition, as it embodies both economic and environmental justice.<sup>324</sup>

### 6.6.3 Job guarantee scheme

Defined as 'a permanent, nationally funded and locally administered programme that supplies voluntary employment opportunities on demand for all who are ready and willing to work at a living wage',<sup>325</sup> the job guarantee scheme has been mentioned mostly in the context of efforts to ensure a just green transition. It is a rights-based, rather than duty-based approach. Considered as an alternative to UBI, it requires the government to take up the role of the 'employer of last resort'. Not constrained by the obligation to make a profit, job guarantees could be used to advance projects that cannot be undertaken by the private sector. People could be employed for any work deemed to be of social value, for instance care for the elderly and community services. The main challenge for administrations would be to create and manage enough public jobs that contribute to achieving environmental, social and wellbeing goals, without creating unnecessary or low-value jobs.<sup>326</sup>

According to Palley (2018), who addressed the issue in the US context, job guarantee schemes promise multiple benefits. They would ensure full employment and substitute wages for unemployment benefits, as people who accept such jobs would otherwise be unemployed. They could help workers retain job skills and avoid being detached from the labour force. Society would benefit from the services provided and from the counter-cyclical stabilisation generated.

On the other side, the concerns raised include the fact that higher unemployment would raise the scheme's cost, potentially also forcing a cash-constrained government to cut down on other support policies. As private sector nominal wages may be tied to the job guarantee nominal wage so as to keep a wage differential, inflation may set in motion a price spiral. Further concerns relate to the comparative attractiveness of guaranteed jobs and jobs in the private sector, potentially draining workers from the latter, and to the likely pressure to lower public sector wages.<sup>327</sup>

<sup>323</sup> Standing G., *Plunder of the Commons – A manifesto for Sharing Public Wealth*, Pelican Books, 2019.

<sup>324</sup> Webster K., [The long road to a social dividend](#), Earth4All: Deep-dive paper 05, The Club of Rome, 2022.

<sup>325</sup> Tcherneva P., [The Job Guarantee: Design, Jobs, and Implementation](#), Working Paper No. 902, Levy Economics Institute of Bard College, 2018.

<sup>326</sup> Wiese K. and Culot M., [Reimagining work for a just transition](#), European Environmental Bureau, 2022.

<sup>327</sup> Palley T., [Job Guarantee Programs: Careful What You Wish For](#), Social Europe, 2018.

From a long-term perspective, both UBI and job guarantee schemes touch on our attitudes towards the concept of work and the underlying values, as both imply that one's self-esteem does not depend on one's ability to earn money through paid work.<sup>328</sup>

#### 6.6.4 Personal carbon allowances

Personal emission allowances (PCA) link climate and other environmental goals with personal action. The idea has been proposed mostly for carbon emissions, but can also be used for other environmental impacts. It is essentially a cap-and-trade mechanism, where the maximum level of emissions/impacts are capped based on climate/environmental targets. It shares the same benefits associated with carbon pricing, mentioned above, but the allowances and associated trade occur at individual level. The critical design features include setting the overall cap, allocating allowances in a way that is perceived as socially fair, and establishing a pricing and market mechanism.

Personal carbon allowances create incentives for individuals to reduce their consumption-based footprints through (1) external motivation (i.e. maximising economic benefits); (2) intrinsic motivation through improved carbon emission literacy (allocation, visibility, awareness and carbon budgeting); and (3) change in social norms by locating rights and responsibilities related to pollution at individual level (Fawcett and Parag, 2010). It is argued that personal allowances are more egalitarian, as low-income groups tend to have more spare allowances to sell, than carbon taxes (Fawcett, 2012), although that depends a lot on the system design and the initial allocation of carbon allowances. An empirical example linked to mobility shows that personal carbon trade could have positive distributional effects, as low-income households tend to have lower mobility-related emissions (Uusitalo et al., 2021). It can also be a complimentary scheme, engaging individuals through carbon budgeting, empowering innovators and pursuing environmental goals simultaneously with health, economic and social objectives (Guzman and Clapp, 2017).

Personal carbon allowance and trade attracted academic and political interest, especially in the UK, in the early 2000s, but was deemed ahead of its time (Fawcett, 2010). The recent EU Urban Innovation Action-funded CitiCAP project in Lahti, Finland (2019-2020)<sup>329</sup> trialled PCA. Many recent developments and the need to reduce emissions fast requires renewed dialogue between science and policy about the potential of PCA as a policy option (Nerini et al., 2021). The simultaneous digital transition enables more accurate and timely tracking of emissions, even in real-time,<sup>330</sup> more user-friendly transfers of information and more efficient ways to enact personal emission budgeting and potential trade between individuals (Nerini et al., 2021; Kuokkanen et al., 2020).

Personal carbon allowances would give individuals a set amount of emissions they are allowed to produce. Those not used could then be potentially traded with other participants on the open market, providing a market-based mechanism that would encourage individuals to reduce their consumption of activities with high emissions. Energy quotas, on the other hand, would set a limit on the amount of energy that can be produced or consumed, with penalties for those who exceed it. Policies like these could be applied to both individuals and organisations. On the other hand, consumption limits would also limit the amount of energy that can be consumed, but would be applied on a more macro level (city, regional, or country level).

In terms of balancing market forces and regulation, both can help. Market-based mechanisms, such as carbon pricing, already offer economic incentives to cut GHG emissions and transition to

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<sup>328</sup> Mastini R., [A Job Guarantee Scheme for a Post-growth Economy](#), Friends of the Earth, 2018.

<sup>329</sup> The project was funded by the [EU Urban Innovative Action Programme](#).

<sup>330</sup> In the Lahti CitiCAP project, mobility-related emissions are tracked practically in real time by using acceleration sensors built into mobile devices (Kuokkanen et al., 2020).

renewable energy. City planning and building regulation, with stricter energy efficiency standards, can help ensure certain goals are met. Given the need to ensure access to clean energy for all, regulation can be key in preventing market failures limiting the effects of energy poverty and ensuring that energy is distributed equitably. This can be accomplished through programmes such as energy subsidies for low-income households and community-scale renewable energy projects.

### 6.6.5 The food system

The food system is responsible for a significant share of anthropogenic environmental impacts, with food consumption contributing to between 11 % and 83 % of the EU's consumption footprint, depending on the environmental impact category considered, according to Sanyé Mengual and Sala (2023). The IPCC reported that between 21 % and 37 % of total GHG emissions are attributable to the food system, due to land use, agriculture, storage, transport, packaging, processing, retail and consumption, and that, without any intervention, these are likely to increase by 30 % to 40 % by 2050 as a consequence of increasing demand, based on population and income growth and dietary change.<sup>331</sup> The same report calls for a number of measures to reduce GHG emissions and enhance food system resilience, by combining **supply-side actions** improving the efficiency of production, transport and processing and sequestering carbon in soils and biomass, with demand-side actions such as the uptake of healthy and sustainable diets and reducing food loss and waste.

Focusing on **demand-side solutions**, a shift towards more sustainable diets has been assessed and discussed by scholars.<sup>332</sup> Substituting 25 % and 50 % of meat and dairy products by other product groups (e.g. cereals, nuts and seeds, and vegetables) could reduce the environmental impact of EU food consumption for all the impact categories of the consumption footprint – apart from a limited trade-off due to water use in specific crops (e.g. nuts).<sup>333</sup> However, the effectiveness of diet changes strongly depends on the socio-cultural context and the current diet.<sup>334</sup> Lifestyle changes towards more sustainable and healthy diets might also reduce the consumption of ultra-processed foods, which could also positively contribute to decreased environmental impacts (e.g. GHG, particulate matter, eutrophication and ecotoxicity).<sup>335</sup>

To promote the uptake of food waste reduction efforts, SDG target 12.3 aims to halve food waste and reduce food loss by 2030. This reduction offers a wide range of benefits beyond the environmental domain, as it can improve food security and bring savings for primary producers, manufacturers and consumers.<sup>336</sup>

As part of the Earth4All initiative, a February 2023 deep-dive paper explores how to transform conventional agriculture. It considers the steps needed in the context of a rapidly changing climate to ensure food security while improving ecological resilience. It includes consideration of the social spreading dynamics essential for the uptake of regenerative farming practices on a wider scale. It discusses the range of obstacles to transition food systems and notes the importance of broad societal and policy support.<sup>337</sup>

<sup>331</sup> IPCC, [Special report on climate change and land](#), Chapter 5, Food security, 2019.

<sup>332</sup> See, e.g. Springmann M. et al., [Options for keeping the food system within environmental limits](#), 2018, and Willett W. et al., [Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems](#), 2019.

<sup>333</sup> See Sanyé Mengual E. and Sala S., [Consumption Footprint and Domestic Footprint: Assessing the environmental impacts of EU consumption and production](#), 2023.

<sup>334</sup> Springmann M. et al., [Health and nutritional aspects of sustainable diet strategies and their association with environmental impacts: a global modelling analysis with country-level detail](#), 2018.

<sup>335</sup> See Seferidi P. et al., [The neglected environmental impacts of ultra-processed foods](#), 2020.

<sup>336</sup> UNEP, [Food Waste Index Report](#), 2021.

<sup>337</sup> Breier J., Schwarz L. et al., [Deep-dive paper 13](#), Earth4All initiative, February 2023.

## A case study in the energy transition

The energy transition as a long systemic transformation process in itself has degrowth and/or post-growth logic and is a domain in which the operationalisation of various theories takes place. The reduction in overall energy consumption, the shift to renewable energy sources as well as measures enhancing energy efficiency, conservation, and lifestyle changes are part of the energy transition strategy and comply with the practical interpretation of post-growth schemas.

As part of the energy transition, we use technical and policy tools and instruments such as energy efficiency and conservation retrofits, renewable energy development, exploitation of smart-grid systems, energy storage technologies, green taxes, carbon pricing, energy poverty reduction programmes, etc. to achieve the set technical and social goals and accelerate the plans. Although debates about the effectiveness and efficiency of the various policy tools and technological trajectories remain vibrant, the increased focus and interest results in the advancement of clean energy technologies via competitive processes, accelerating their deployment and development not only in the EU but also in other major economies, as the US Inflation Reduction Act demonstrates. In the initial transition phase, competitiveness can assist towards the realisation of the profound industrial transformation needed to support it. Nevertheless, as it is rooted in stimulating growth ('the new growth strategy'), it can lead to a zero-sum game and become unproductive, unless it is redefined towards acknowledging the mutual dependencies in the context of global climate action with new metrics against which it is assessed. Along with technological innovation, the conditions that allow social innovation dynamics emerge. As the proliferation of energy communities shows, bottom-up forces across Europe utilise local dynamics, assets, networks and/or top-down support to create products, services and organisational models that meet needs and promote decentralised and more democratic network management, empowering vulnerable and isolated communities and increasing energy security as a whole.

The above indicates the conditions that create a socioeconomic ecosystem within which a systemic transformation can take place. Similarly, the complex multilevel governance of the energy transition, involving actors ranging from the EU institutions to states, regions, energy companies, individual producers and local communities, can set a paradigm of contemporary systemic transitions. Overall, the energy transition is a collaborative effort between the various levels of governance and non-institutional actors, with each playing a crucial role in driving the transition forward. Scaling down from the global climate adaptation efforts, the EU institutions set the overall framework for the energy transition, including the targets, regulations and funding mechanisms. The implementation of these policies largely depends on the actions of states, which consult and often delegate some roles to other actors closely linked to local conditions and needs, thereby creating a decentralised approach that results in a diverse range of energy transition strategies across the EU and enhances proactivity and collaboration by regions, businesses and communities.

Finally, the story of how external shocks can create barriers or accelerate a planned systemic transition is also instructive. The COVID-19 pandemic and the Russian invasion of Ukraine were events that led to a reduction of energy use, increased diversification of sources and acceleration of energy transition policies. The total EU energy balance reduced by up to 9 % between 2018 and 2021, while consumption of natural gas dropped by 19.3 % in the period of August 2022-January 2023 compared with the average gas consumption between 2017 and 2022. At the same time pressure to reduce demand and diversify resources created innovative policy frameworks with ambitions to drastically, increase Europe's energy independence, savings, competitiveness, and uptake of renewable energy by 2030 and beyond under the REPowerEU plan. The above makes evident that shocks create windows of opportunity for needs-driven systemic change at a previously unimaginable pace.

Thus, the example of the feasibility and acceleration of the energy transition confirms the famous quote that 'politics is the art of the possible', as it evidently shows that is up to policymakers to define the necessity of change. This does not have to be the result of an external shock, but preferably a conscious decision following the evidence of fault lines in the current system, and can provide a broader case study for post-growth systemic transformation.

## 6.7 The role of indicators

### 6.7.1 Uses of indicators for policy

In the context of the 'beyond GDP' and 'beyond growth' debates, an increasing number of indicators are used to assess the sustainability and wellbeing of societies and economies, going beyond traditional measures such as GDP. These include environmental (e.g. GHG emissions, biodiversity loss), social (e.g. poverty rate, gender equality, educational attainment) or wellbeing indicators (e.g. health, access to clean water and sanitation, life satisfaction, happiness). Using a combination of indicators beyond the mere measurement of economic growth provides a more nuanced picture of the state of a society or economy. To this end, summary measures such as composite indicators<sup>338</sup> and scoreboards gather data from different sources, aggregating various indicators into single figures, in order to visualise the multiple dimensions of a specific or complex concepts more clearly.

Today there is no shortage of beyond GDP indicators and frameworks. Indicators can provide the necessary information for policy decisions and help visualise complex issues. They have been used at every stage of the policymaking cycle to inform, design, monitor and evaluate policies, though some uses are more frequent than others.

In the EU, there are already many examples of indicator use in policy. They are used in impact assessments at the preparatory stage of legislative proposals, as supporting evidence to inform policy decisions and in adopted legislation to track implementation.

Indicators are frequently used for target setting. Perhaps the most well-known target is the climate neutrality goal enshrined in the European Climate Law; however, many others exist in a wide variety of areas. Examples include: reducing the number of people at risk of poverty or social exclusion by 15 million by 2030 (European Pillar of Social Rights Action Plan); achieving 25 % of the EU's total farmland under organic farming by 2030 (farm to fork strategy); reducing pollution from fertilisers by 50 % by 2030 (biodiversity strategy); at least 32 % share of renewables in final energy consumption (Renewable Energy Directive, target currently being revised to over 40 %); and at least 45 % of 25 to 34-year-olds in the EU with completed tertiary education by 2030 (European Education Area). Many other targets exist and many of them are binding.

Indicators are also used to determine budgetary allocations. For instance, 30 % of the EU budget (MFF and NGEU) must go to climate projects, 5 % of European Regional Development Fund resources to sustainable urban development, and 20 % of the spending in national recovery and resilience plans must support the digital transition. Indicators are also used in methodologies for funding allocations – for example, the RRF allocations are determined on the basis of GDP per capita, population and unemployment rate, while regional funding allocations are based on GDP per capita and several other indicators (education, (youth) unemployment, GHG emissions, net migration and population density).

Monitoring the implementation of strategies and action plans is another common use of indicators. For instance, the Social Scoreboard shows progress on the European Pillar of Social Rights, the Green Deal Dashboard monitors progress on various aspects of the green transition, and the Recovery and Resilience Scoreboard tracks the objectives of the RRF (see also subsection 5.4.3 on the resilience dashboards).<sup>339</sup>

<sup>338</sup> See [Ten composite indices for policy-making](#), EPRS, European Parliament, September 2021.

<sup>339</sup> See [Social Scoreboard](#), [Green Deal Dashboard](#) and [Recovery and Resilience Scoreboard](#).



The SDG framework is also integrated into EU policymaking, from the Commission political programme to the European Semester. Eurostat publishes an annual report tracking the implementation of SDGs at EU level, with a 'policy context' section for each goal, where it comments on the links with EU policies and any targets (in case they exist).<sup>340</sup> According to a 2022 JRC analysis, the European Semester's 2022 country reports drew upon 12 indices and scoreboards to take stock of developments in various policy areas (e.g. industry, digital, employment) and feed into country-specific recommendations (CSRs).<sup>341</sup>

Indicators can also be used for cross-country comparisons and benchmarking from national to subnational level (for instance, the European Innovation Scoreboard, the EU regional Social Progress Index and the EU Regional Competitiveness Index).

In addition to these specific policy uses, indicators also have more indirect influence, by helping to raise awareness, communicate with the public, stimulate debate, build consensus (e.g. through the process of selecting them) and facilitate decisions on policy priorities. Indicators are also drivers of behaviour and of change by forcing institutions and governments to question their stands.

### 6.7.2 Handling indicators with care

'Data allow political judgments to be based on fact, to the extent that numbers describe realities', according to Swedish academic Hans Rosling.<sup>342</sup>

The selection of indicators to support evidence-based policymaking needs to meet certain criteria that guarantee their fitness for purpose and their quality. This is valid for all kinds of measures, but it is particularly the case for composite indicators as they are, above all, the sum of their parts; their strengths and weaknesses largely derive from the quality of the underlying indicators.<sup>343</sup>

As a first step, the selection of indicators for any monitoring framework must be guided by the conceptual framework, i.e. clearly identifying the concept or phenomenon to be measured. After all, what is badly defined is likely to be badly measured. For this, it is crucial to work with policymakers and other stakeholders to understand their needs and what to measure; this will also lead to increasing the legitimacy of the process. Policy relevance is an essential criterion for the selection of indicators; they must add information, be directly linked to the policy area of interest and be meaningful, in order to effectively inform policymakers and improve the quality of decisions. Other relevant criteria include reliability, timeliness, accessibility and comparability.

Indicators need to be reliable and validated; this criterion includes accuracy, i.e. the closeness between the values provided and the true values, and credibility, i.e. trust in the objectivity of the data. Reliable and validated data sources are the one and only way to produce trustworthy data. Timeliness reflects the period between data availability and the phenomenon they describe; it is important that data are recent and regularly updated in order to be policy-relevant. Moreover, time-sensitive data, i.e. data that are highly relevant for only a short period of time (such as stock prices), should be avoided. Indicators should be easily and openly accessible in terms of location, format, the media used for their dissemination, and availability of metadata. At the same time, the developer should be able to distribute them further and interpret and communicate them in a clear and easy way to non-specialists.

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<sup>340</sup> See Eurostat, [Sustainable development in the European Union: Monitoring report on progress towards the SDGs in an EU context](#), 2022.

<sup>341</sup> See the JRC study: [How are indices and scoreboards used in EU policymaking?](#), 2022.

<sup>342</sup> See [Scientist of the Year Notable: Hans Rosling](#).

<sup>343</sup> OECD and JRC, [Handbook on Constructing Composite Indicators – Methodology and User Guide](#), 2008.



Lastly, spatial and time comparability and availability are both essential. Indicators must describe the same concept across countries, regions and units in general, and be available for a large number of them. In some cases, for an objective comparison across small and large countries, scaling of variables by an appropriate size measure – e.g. population, income, trade volume or populated land area – is required. Breaks in data series should be considered and external events or shocks may also cause disturbances in the time series. Similarly, changes in the methodology may lead to misinterpretations, so they should be clearly communicated.

An important feature of a composite indicator framework is its internal conceptual and statistical coherence. For this reason, it is very useful to study the relationship between the indicators, usually by looking at how they correlate. The use of sensitivity analysis is recommended for testing the robustness, to ensure that they can effectively underpin the development of data-driven policy messages. Similarly, in the case of scoreboards, indicators should be consistent with and complementary to other indicators in the framework<sup>344</sup> and the relationship between them should be acknowledged as it adds to the narrative and ensures their relevance to the conceptual framework.

Summary measures may send misleading, non-robust policy messages if they are poorly constructed or misinterpreted. The OECD/JRC Handbook and the JRC 10-step guide<sup>345</sup> can help ensure the statistically sound development of composite indicators and scoreboards. Upon request from developers, the JRC offers statistical assessments of composite indicators, with the aim of contributing to improving the transparency and reliability of such tools.<sup>346</sup>

### 6.7.3 One-stop shop for indicators

A vast amount of information relevant to policy development and monitoring remains dispersed across multiple publications, websites and databases, making it difficult to keep up-to-date with the plethora of measurement options available.

The need for a tool which allows users to find, analyse and quickly identify key data-driven messages led to the creation of the **Composite Indicators & Scoreboards Explorer** by the European Commission in 2021.<sup>347</sup> This online tool acts as a one-stop shop for anyone who wants to explore complex policy issues using summary measures in a visual and interactive way. It is a direct response to the need to take stock of existing indicator sets tracking social, economic and environmental progress and identify interlinkages between them.<sup>348</sup>

Over 150 summary measures are included in the Composite Indicators & Scoreboards Explorer. These are measures which have been devised and implemented by EU institutions, universities and international organisations. Users of the tool can analyse a series of measures together and get the big picture view in any policy area. The Explorer is the go-to source for anyone interested in measures that go beyond GDP.

<sup>344</sup> See United Nations Statistics Division, [Discussion paper on Principles of Using Quantification to Operationalize the SDGs and Criteria for Indicator Selection](#), 2015.

<sup>345</sup> See Saisana M., Becker W., Fragoso Neves A., Alberti V. and Dominguez Torreiro M., [Your 10-Step Pocket Guide to Composite Indicators & Scoreboards](#), European Commission, 2019.

<sup>346</sup> See the European Commission [Statistical Audits](#).

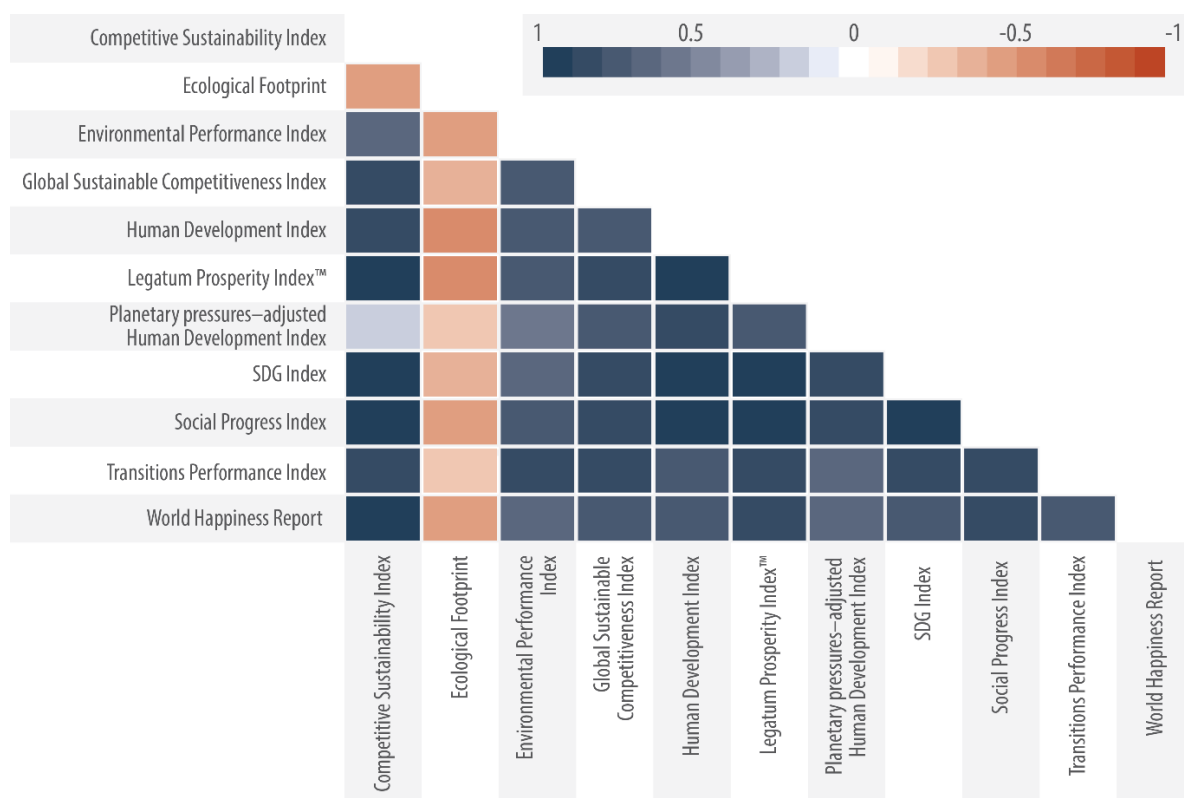
<sup>347</sup> See Saisana M., Tacao Moura C., Fragoso Neves A., Nurminen M., Alberti V., Banyas K. and Symeonidis K., [Composite Indicators & Scoreboards Explorer](#), European Commission.

<sup>348</sup> See the communication from the Commission on the monitoring framework for the 8th environment action programme: measuring progress towards the attainment of the Programme's 2030 and 2050 priority objectives, [COM\(2022\) 357](#).

Looking at the most up-to-date (2021-2022) examples of composite indicators under the notion of beyond GDP, it is possible to explore the interlinkages between them using this tool. Figure 23 shows the correlations between each pair of 11 composite indicators. The correlation matrix helps to understand the extent to which two indices move in tandem with one another and whether there are synergies or trade-offs between them, though it cannot be interpreted as a measure of causality. The matrix illustrates that most of the indices measuring aspects of human wellbeing and sustainability show strong interlinkages. Darker blue represents greater positive correlation.

Most of the indices measuring wellbeing and sustainability share many similar aspects and therefore contribute to conveying similar messages when focusing on the overall results. Countries performing well in one index are likely to perform well in any of the other indices. Of course, drilling down into the constituent parts of each index should unveil diverse narratives of progress and provide additional insights in areas where countries can learn from each other. In Figure 23, the Ecological Footprint tells another story, as the only measure that moves in an opposite direction to all the other 10 indices. This negative correlation is a sign of a trade-off illustrating how the top nations across these indices still leave a significant mark on the way they use natural resources.<sup>349</sup>

Figure 23 – Correlation matrix between 11 'Beyond GDP' composite indicators.



Note: Correlations are calculated based on the number of countries in common between any two composite indicators, generally 140-180, except for the Competitive Sustainability Index (27) and the Transitions Performance Index (70). This is based on data from the latest release (2021-2022) of each composite indicator. Source: [Composite Indicators & Scoreboards Explorer](#), 2023.

A tool like the Composite Indicators & Scoreboards Explorer could be used to map the landscape of beyond GDP measures and to explore the synergies and trade-offs between them. This could provide a helping hand to inform the 'beyond growth' policy debate and become an essential step before embarking on the creation of additional measures.

<sup>349</sup> European Commission, [Measuring what 'makes life worthwhile'](#), 2023. (forthcoming)

## 7. Looking towards the future

### 7.1 Moving beyond growth

The Anthropocene debate allows us to underline the intertwined nature of human and ecological systems. It further implies real risks of destabilising Earth's system, undermining all attempts for equitable human development on our planet. Global inequalities are on the rise, with far-reaching consequences for almost every aspect of our lives, and our ability to achieve other goals, including sustainable human futures.<sup>350</sup> As shown by the Great Acceleration graphs (see Annex 1), the last 50 years have seen the most rapid transformation of the human relationship with the natural world in history. The International Resource Panel (IRP), the UN Environment Programme (UNEP) and the EEA have highlighted that increased living standards and life expectancy as well as techno-scientific advancements lie at the core of the Great Acceleration for socio-economic trends, with associated Earth trends and environmental impacts due to increased consumption and associated resource extraction. Within the debate on beyond growth, the current economic system is deemed not only to be incapable of solving the crisis but also to be driving and perpetuating it.<sup>351</sup>

In a 'beyond growth' society, the emphasis is on achieving an environmentally sustainable and equitable society, rather than on endless economic growth. This would involve reflecting on our priorities in decision-making so that environmental conservation and restoration, as well as social issues, take precedence over economic interests.

#### 7.1.1 Reflecting on values and self-identity

If, as according to the IPBES value assessment, one of the main causes of our environmental crises is the human-nature relationship, a re-evaluation of this is essential.<sup>352</sup> Research indicates that excessive individualism, self-enhancing values and extrinsic consumptive goal pursuit is likely to decrease pro-environmental behaviour. This in a context where individualistic values and practices have increased across most countries since the 1960s, a 12 % increase worldwide.<sup>353</sup> The same research notes that increased evidence of environmental degradation linked to human activity reduces an individual's sense of connectedness with nature, leading again to a decrease in concern for nature and the environment. While such feedback processes in our social and environmental system can lead to vicious outcomes, it also gives us the opportunity to intervene and create a virtuous cycle through the restoration of nature and parallel changes in self-identity towards interdependence and mutuality. Positive nature value feedback loops are necessary in order to build support and to stimulate institutional change that safeguards our planetary health.

Linking to the grassroots approach and following the trade union perspective, Nitsche-Whitfield (2023) argues that building a labour-nature alliance of workers and environmentalists could help change existing power relations and make the socio-ecological transformation possible. Through open dialogue, environmental and labour movement activists could reach a better mutual understanding of their respective positions and awareness of the social and ecological impacts of

<sup>350</sup> Leach M. et al., [Equity and sustainability in the Anthropocene: a social-ecological systems perspective on their intertwined futures](#), 2018.

<sup>351</sup> See e.g. Kallis et al., *The Case for Degrowth*, 2020; Fraser N., *Cannibal Capitalism*, 2022; Speth J., *The Bridge at the Edge of the World: Capitalism, the Environment, and Crossing From Crisis to Sustainability*, 2008.

<sup>352</sup> IPBES, [Summary for Policymakers of the Methodological Assessment of the Diverse Values and Valuation of Nature of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services](#), 2022.

<sup>353</sup> Oliver T. et al., [A safe operating space for human identity: a systems perspective](#), 2022.

their campaigns. Building on areas of common interest, such as the issue of working time reduction and universal basic services, they could lead joint action, e.g. strikes and consumer boycotts.<sup>354</sup>

In his seminal work 'The steady-state economy', Daly makes an observation regarding the balance between citizens and the economy. He argues that the economy should be understandable to the layman, and not need mathematical modelling and technically obscure explanations to understand its complexity. He found that economic over-abstractation would be too heavy a burden on citizens, who would struggle to fit into the system and become vulnerable to economic failures beyond their control or even awareness. He considered this lack of control over the determining factor of people's livelihood to be deeply undemocratic and called it 'excellent training in the acceptance of totalitarianism'.<sup>355</sup>

Ensuring democratic engagement and participation of all levels in a transition process, and building ownership of a vision and associated policy measures, would be crucial. Key concepts such as sufficiency, fairness and equity would need exploring to define and realise an economy in balance. 'Citizen Assemblies' can be a potential way of engaging a plurality of views and voices, as it was partially used in the Conference on the Future of Europe's citizen panels.

If we consider that a systemic societal transformation is needed, sustainability science literature argues that acting on deep leverage points, such as changing dominant mindsets and paradigms, will be essential, as otherwise incremental changes will prove insufficient. Thus, a reframing is necessary, with larger ideological and value-laden discussions on our social contracts, as well as ethically questioning the role, purpose and side effects of economic growth.<sup>356</sup>

Collste et al. (2021) illustrate how production and consumption indicators and assumptions lie at the core of the upgraded dynamic systems model. These simultaneously reinforce human wellbeing and counteract it due to the linked social-ecological disruptions. A balance is needed, to deliver sufficient input at an acceptable level to sustain both human society and the planet.<sup>357</sup>

There is no clear recipe for how to act on social values,<sup>358</sup> and ethical issues arise when discussing possible top-down interventions.<sup>359</sup> Nonetheless, it is well established that institutions, formal and informal, play a key role in shaping how nature is valued in societies and, similarly, they hold great power in establishing which values are reinforced and which ones are downplayed. Currently, most western economies, including the EU, use market-based instrumental values when assessing costs and benefits of various activities, thus prioritising nature's material contribution to people.<sup>360</sup> A first step would thus be to embark on an exercise where these values are exposed and reflected upon. Once these values are no longer hidden, space for deliberation and contestation can finally be opened up to develop, discuss and define new societal goals and norms.<sup>361</sup>

Social movements and activism have a crucial role in challenging established societal values and in pushing new values and even worldviews forward; this process of social contestation and

<sup>354</sup> Nitsche-Whitfield P., [Beyond economic growth – The role of trade unions in the transition to well-being](#), ETUI, 2023.

<sup>355</sup> Daly H., *Steady-state economics*, 1991, p. 4.

<sup>356</sup> See e.g. Horcea-Milcu A. et al., [Values in Transformational Sustainability Science: Four Perspectives for Change](#), 2019.

<sup>357</sup> Collste D. et al., [Human well-being in the Anthropocene: limits to growth](#), 2021.

<sup>358</sup> See e.g. Kenter J. et al., [Loving the Mess: Navigating Diversity and Conflict in Social Values for Sustainability](#), 2019.

<sup>359</sup> See e.g. p. 17 of European Group on Ethics in Science and New Technologies, [Values for the future: the role of ethics in European and global governance](#), 2021.

<sup>360</sup> Fletcher R. et al., [Barbarian Hordes: The Overpopulation Scapegoat in International Development Discourse](#), 2014.

<sup>361</sup> See e.g. IPBES, [Summary for Policymakers of the Methodological Assessment of the Diverse Values and Valuation of Nature of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services](#), 2022; Horcea-Milcu et al., [Values in Transformational Sustainability Science: Four Perspectives for Change](#), 2019.

deliberation, though, can only take place in a framework of functioning and strong democratic governance,<sup>362</sup> where the fundamental right to protest and demonstrate is respected rather than repressed, criminalised, and punished.<sup>363</sup>

### 7.1.2 Welfare dilemmas in moving towards a beyond growth society

Demographic changes, rising inequality and environmental and climate developments are all likely to increase the future demand for welfare. If economic growth is no longer considered a sustainable solution to these issues in the global north, the key question is how to maintain welfare funding without economic growth. Addressing this question, however, implies a fundamental refocusing of welfare policies and the wider economic systems. This section attempts to sum up the main elements of the ongoing debate.

Büchs (2021), reflecting on the ways in which welfare states rely on economic growth, argues that welfare states also have an impact on economic growth. Depending on the context and time-scale considered, the mutual influence can be both positive and negative. Understanding this bi-directionality is the first step towards the decoupling of welfare and growth and designing sustainable welfare systems that are 'growth resilient' or independent of economic growth.<sup>364</sup>

In their current set-up, welfare states depend on growth to keep spending and public deficits in check. From a short-term perspective, welfare spending is often counter-cyclical, rising in times of economic crisis. While this can be palliated with an increased public deficit, the resulting debt must later be serviced. In addition, while high employment levels are desirable, if productivity rises, growth in economic output is needed to keep them stable. Growth is also needed to deal with ageing populations and the related increasing costs of pensions, healthcare and long-term care. To meet this increased demand without growth, governments would need to consider measures such as raising taxes, or the share of public spending allocated to welfare, or implementing pension reforms.

As for the influence in the opposite direction, Büchs reminds us that neoliberals regarded taxes and social insurance contributions as weakening the incentives to invest and work, reducing output. However, whether or not welfare state spending reduces profits and growth depends on whether employers are able to pass tax and social insurance burdens on to employees and consumers. In the long term, welfare states support growth by producing high-quality human capital through education and health systems, and by maintaining consumer demand and social peace based on industrial relations. This interdependence is confirmed by data showing that, over the last 60 years, both growth and social spending increased in tandem across OECD countries.<sup>365</sup>

The decoupling of welfare and growth is the starting point of all efforts seeking a transition to sustainable welfare systems that prioritise needs satisfaction and adherence to planetary boundaries over economic growth, provide a fair distribution of resources and opportunities, and are democratically governed. Two complementary ways open up towards making welfare independent from economic growth: first, switching to funding sources less affected by economic fluctuations, such as taxes on property, land and financial wealth; and second, reorienting social policy goals towards guaranteeing needs satisfaction for all with minimal environmental impacts.

<sup>362</sup> Brand U. et al., [From planetary to societal boundaries: an argument for collectively defined self-limitation](#), 2021.

<sup>363</sup> See e.g. Monbiot G., [Today's climate activist 'criminals' are tomorrow's heroes: silencing them in court is immoral](#), 2023; Sparrow J., [As resistance grows to the fossil fuel regime, laws are springing up everywhere to suppress climate activists](#), 2022.

<sup>364</sup> Büchs M., [Sustainable welfare: Independence between growth and welfare has to go both ways](#), 2021.

<sup>365</sup> Public social spending increased from less than 10 % of GDP in 1960 to over 20 % on average across the OECD in 2022. See [Sizing up Welfare States: How do OECD countries compare?](#), OECD, 2023, and OECD [Social spending data](#).

The rising demand for welfare could partly be prevented through a more even distribution of work and income, but also by greater economic security, preventing rather than treating disease, and by improving community and family capacity for social support, care and social participation.

Walker, Druckman and Jackson (2021) come to similar conclusions, outlining **five interrelated dilemmas** on the path towards achieving welfare systems without economic growth.

First, how to maintain funding for the welfare system in a non-growing economy? Among the two possible directions of action, either towards more efficiency (providing welfare with fewer resources), or towards reducing demand, they argue the latter has more potential (striving for less need for welfare services). Having reviewed different government spending scenarios for maintaining a no-growth economy with positive social and environmental outcomes, they propose to take a more disaggregated approach to government revenue and expenditure. The modelling could also work with a more dynamic vision of state architectures, where public authorities are not only vehicles of redistribution, but also active agents in the economy.<sup>366</sup>

The second dilemma is linked to the fact that welfare expenditure is growing faster than GDP in most OECD countries and welfare services have become more expensive over time, compared to the cost of manufactured goods (managing relative costs of welfare).<sup>367</sup>

The third one concerns overcoming structural and behavioural growth dependencies within the welfare system. On the example of healthcare providers and pharmaceutical companies, they show the conflict between the social and financial outcomes and outline trade-offs between commercial versus non-market provision of welfare services.

The fourth dilemma is linked to managing increasing welfare needs on a finite planet. Two key elements in this respect are the focus on real human needs, as opposed to desires or preferences, and on developing three core characteristics of the welfare state: being preventative, local and relational. For example, the imbalance between rising demand and stagnating funding in the pension sector has already caused tensions. If unresolved, these tensions could deepen inequalities between the working age population and the retired. Several strategies have been deployed to reform pension systems, including expanding working life, reducing benefit payments and increasing worker contributions.<sup>368</sup>

Finally, considering how to overcome political barriers to the transformation of the welfare state, Walker, Druckman and Jackson note that the questions 'who would enact such changes' and 'why' are often left unaddressed. Discussing the contradictions between top-down policy proposals and the grassroots approach to change, they acknowledge that class dynamics, political interests and subsidiarity considerations, cultural norms and social values, as implemented also at community level, will each play their own part. Finding a balance between these social forces will be the first step for any specific strategy seeking to enable transformation.

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<sup>366</sup> Walker C., Druckman A. and Jackson T., [Welfare systems without economic growth: A review of the challenges and next steps for the field](#), 2021.

<sup>367</sup> OECD, [Social Expenditure Database \(SOCX\)](#) and [The rise and fall of public social spending with the COVID-19 pandemic](#), 2023.

<sup>368</sup> [Pensions at a Glance 2021](#), OECD, 2021.



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### 7.1.3 Role and obstacles for the European Union

For the EU, which is navigating its course through an economic policy transition,<sup>369</sup> a geopolitical transition linked to the concept of strategic autonomy,<sup>370</sup> and the twin green and digital transitions, it is becoming clear that these four transitions entail tensions and important trade-offs with significant impacts for the social dimension. Their success, however, is linked to a transformative social transition, identified as 'the missing transition'.<sup>371</sup>

Furthermore, any steering by the EU towards the beyond growth perspective is likely to run up against the wall of a revision of the Treaties. Indeed, the Lisbon Treaty embeds a set of potentially contradictory policy orientations oscillating between the promotion of an 'open market economy' and the creation of a 'social market economy'.<sup>372</sup> While historically leaning more in the direction of an open, free market, policy responses to the pandemic show signs of a more visibly social market economy. However, to Countouris, Piasna and Theodoropoulou (2023), this contradiction could only be resolved through a meaningful Treaty revision.

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<sup>369</sup> European Commission, Communication from the Commission on orientations for a reform of the EU economic governance framework, [COM\(2022\) 583 final](#).

<sup>370</sup> [Council Conclusions on the EU's economic and financial strategic autonomy: one year after the Commission's Communication](#), 29 March 2022.

<sup>371</sup> Countouris N., Piasna A. and Theodoropoulou S., [Benchmarking Working Europe 2023](#), ETUI and ETUC, 2023.

<sup>372</sup> Among the Union's aims, [Article 3 TEU](#) defines 'sustainable development', 'balanced economic growth' and a 'social market economy', while [Article 119 TFEU](#) specifies that action to achieve these should be conducted in accordance with the 'principle of an open market economy with free competition'.

## 8. Outlook

The debate on going beyond growth in today's economy covers multiple dimensions and layers therein. Any conversation on this topic, is likely to uncover wide discrepancies in what is considered the most important aspect and how we as society should deal with it. These differences in opinion are natural among individuals, but in this debate, the region of the world you come from and the living standards and ecological state of your country or region are likely to affect your stance. The many nuances of the debate arguably make it harder for policymakers to move forward and build consensus.

As this study shows, within the European Union we are consuming well above our fair share of the planet's resources. Although our region is not the worst world region in terms of inequality, we may be focusing our efforts in the wrong direction and looking at the wrong indicator to improve the wellbeing of EU citizens. As an area of limited EU-level competence, the issue of focusing social policies to ensure inclusion, social justice and gender equality requires a shared vision across Member States – or the risk of rising tension and populism trends are likely to continue.

The power of the GDP measure is a constant in the beyond growth debate, and while we should perhaps not throw this indicator to the winds, it is important to look more deeply at our assumptions about what it can tell us. We have several other indicators at our disposal deserving of a greater role and attention than we direct towards them today.

We may wish for research and innovation to solve all of our system's shortcomings. We will surely need a fair share of innovation to move into a transformed economy in line with the 2050 priority objective set by the 8th environment action programme.<sup>373</sup> The question remains how much of this will be technological and how much will be due to social innovation and changes in our core values.

What is presented in this study, based on research across multiple disciplines, indicates that there will be no single fix. The issue is multidimensional and deeply rooted in cultural and economic assumptions, values and our relationship to planet Earth. Furthermore, Earth itself is a complex adaptive system, with which our interactions trigger reactions, feedback loops and outcomes that we cannot accurately predict.

This begs the question where to start – and what will be the outcome of our chosen path? The task may seem insurmountable, yet the issues that are driving our system and planet towards tipping points are often quite tangible. The main ingredient is perhaps determination.

Policymakers have choices to make. What is their definition of sustainability? Where do their values, beliefs and ethics drive them to go and what about those of their constituents and other political groups? If transformation is to be achieved, priorities and no-go limits should be debated to define the specific objectives of policy measures (as per Figure 1).

To move beyond the production and consumption levels of our growth-driven economic system, a new narrative should be defined, to drive engagement and debate and to search for solutions at all levels of society. Most likely, a mix of policy tools will be needed, with the magic to be found in the policy design of specific tools, as well as their interactions.

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<sup>373</sup> 'Europeans live well, within planetary boundaries, in a wellbeing economy where nothing is wasted. Growth will be regenerative, climate neutrality will be a reality, and inequalities will have been significantly reduced.'

## Annex

### Annex 1 – The Great Acceleration

The patterns of the great acceleration include 12 graphs covering socio-economic trends from the industrial revolution to the present (Figure 1) and 12 graphs covering Earth system trends over the same period (Figure 2 on the following page).

Figure 1 – Trends from 1750 to 2010 in globally aggregated indicators for socio-economic development

#### Socio-economic trends

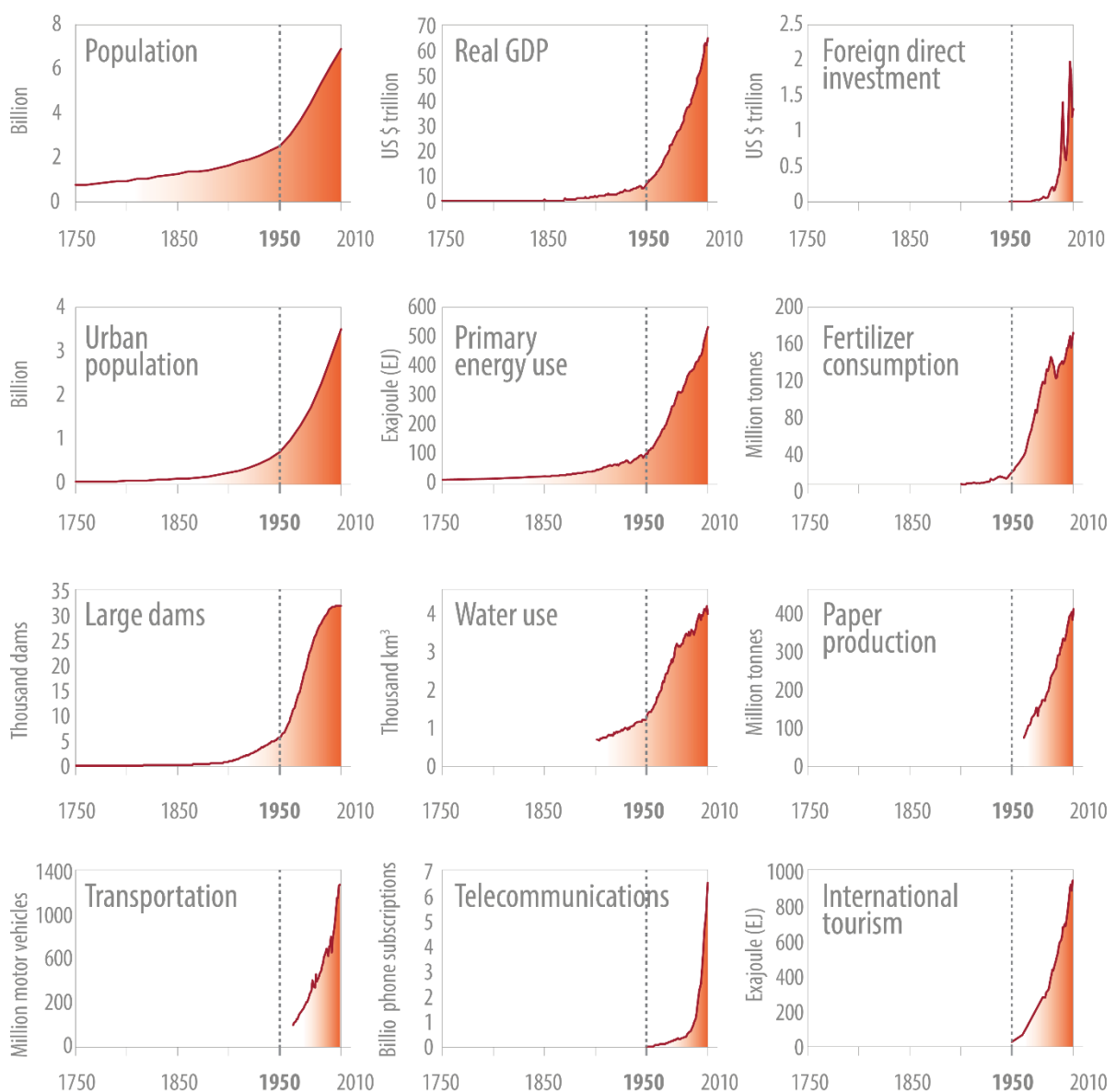
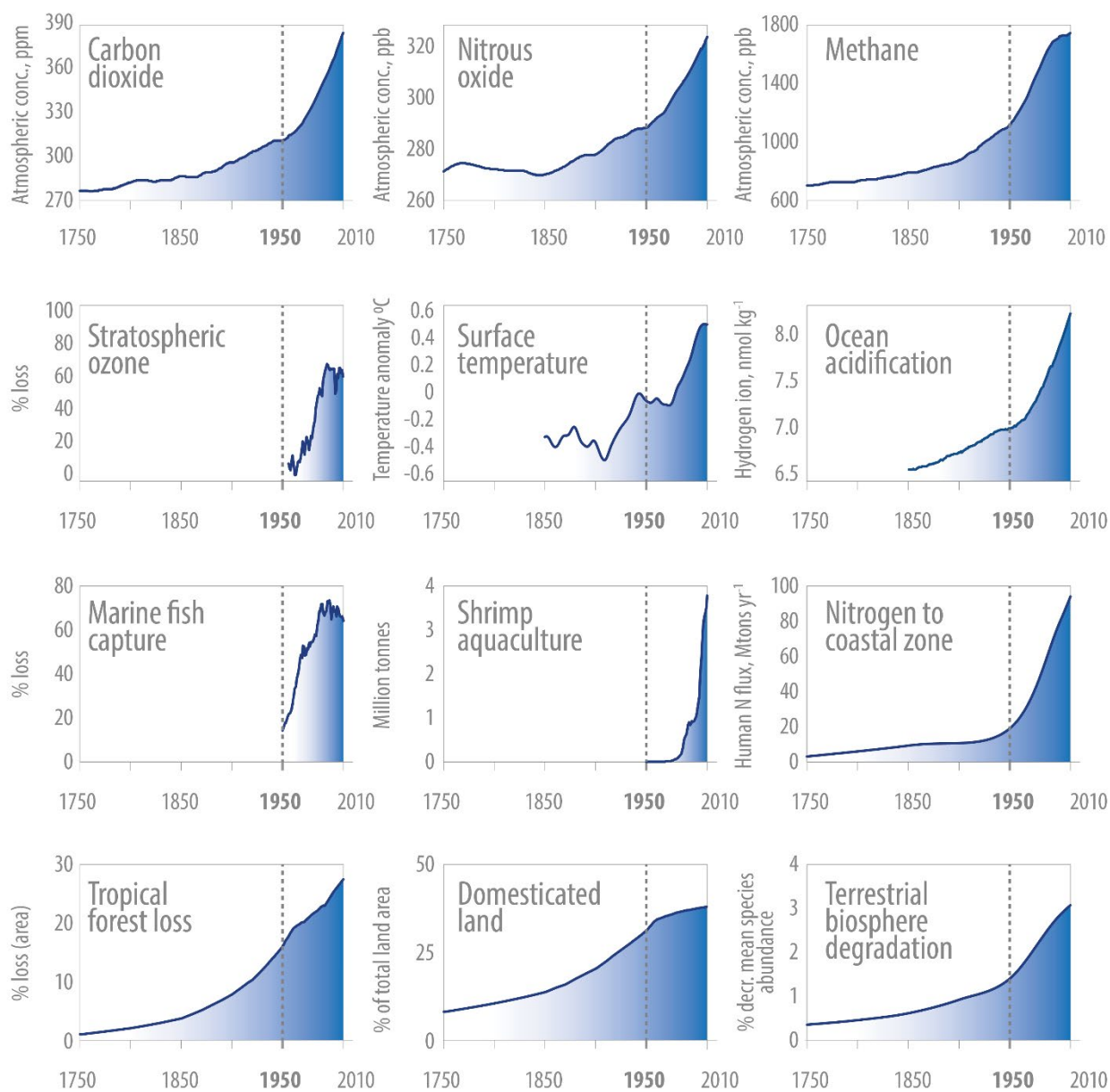


Figure 2 – Trends from 1750 to 2010 in indicators for the structure and functioning of Earth's system

## Earth system trends



Source: Steffen W., Broadgate W., Deutsch L., Gaffney O. and Ludwig C., The trajectory of the Anthropocene: The Great Acceleration, [The Anthropocene Review, Volume 2 Issue 1](#), pp. 81–98, 2015. Layout adaptations made by Giulio Sabbati, EPRS. Data sources are indicated in the original article.

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From 15 to 17 May 2023 the European Parliament is hosting a conference on the topic 'Beyond Growth'. This study introduces participants and other stakeholders and interested parties to the debate on going beyond growth.

Organised in two parts, the study first presents the status quo, with our reliance on economic growth as the main policy driver and gross domestic product (GDP) as a key economic measure, blind spots related to this reliance, and the need to address multiple system failures. It notes today's focus on research and innovation and describes measures already brought forward in the European Green Deal to this effect.

The second part of the study explores the case for changing the underlying system drivers, and how system transformation may come about. It presents a range of existing or suggested policy frameworks to effect change, before moving on to specific tools relevant to achieving economic transition. A recap of the debate and challenges rounds off the study.

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