

# Designing socially just climate and environmental transformation processes: An analytical report

SPARK transformation project



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## Contents

1	Introduction and thematic integration .....	1
1.1	Methodology.....	1
1.2	Introduction to the subject matter and definitions of key terms.....	2
1.3	The importance of social justice .....	4
2	Overview of stakeholders .....	6
3	Systematisation on the basis of institutional drivers.....	9
3.1	Governance-related challenges .....	10
3.2	Governance-related opportunities .....	12
4	Success factors and problem-solving approaches .....	16
5	Case studies.....	21
5.1	New Zealand: Towards a new maxim for sustainable economic development? .....	21
5.2	Mobility and urban development in Denmark and Brazil.....	24
5.3	Jordan’s strategy for 100 % renewable energy .....	27
5.4	Food sovereignty in South Africa .....	30
6	Summary .....	32
	Bibliography .....	34

## Diagrams

Figure 1: Multi-layered model for analysing transformation processes, exemplified by the introduction of a new technology..... 3

Figure 2: Map of generic stakeholders..... 8

Figure 3: Phase model of energy system transformation and Jordan’s position..... 28

## Tables

Table 1: Success factors of socio-ecological transformations..... 20

Table 2: Priorities of the Wellbeing Budget, 2019 and 2020 ..... 22

Table 3: Transformative Policies in Denmark and Brazil ..... 25

## List of abbreviations

BMU	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
C40	C40 Cities Climate Leadership Group
CIF	Climate Investment Funds
CO <sub>2</sub>	Carbon dioxide
CorA	Corporate Accountability — Network for Corporate Responsibility
CSIS	Center for Strategic and International Studies
DALRRD	Department of Agriculture, Land Reform and Rural Development
DGB	German Trade Union Confederation
Difu	Deutsches Institut für Urbanistik <German Urbanism Institute>
DWD	Deutscher Wetterdienst <German Meteorological Service>
EU	European Union
EUR	Euro
FFU	Forschungszentrum für Umweltpolitik <Environmental Policy Research Centre>
GCF	Green Climate Fund
GDP	Gross domestic product
GEF	Global Environmental Facility
GW	Gigawatts
ICLEI	ICLEI – Local Governments for Sustainability

IEA	International Energy Agency
ILOU	International Labour Organisation
IPCC	Intergovernmental Panel on Climate Change
IRENA	International Renewable Energy Agency
LSF	Living Standards Framework
MNRE	Ministry of New and Renewable Energy
NDC	Nationally Determined Contribution
NG	National Geographic
NGO	Non-governmental organisation
NZD	New Zealand Dollar
PIK	Potsdam Institute for Climate Impact Research
RE	Renewable energies
SDGs	Sustainable Development Goals
SRU	Sachverständigenrat für Umweltfragen <German Advisory Council on the Environment>
TCI	Thriving Cities Initiative
UBA	Umweltbundesamt <German Environment Agency>
UN	United Nations
UNEP	United Nations Environment Programme
UN DESA	United Nations Department for Economic and Social Affairs
USD	US dollars
WBB	Wellbeing Budget
WBGU	German Advisory Council on Global Change
WEAll	Wellbeing Economy Alliance

# 1 Introduction and thematic integration

We are currently in the midst of a serious socio-ecological crisis, as evidenced by numerous factors such as recent reports on the loss of biodiversity (cf. NG, 2021a), the fact that the Gulf Stream is at its weakest in 1,000 years (Harvey, 2021) and growing social inequalities (Bucher, 2021). Action must be taken as a matter of urgency to refocus our economic systems and readjust our way of living (especially in the Global North) (cf. IPCC, 2019). Germany and much of the international community have committed to the goals of the 2015 Paris Agreement and the 2030 Agenda for Sustainable Development, which recognise the need for profound change across all areas of life (cf. Zwiers et al., 2020).

As a normative vision of the future, sustainability encompasses "*all areas of human life and economic activity*" (BMU, 2021), including economic, environmental and social dimensions. It has long been recognised that a consistent commitment to social justice is an integral part of sustainable development. Back in 1987, the Brundtland Report<sup>1</sup> stressed the importance of inter- and intragenerational justice. Although there have been positive developments in many areas, consistent efforts to address the social aspects of environmental and climate policy are still lacking.

A sustainable society must undergo a series of climate and environmental transformation processes encompassing many different areas, some of which are overlapping and interdependent. Transformation processes are guided by the principles of distributive, procedural and restorative justice, among others (McCauley and Heffron, 2018). There are no clear dividing lines between the different areas of transformation; they are all interdependent and mutually reinforcing, and therefore cannot be addressed in isolation. The German Advisory Council on Global Change (WBGU, 2011), for example, has identified three key themes that play a pivotal role in the transformation to sustainability: energy systems, urbanisation and land use systems. Publications based on this discuss other fields of action relevant for a sustainability transformation, such as mobility or industry and business (Wolff et al., 2018). The case studies in this report focus on the three themes identified by WBGU and discuss specific problem-solving approaches.

This report aims to improve our understanding of the overarching challenges and opportunities associated with socially just climate and environmental transformation processes and to identify options for specific (government) action. To this end, we have analysed (often fragmented) research results from individual transformation areas and combined them into one overarching debate.

## 1.1 Methodology

Our analysis is divided into two parts. Part one, the meta-analysis, summarises the relevant literature (including various practical examples) and embeds it into the debate. A theoretical introduction to the topic and a generic overview of the principal stakeholders in social-ecological transformation processes

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<sup>1</sup> The Brundtland Report defines sustainable development as development "*that meets the needs of the present without compromising the ability of future generations to meet their own needs*" (UN, 1987). This definition was expanded to include ethical, social and cultural issues at the 1992 United Nations Conference on Environment and Development in Rio and the follow-up conference in 2002. The Sustainable Development Goals (SDGs) adopted in 2015 as part of the 2030 Agenda for Sustainable Development further emphasise sustainability as a "*regulative concept for the development of society as a whole*." (Henkel et al., 2018, 9)

is followed by a systematic analysis of the principal challenges and opportunities of designing socially just processes based on key institutional drivers. It concludes with a chapter on possible solutions. Part two outlines four case studies from New Zealand, Brazil/Denmark, Jordan and South Africa and their approaches to socially just, sustainable transformative processes.

## 1.2 Introduction to the subject matter and definitions of key terms

Current debates on social change are often grouped together under the umbrella term “transformation”,<sup>2</sup> but its usage varies between different academic, social and political groups. Any critical debate on the process of shaping a sustainable, socially just future requires a clear definition of what we mean by “transformation”.

Societies are in a constant state of flux. Unlike a simple change process, transformations intensify over time, leading to fundamental and irreversible changes in the prevailing system, or *“radical, structural paradigm shifts in societies and their subsystems which fundamentally transform the functional direction of a (sub)system, or the way in which this is achieved”* (Wittmayer and Hölscher, 2017, 45). Transformation therefore refers to a fundamental and complex process that entails (re)defining society’s values and goals. Transformations are characterised by path dependencies, feedback processes and disruptions (Walz et al., 2017). The ultimate direction of a transformation only begins to emerge as the process develops, when changes in sub-aspects<sup>3</sup> amplify one other and help to shape the direction of social development (for example, towards sustainability) (FFU, 2021). This *“[...] learning and search process does not (move to the next development stage) until the new system structures are stable and well-established”* (Difu, 2017). In other words, the transformational process never stops completely, but is continually evolving to create new stages of development.<sup>4</sup>

To delineate this concept further, it is useful to distinguish between unintentional<sup>5</sup> and intentional transformations. For *“a ‘Great Transformation’ in the future to be more than just an abstract objective and argumentative reference”* (Turowski, 2016, 94), a normative objective will need to be socially and politically negotiated in the face of resistance from various quarters<sup>6</sup> (Grießhammer and Brohmann, 2015). Against this background, a transformation towards sustainability is inconceivable without the state playing an active role and using its power (WBGU, 2011).

The multi-layered perspective (cf. Figure 1) rests on the assumption that transformations are triggered by radical innovations in niche areas that diffuse into sub-systems (regimes) and thereby influence the structural framework (landscape) (Bauknecht et al., 2015). In this connection, the state is a vital link between innovative niches and the mainstream. Institutionally anchored government policy instruments influence both the regime<sup>7</sup> and the structural level, which in turn impacts the roles of

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<sup>2</sup> In Germany, the term “transformation” was coined by the German Advisory Council on Global Change (WBGU) as a derivative of the term “transition”.

<sup>3</sup> This also includes changes in practices, routines, values, paradigms, production and consumption patterns, as well as infrastructures (Wunder et al., 2019).

<sup>4</sup> Hence the term “disruptive” change, which abolishes current systems and creates a new balance of power (Wittmayer and Hölscher, 2017).

<sup>5</sup> The first and second industrial revolutions are good examples.

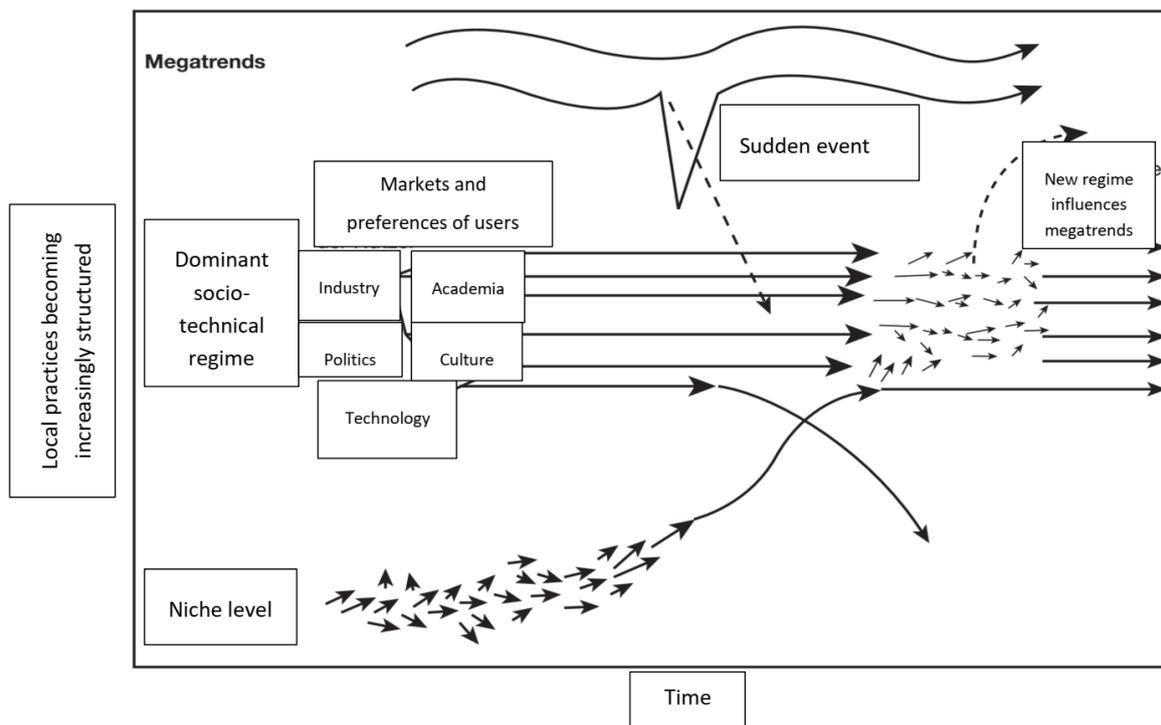
<sup>6</sup> Path dependencies (infrastructure and technology), a fear of change, vested interests, prevailing production and consumption cultures, a one-sided focus on growth and short-term thinking, for example.

<sup>7</sup> In this model, a regime refers to the predominant problem-solving model in a given sub-section of society (e. g. electricity supply by large fossil/nuclear power plants). *“For example, a regime may include the following elements [...]: Guiding*

other stakeholders and their opportunities for input (more on this in chapter 3). Some authors, such as Prof. Mariana Mazzucato, view the government primarily as an "entrepreneurial state" (Mazzucato, 2011) whose role it is to proactively promote innovation, create clear framework conditions for investors (Mazzucato and Perez, 2015) and thereby encourage new niches.

Depending on the development phase in this multi-layered model, change-supporting stakeholders from various spheres of influence may be particularly relevant to the process. "Change agents" (cf. Bliesner et al., 2013)<sup>8</sup> are particularly important during the early stages because they also consider other "subsystems and process elements, learn from their developments and attempt to generate synergies" (Grießhammer, R. and B. Brohmann, 2015, 14). In the multi-layered model, these change agents may be active in all spheres of influence (such as industry, politics, culture, technology or science).

Figure 1: Multi-layered model for analysing transformation processes, exemplified by the introduction of a new technology



Source: Grin et al. (2010) in WBGU (2011, 100); own translation

The social dimension can be reinforced using an inclusive, democratic process to explore how everyone can enjoy a good quality of life within our "environmental ceiling" (Raworth, 2018). Alongside the question of what constitutes a good life, social justice is at the heart of this debate. Within the context of sustainable development, this embraces social sustainability and other dimensions, such as

*principles (paradigms, such as growth), prevailing technologies and infrastructures, industrial structures, market structures and the relationship between producers and consumers, policy-making and regulations, and the regime's knowledge base.*" (Bauknecht et al., 2015, 14)

<sup>8</sup> Defined as "persons [or groups of persons] keen to promote organisational changes in favour of more sustainable development" (Bliesner et al. 2013, p. 2)

international justice (e.g. Boström, 2012). The definition of social justice likewise encompasses multiple dimensions. Defined as "*a specific concept of justice*", it also incorporates equality of distribution, recognition, empowerment and implementation (Institute for Social Justice & Radical Diversity). It builds on the two key principles of "*equal basic rights and equal opportunities*", which should benefit society's least advantaged groups the most (UN DESA, 2006).

The United Nations (UN) defines social justice as the attempt to combine justice and equality from a social perspective, so that people's rights and freedoms are balanced with the duties and responsibilities of being members of society (UN DESA, 2006; Jost and Kay, 2010). Justice-related issues are crucial to the future development of our society.

The debate has culminated in the following definition of a socially just transformation of environmental and climate policy:

A socially just transformation of environmental and climate policy implies the national and associated global fundamental refocusing of society and the economy in favour of sustainable development, whereby resources and opportunities are distributed fairly within planetary boundaries, both intra- and intergenerationally and from a historical perspective, equal freedoms and rights are afforded to all, and every individual is able to participate and achieve a good life for themselves. This goal is achieved by transparent democratic processes, based on the rule of law, with the active involvement and consideration of all stakeholder groups.

### 1.3 The importance of social justice

Below, we consider the various different ways in which social and ecological crises can exacerbate and amplify one another to elucidate the importance of social justice in a socio-ecological transformation.

Sustainable development can only be achieved within planetary boundaries<sup>9</sup> (WBGU, 2016). Tipping points<sup>10</sup> can occur before these boundaries are reached and can set in motion a dynamic and unstoppable process (such as the melting of the ice shield in Greenland), triggering a domino-like chain reaction (UBA, 2008; Simpkins, 2017; PIK, 2021). Some leading scientists<sup>11</sup> believe that this tipping point has already been reached in the Amazon. A recent report by National Geographic suggests that the Amazon rainforest could already be releasing more climate-damaging gases into the atmosphere than it is able to absorb (Welch, 2021).

Social crises and inequalities can also aggravate one another. For example, a recent Oxfam report concluded that the COVID-19 pandemic has magnified global social inequalities to such a degree that the world's poorest will take more than a decade to recover from it (Oxfam, 2021a). World Economic Forum representative Joe Myers (2020) has observed a sharp deterioration in healthcare, digital resources, jobs, accessibility and access to public recreational spaces. The UN's Global Humanitarian Overview 2021 projects that around 40 % more people will be dependent on humanitarian aid in 2021

<sup>9</sup> The concept of planetary boundaries involves calculating pollution limits and defining the thresholds beyond which significant environmental damage is expected to occur. Central to this theory is the assumption of tipping points at which the system can change in unpredictable ways and processes can accelerate one another (Zwiers et al, 2020, 84).

<sup>10</sup> If the background climate is already approaching the threshold level, even minor changes to the climate system can activate tipping points and cause irreversible changes throughout the entire system. In other words, continuous changes do not produce a gradual response; even minor changes can have sudden and dramatic effects in vulnerable regions (UBA, 2008; PIK, 2021; DWD, 2019).

<sup>11</sup> See Covey et al. (2021).

than in 2020 (Laviète, 2020). The factors that promote social inequality are mutually reinforcing. For example, the World Economic Forum's latest Social Mobility Report (WEF, 2020a) shows that in most countries, an individual's life chances remain tied to their socio-economic status at birth, perpetuating historical inequalities (WEF, 2020b). The report particularly highlights health, education, social security, taxes and public finances as areas where counteractive policies are needed, but also stresses the role of companies as employers, investors and service providers (WEF, 2020b).

Social inequalities are further amplified by discrimination. For example, women are more likely to be at risk of and affected by poverty than men (Oxfam, 2021b; UNDP, 2020).<sup>12</sup> UNAIDS Director Winnie Byanyima (2021) has seen a further rise in gender inequality in the areas of education, dropping out of school, jobs/redundancies, child marriages and HIV/AIDS associated with the global COVID-19 pandemic. The extent to which researchers consider different forms of discrimination and their potential contribution to solutions is also worth mentioning in this context. Relevant publications such as Perez (2019) highlight the gender imbalance in research across all disciplines.<sup>13</sup> When multiple social categories overlap (such as gender, ethnicity or class), an individual can face discrimination on several levels (Heinrich Böll Foundation, 2019). This is known as intersectionality.<sup>14</sup>

Environmental crises can fuel social crises and vice versa. For example, over the past 40 years the world's richest one percent earned twice as much as the poorest 50 percent, or conversely, the richest one percent consumed twice as much CO<sub>2</sub> as the poorest 50 percent: "*At current distribution patterns, the global economy would have to be 175 times bigger just to provide every individual with an income of USUSD 5 a day by 2030*" (Oxfam, 2021, 7a). Environmental crises can trigger social crises, such as the persistent heavy rainfall in East and Central Africa in mid-2020, which led to massive flooding and created ideal breeding conditions for locusts. The resultant plague decimated agricultural productivity, limited food supplies still further and prompted spiralling prices, which hit the poorest segments of society hardest (Küßner, 2020). Environmental disasters linked to climate change are a growing factor in migration (cf. Jolly and Ahmad, 2018).

As intergenerational justice issues are increasingly superseded by intragenerational issues, given that the consequences of climate change are already being felt and impacting our future lifestyles, any strategy to transform environmental and climate policy "*that neglects the social dimension is destined to fail due to the tensions and conflicts it generates*" (Littig and Grießler, 2004). Yet social justice is still under-represented in academic discussions of socio-ecological transformation. In some contexts, social and environmental issues may be deliberately played off against one another in an attempt to hinder transformational policies (cf. Vasan, 2020; Brand et al., 2020). The clearest example of this is the decades-old "jobs versus environment" narrative, which a growing number of trade unions have now rejected, calling instead for an American-style Green New Deal or similar (Cha and Brecher, 2019). There is a considerable potential overlap with the original trade union concept of a socially just transition from a fossil fuel-dominated society to a sustainable one based on renewable energies. In April 2021, President Biden announced that the national COVID rescue package of almost USD 2 trillion

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<sup>12</sup> The UNDP estimates that in 2021, there are 118 women for every 100 men between the ages of 25 and 34 affected by extreme poverty (living on a maximum of USD 1.90 a day), and the situation is worsening due to the COVID-19 pandemic.

<sup>13</sup> For examples of mobility behaviour, cf. Spitzner (2002) and Bauhardt (2007).

<sup>14</sup> One example of multiple discrimination in Germany is the extreme under-representation of women among mayors, coupled with the fact that there are currently no female mayors at all with a migration background (Stolz, 2020; Mediendienst Integration, 2020).

would invest extensively in creating jobs in so-called "clean industries" (Benveniste, 2021). In 2018, the International Labour Organisation (ILO) projected up to 24 million new "green jobs" worldwide by 2030, far outweighing the six million jobs lost in other sectors, at least in quantitative terms (ILO, 2018). Nevertheless, finding viable solutions for a just transition for these six million workers remains a challenge.

If we are to consistently implement a socio-ecological paradigm shift, we need new, ambitious, meaningful narratives (cf. also Bregman, 2019). The socio-environmental justice issue is an opportunity to highlight the social relevance and urgency of the environmental crisis<sup>15</sup> while at the same time developing a positive vision of future sustainability (Neckel, 2021; Brown, 2017), and thus lend fresh impetus to the debate. Narratives "*usually derive discursive impact from invoking historical events, myths and collectively shared experiences*" (Turowski and Mikfeld, 2013, 44). When formulating narratives for a socially just environmental and climate policy, therefore, the key is to identify practical examples and collective experiences that demonstrate the positive correlations between environmental and climate-related transformation processes on the one hand and greater social justice on the other. This provides a starting point for future promises and a yardstick for gauging sustainable transformation policy (cf. Höhn, 2016). This report aims to contribute to this process with some practical examples (chapter 5).

## 2 Overview of stakeholders

The umbrella term "climate and environmental transformation processes" embraces multiple, often interdependent, processes. The stakeholders and interests involved in transformation are extremely diverse and varied. For convenience, we have grouped them into a matrix of influences and interests in Figure 2. The positioning of individual stakeholders may vary depending on the context and topic, but the matrix illustrates the full spectrum of influence/interest combinations. Depending on the different governance levels, our classification of individual stakeholder (groups) is based on a consideration of the following factors:

- 1) **Influence:** Access to resources (especially funding); political influence on and within political institutions; powers of persuasion (reach and multiplier effect).
- 2) **Interest:** From a minimal level of interest (those who benefit from environmental degradation/the status quo) to a high level of interest (those particularly affected by adverse impacts and players with a normative claim to change)

The examples given in the map (Figure 2) are not intended to be exhaustive. We have incorporated local, sub-national, national, regional and international levels, whereby most of the national examples refer to Germany. Classification into the different categories is likewise for illustrative purposes only, because in reality, the boundaries tend to be fluid rather than clearly delineated.

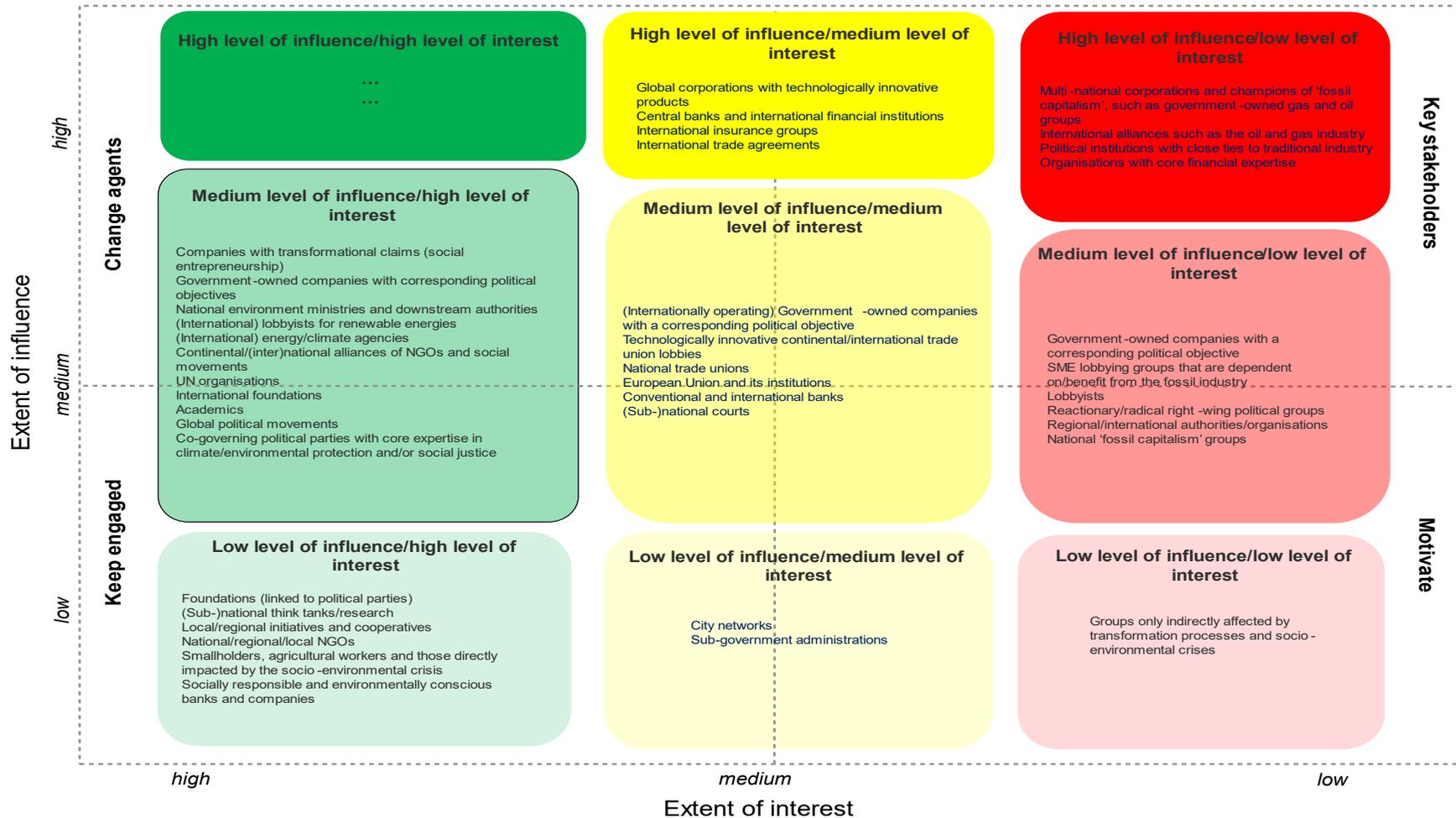
Essentially, the debate over power and the will to change is polarised between two camps: those with extensive influence but minimal overall interest in a sustainable economy; and those with a high level of interest in sustainable development but little power to shape it. Other dimensions are implicitly

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<sup>15</sup> According to Gottschlich and Katz (2016), a critical-emancipatory concept of sustainable development that aims to further the cause of justice must question where, how and by whom devaluation and exclusion processes are perpetrated in the current system.

included and can be ascribed to either of the two poles. In the current system, the biggest beneficiaries of environmental destruction (including multinational corporations whose business models are based on fossil fuels, together with consumers) also tend to be those with the most resources. Conversely, those directly and often most severely impacted tend to be those with the least access to social and political participation. This lack of access is only partially overcome by (sub-)government organisations representing their interests at present. Representation at a (supra-)government level increases the opportunity to exert influence. Groups that have explicitly adopted transformation-related issues and ideally (co-)govern therefore command a special position on the stakeholder map: They set the political agenda and can also compel other influential players with a moderate to minimal level of interest to act. Paradoxically, these same individuals are simultaneously limited in their scope of action by stakeholders with a high level of influence and minimal interest. The structural anchoring of sustainable policies by government institutions is therefore crucial.

Figure 2: Map of generic stakeholders



Source: Own representation, based on Mohr et al. (2020).

### 3 Systematisation on the basis of institutional drivers

This chapter analyses the key challenges and opportunities of socially just environmental and climate-related transformation processes using selected practical examples. In selecting and systematising the case studies, the structural change processes were typologised according to the underlying institutional drivers.

We begin by classifying the term “institution”: In political science, institutions are defined as “*systems for social control that regulate behaviour and create predictability*” (Czada, 1995). From an analytical perspective, they “*create the material and personal preconditions for action*” (Rohwer, 2002, 16). In a societal context, therefore, there is a clear distinction between institutions on the one hand, and rules and norms on the other. Political institutions are particularly relevant to this analysis.<sup>16</sup> Institutions are defined as political if their intention is to meet social needs or to create and distribute public resources, where conflicting interests prevent this from occurring naturally and a suitably staffed apparatus is needed to enforce this (Czada, 1995). Political institutions therefore play a particular role in determining whether and to what extent any steps towards a socially just environmental and climate transformation are binding. They are capable of both accelerating and hampering transformational change by departing from established paths and creating new ones or vice versa, or by further institutionalising unsustainable path dependencies. From a social justice perspective, it is crucial for all relevant stakeholders to help shape political institutions and ensure a broad-based composition. The state should not be seen as a single stakeholder, but rather as a complex, differentiated, organised network of stakeholders “*who can or must assume different roles in different contexts.*” (Bornemann et al., 2018, 183)

As previously mentioned in chapter 1.2, the state plays a particular role and has extensive scope for shaping the transformation process. Firstly, its political initiatives and legislation can create appropriate socio-economic framework conditions while monitoring compliance with the legal framework and imposing sanctions for non-compliant behaviour. Secondly, the public infrastructure facilitates social cohesion, political participation and economic activity (Beck et al., 2017). In this way, institutional capacities can “*improve participatory planning, implementation and monitoring in relation to sustainable development*” (UN, 2001, 54). Political institutions can help to consolidate the political desire for sustainability measures created through socio-political debate. At a global level, the extent to which governments lead, determine and help shape transformational debate varies between countries.

In order to typologise the practical examples listed in chapters 3.1 and 3.2, we began by identifying key institutional drivers and classifying them into generic types to aid systematisation. In reality, however, these drivers are neither clear-cut nor can they be ascribed to a specific group of stakeholders.

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<sup>16</sup> This includes the state (government including ministries, parliament, administration, federal and municipal institutions) on the one hand and social organisations such as political parties, associations, NGOs and mass media on the other; but it also extends to the constitution, laws, (international) agreements, elections and the principle of majority rule.

- 1) **Governance structures:** Institutionalisation via the differentiation of government structures at all political levels
- 2) **Socio-political:** Institutionalisation via social policy measures
- 3) **Regulatory:** Institutionalisation via national and international legislation
- 4) **Judicial:** Institutionalisation via national and international jurisdiction
- 5) **Fiscal:** Institutionalisation via financial support for transformation processes
- 6) **Private sector-driven:** Institutionalisation via new private-sector companies (branches)
- 7) **Social structures:** Institutionalisation of socially relevant institutions
- 8) **Bottom-up/grass roots:** Institutionalisation via local initiatives

To reflect the importance of political (government) institutions in the transformation process, the first four drivers focus on the government's scope for action, while the remaining four relate beyond that to economic and civic stakeholders.

### 3.1 Governance-related challenges

This chapter identifies the key challenges associated with a socially just transformation process and classifies their institutional relevance using selected examples.

#### Path dependencies

Transformation processes involve a constant trade-off between strategic decisions. However, as (planning law-related) policy decisions can be particularly slow to take effect,<sup>17</sup> this can create path dependencies which inhibit the impetus for change and even create lock-in effects. Building infrastructure such as motorways and power plants, for example, can have an inhibiting effect, because entire technological systems depend on them (Unruh, 2000).<sup>18</sup>

These path dependencies are institutionally anchored to a greater or lesser extent and affect the institutional structure. Long-established structural paths and associated unsustainable narratives are particularly difficult to break. Government policy is conventionalised, shaped and implemented by federal and state ministries and downstream authorities and municipal governments, many of whose internal structures have developed and solidified over a number of decades. For example, it is far more difficult to phase out subsidies than to introduce them, as structures will have been built around them to consolidate the beneficiaries' position (Barazza and Strachan, 2021). Consider for example the transport sector, where for decades the regulatory and control structures (such as legislation and standards) have centred around passenger cars (cf. Fishedick and Grunwald, 2017). On a fiscal level, this is reflected in subsidies and tax breaks for established systems. This is now changing amidst calls for tax relief on more environmentally friendly modes of transport like bicycles. Although a recent study of 77 countries found that fossil fuel consumption-related subsidies had fallen sharply from USD 582 billion in 2018 to USD 472 billion in 2019, over the same period, a different study of just 44 countries found that fossil fuel production subsidies had actually increased from USD 39 billion to USD 54 billion (UNEP, 2020).

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<sup>17</sup> For example, the effective lifespan of infrastructures, power plants and buildings ranges between twenty and fifty years, while the average lifespan of a car is around 18 years.

<sup>18</sup> Take individual transportation/cars, for example. Apart from the infrastructure itself, this also includes the automotive industry and its suppliers, the oil production industry and its distributors, rubber manufacturers etc.

Old and new organisations may also have conflicting competencies and responsibilities – such as the International Energy Agency (IEA) and the International Renewable Energy Agency (IRENA), founded some 35 years later<sup>19</sup> (Overland and Reischl, 2018).<sup>20</sup> At all political levels, at least in the initial phase of a transformational process, force of habit makes recourse to the existing system inevitable, as it tends to be better resourced in terms of finance, spatial infrastructure, materials and intangible resources (such as networks) than its new, change-hungry counterpart (cf. for example Scharpf, 2000). (International) financial institutions help to perpetuate this system by lending to and investing in existing systems.<sup>21</sup>

### **Competing interests among stakeholders**

This in turn is accompanied by lobbying by institutionalised stakeholders such as industry associations and trade unions, who are either keen to preserve dominant paths in the face of changing market conditions (Clauser and Fichter, 2017) or else make it more profitable or socially acceptable for them to phase them out. For example, the German government is paying EUR 4.35 billion in compensation to fossil fuel plant operators such as Vattenfall under the Act to Reduce and End Coal-Fired Power Generation (Reuters, 2020). In South Africa, social justice-inspired discussions about phasing out the use of coal (cf. "Just Transition") have sparked fears of a further rise in unemployment, already at a high level before the COVID-19 pandemic struck. The South African conflict is mirrored in many other countries (including Indonesia and the Gulf States in the case of oil; and the USA and Russia in the case of natural gas).

### **Social impact on vulnerable groups**

The impact of politically and environmentally motivated actions on marginalised and particularly vulnerable groups and the resulting conflicts is a key socio-political consideration. Here, we must differentiate between wealthier and poorer nations, as there are wide variations in the levels of political and social participation. In France, for example, the decision to increase taxes on petrol and diesel (CO<sub>2</sub> levy) in October 2018 for the sake of the climate provoked months of bitter protests. The media was fond of depicting “yellow vest” supporters as the enemies of ambitious climate policies, whereas in fact they were railing against social injustice, particularly the failure to redistribute these CO<sub>2</sub>-related revenues. President Macron made only minor concessions to their demands for a socially just climate policy: A fiscal concession of EUR 10 billion for 2019 gave some relief, predominantly for middle-income groups, but did not benefit the bottom ten percent of earners (Gagnebin et al., 2019).<sup>22</sup>

Another example is biopiracy, or the patenting of plant species, which can deprive (indigenous) producers of their independence. It threatens not only biodiversity, but also the continued existence of crops in-situ and the food sovereignty of entire regions, as patent protection can affect both fauna

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<sup>19</sup> Global energy governance becomes even more complex when other organisations such as the International Atomic Energy Agency, founded in 1957, and the Organization of Petroleum Exporting Countries, founded in 1960, are included.

<sup>20</sup> For further comparisons, cf. also Esu and Sindico (2016) and van de Graaf (2013).

<sup>21</sup> For example, since ratifying the Paris Climate Agreement, the World Bank has invested a further USD 10 billion in fossil fuels (Urgewald, 2020). The European Investment Bank has also benefited extensively from high profit margins from fossil projects in recent decades, investing more than USD 13.5 billion in the fossil fuel industry between 2013 and 2018 (CEE Bankwatch Network, 2019). The world's largest multilateral bank deserves some credit for its decision to divest all fossil fuel projects in 2019, pre-empting the World Bank (CEE Bankwatch Network, 2019)

<sup>22</sup> Gagnebin et al. (2019) list eleven measures in total, including a 5-10 % tax benefit for compact cars, reversal of the planned increase in regulated household electricity and gas prices, and an extension to the 2018 Energy Check (social energy tariffs) to a further two million households.

and flora species. Smallholders may become dependent and ultimately face financial ruin (Reset.org, n.d.).<sup>23</sup>

### **Interdependencies**

One of the greatest challenges of any socio-ecological transformation process are the countless interdependencies with other countries and regions, between different political levels, as well as between institutionalised and individual stakeholders, all of which must be taken into account. The recently negotiated EU-Mercosur trade deal is a prime example. A study by PowerShift and the Green Group in the EU Parliament found that an increase in livestock farming and ethanol production from sugar cane cultivation in the Amazon will lead to even greater rainforest destruction (PowerShift, 2021a).

## **3.2 Governance-related opportunities**

It is possible to overcome institutional barriers to transformational impetuses, provided the political and social will exists. Different institutional drivers may have a mutually dynamising effect.

### **Local initiatives and social stakeholders**

As outlined in chapter 2, local initiatives play a major role in addressing grievances and exploring solutions, especially in the early stages of transformation processes. Initiatives such as multi-generational living, co-housing and co-working, open workshops and creative neighbourhood centres, community gardens and online swap/lend/co-creation platforms are found throughout the world (Peuker et al., 2020). Locally anchored social initiatives are often the drivers of political and social participation. In Germany, this also includes local projects such as urban gardening and solidarity farming, as well as neighbourhood workshops and social labels like arm<sup>TM</sup> which sponsors leisure activities for disadvantaged youngsters through T-shirt sales and other schemes (CorA et al., 2018).<sup>24</sup> Local initiatives can also play a vital role in the (international) transfer of knowledge and inspire community-based economic models. For example, the Dutch foundation Madaster operates an open data platform which gathers information on infrastructure and building materials so that used raw (construction) materials can be repurposed. People can use this platform to access the raw materials contained in buildings and their future use and thereby promote the cyclical use of resources (Zwiers et al., 2020). The global Open-Source Ecology Platform connects engineers and farmers, develops tools and construction plans for agricultural and industrial machines, and makes them freely available on the internet (Open Source Ecology, 2021).

Cooperatives and non-profit enterprises can inspire people to rethink their production and consumption patterns, by pursuing socio-ecological goals rather than being purely market-based and profit-driven. For example, Hansalim, South Korea's largest consumer cooperative, supplies more than half a million households – almost 2.5 % of the South Korean population. As a direct sales movement between rural and urban areas, Hansalim uses its own distribution systems to cut out the middlemen and keep product prices low (Zwiers et al., 2020). Chapter 4 elaborates on the institutional, political and social conditions needed for such initiatives to succeed.

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<sup>23</sup> The Indian NGO Navdanya claims that biopiracy is rife, especially among climate-resilient seeds.

<sup>24</sup> Initiated by youth group Frankfurter Jugendring, the campaign seeks to raise awareness of youth poverty. Its eco-friendly, fair-trade products, such as T-shirts, are printed by a family business in Frankfurt and shipped by a non-profit day centre for people with mental health problems (CorA et al., 2018).

### **Institutionalisation at a local level**

Local initiatives can lend vital impetus to local policymaking. In Berlin, for example, the Changing Cities e.V. initiative successfully campaigned for a referendum on cycling law. One of Germany's oldest examples of successful local initiatives is the city of Freiburg, where pioneers, local environmental groups and stakeholder alliances have successfully campaigned since the 1970s, with growing support from local political parties, social groups and the city administration. Freiburg was one of the first cities in Germany to establish an environmental protection agency in 1986 (Grießhammer and Brohmann, 2015). Another interesting example is Bologna, which became one of the first cities in the world to develop an official "Urban Food Garden Plan" in 1980. Since then, the city has seen countless initiatives. In 2009, it responded by opening food gardens for young people, families and marginalised groups under the control of the city. In 2014, a consortium of municipal, civic, academic and private-sector partners (Urban Centre Bologna) organised an urban agriculture competition, selecting and subsequently implementing three prize-winning entries from more than 80 project ideas submitted from all over Europe (ICLEI, 2017a).

Analogous to this, some local authorities in Germany are working towards complete energy self-sufficiency in the foreseeable future. Here too, the energy transition to renewables is often driven by local citizens' initiatives, which are subsequently taken up by local government and translated into policies. Since 2015, the Rhine-Hunsrück district has generated 274 % of its total electricity demand locally and renewably, selling its surplus clean electricity to the national grid (Kreisverwaltung Rhein-Hunsrück-Kreis, n.d.). Some local governments<sup>25</sup> have also opted to regain control of utilities and/or the grid infrastructure to broaden their energy policy scope (Reineck, 2012).

### **Institutionalisation of local initiatives at higher governance levels**

Local governments can play a key role in promoting niche innovations (Grießhammer and Brohmann, 2015). The impetus created by local-level initiatives and government stakeholders, as well as innovative ideas from new companies and technologies, can reverberate through other institutional levels. Associations such as Local Governments for Sustainability, Global Parliament of Mayors, Bundesverband der Regionalbewegung e.V. and C40 can make a vital contribution to "city-to-city learning" and thereby improve their own resilience (e.g. to storms), for example by learning to reduce water consumption (Haupt et al., 2020).<sup>26</sup> One interesting example from South Korea is the Seoul Metropolitan Government Global Urban Policy Sharing Initiative, which supports the socio-economic development of cities outside South Korea through systematic knowledge-sharing. The metropolis draws on its own experiences of rapid urbanisation and has already supported projects in Mongolia and Ireland, among others (ICLEI, 2017b).

There are also some interesting instances of political stakeholders joining forces with social and economic groups. For example, Food Policy Councils, which first emerged in the USA in the 1980s, have responded to cuts in social benefits that threatened food security, especially for the urban poor. Food Policy Councils bring together food producers, consumers, NGOs and government representatives to collaborate on solutions to local needs, such as promoting solidarity agriculture or tackling social disadvantages in the food system. There are now more than 250 of these Councils in the USA, Canada

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<sup>25</sup> Examples include Bielefeld, Cottbus and Greifswald.

<sup>26</sup> New technologies contribute to dematerialisation as well as to easier access, as impressively demonstrated by the rise in digital communication formats since the COVID-19 pandemic hit.

and Australia alone, and they have also spread to Brazil, the UK and Germany (CorA et al, 2018). While their approaches may differ, they all act at a local level to share their knowledge, practices and organisational forms, "*as well as experimenting with new governance arrangements and innovative technological, organisational and social ideas.*" (Peuker et al., 2020, 27)

Changes in government structures and the associated legislature can offer an opportunity for socio-ecological transformation. For example, new national and international laws and standards can prompt changes in governance structures. Conversely, changes in government structures can encourage the adoption of new laws and standards. Examples include the establishment of Just Transition ministry departments in New Zealand (2018); the establishment or redefinition of environmental change ministries in Spain (2018), France (2020) and Italy (2021), explicitly tasked with making production systems more sustainable, (Dominioni, 2021); and the establishment of a Ministry of New and Renewable Energy (MNRE) in India in 1992. The latter initiated the Jawaharlal Nehru National Solar Mission, with an initial target of 100 gigawatts (GW) of additional solar energy by 2021 (SDG Partnership Platform n.d.; National Institution for Transforming India, 2015). The five social goals specifically pursued by the MNRE (energy security, availability, affordability, justice<sup>27</sup> and a greater share of renewables among the overall electricity mix (MNRE, 2021)) are highly relevant to a socially just energy transition. The EU recently launched the Just Transition Platform, together with a corresponding mechanism and fund, all aimed at minimising the social impacts associated with eliminating greenhouse gases and supporting the required changes in affected regions (European Commission, 2021).

International politics can also create windows of opportunity for government action (Bornemann et al. 2018). International agreements can help to drive institutionalisation processes forward at both national and international level. For example, the reformed climate regime introduced by the Paris Agreement requires all signatories to submit updated Nationally Determined Contributions (NDCs) ahead of the next international climate summit in Glasgow (Scotland) in late 2021, following the first round of Intended Nationally Determined Contributions ahead of Paris 2015.<sup>28</sup>

Unsustainable systems may be eliminated through legislation and court rulings. For example, until 2018, France was the only country in the world where companies were legally required to undertake comprehensive due diligence in relation to human rights under the 2017 Loi de Vigilance. This law means that France's largest 100-150 companies can be held liable for serious violations of human rights and environmental damages (CorA et al, 2018). The Loi de Vigilance is much more rigid than Germany's Supply Chain Act, which will initially apply to companies with more than 3000 employees from 2023 (Federal Government, 2021). All companies must include their own operations as well as those of subsidiaries, sub-contractors and suppliers in the due diligence plan (CorA et al, 2018).

Four other European examples illustrate the potential effectiveness of climate lawsuits when used as a targeted tool. The lawsuit against the government of the Netherlands filed by the Dutch NGO Urgenda Foundation and 900 civil plaintiffs in 2015 culminated in the District Court in The Hague ordering the Government to cut its greenhouse gas emissions by 25 % by 2020 compared with 1990 levels. The judges explicitly cited the scientific findings of the Intergovernmental Panel on Climate

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<sup>27</sup> Defined as catching up with the average global per capita energy consumption by 2050.

<sup>28</sup> The Climate Action Tracker and others found that the NDCs submitted to date are nowhere near ambitious enough to get the world on track for a 1.5°C increase.

Change (IPCC) and international obligations, as well as the principles of international law and Dutch civil law. Similar lawsuits were also filed in Pakistan and the Philippines in recent years (cf. CorA et al, 2018). In Germany, parts of the Climate Change Act were recently declared unconstitutional because the burden to reduce high emissions would be irreversibly postponed to post-2030 and limit the civil liberties of younger and future generations (see Federal Constitutional Court, judgement dated 24.3.2021, 1 BvR 2656/18, recital 1/270).

Governments can also support structural change via fiscal measures, for example by issuing "green bonds" or by subsidising socio-environmental practices. In recent years, Uruguay has invested more in renewable energies than almost any other country, measured as the ratio of government investment to gross domestic product (GDP) (Herrnwille, 2017). Its strategy is to lower electricity prices which impact lower income groups in particular, and tackle energy poverty (Watts, 2020). Since 2008, fixed feed-in tariffs have been used to attract investors (more than USD 7 billion); as dependency on hydropower has steadily reduced, droughts have become less frequent (Watts, 2020). International funding mechanisms like the Global Environment Facility (GEF) and the Green Climate Fund (GCF) are another source of financial support for environmental and climate change mitigation projects worldwide.

### **Financial/economic impetuses**

By leveraging investments in more sustainable portfolios, the banking and finance sector can make a significant contribution. By 2020, environmental, social and corporate governance (ESG) investments had seen an eightfold since the early 2010s, and now total some USD 40.5 trillion. (Baker, 2020). Ethical banks go one step further and insist that the financing itself must be sustainable. As an example, GLS Bank was involved in setting up the "FairWorldFonds", a fund open to all investors which only invests in selected asset categories such as equities, bonds (e.g. government bonds) and the aforementioned green bonds (CorA et al, 2018). Although the number of "green banks" remains small, at around 30 banks in 12 industrialised countries, since their inception in mid-2020 they have invested almost USD 25 billion in capital and supported projects with a total value of USD 70 billion (Bodnar et al., 2021). Apart from ethical banks, there are many other new businesses and branches helping to drive transformational change in the private sector. In the long term, they have the capacity to challenge and transform existing financing, production and consumption patterns. Companies whose mission it is to help implement global sustainability and find solutions to social challenges, rather than just maximising their profits, are known as "social enterprises". From niche beginnings, products such as the Dutch Fairphone (and its German counterpart Shift) are already helping to provoke a wider debate on the use and waste of resources and violations of human rights (cf. Kraaijenbrink, 2019).

The multi-national private sector also has opportunities to make a difference. Most recently, the world's largest asset management company, BlackRock, caused a stir by announcing its target of net zero emissions from its investments by 2050. This is particularly significant when you consider that BlackRock, with more than USD 9 billion in assets under management, owns shares in many global companies (Mackenzie and Nauman, 2021), including countless international fossil fuel corporations.<sup>29</sup>

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<sup>29</sup> Many other global asset managers followed suit in 2020, although perhaps not motivated purely by environmental considerations: "*In 2020, four-fifths of a globally representative selection of sustainable indices outperformed their five parent benchmarks.*" (Mackenzie and Nauman, 2021)

Finally, it is important to stress that all the aforementioned institutional drivers are closely inter-related, and as well as challenges and opportunities, socially just climate and environmental transformation processes often offer "co-benefits", i.e. unintentional positive effects. While this concept has been debated for some time, especially among economic and development policymakers, Jan pp. Mayrhofer and Joyeeta Gupta were the first to undertake a systematic analysis in 2016. The authors found that the extent and type co-benefits of climate policies vary between areas, sectors and over time. Social aspects are just one sub-area but one which is particularly relevant to individuals. The co-benefits of reduced air pollution are a prime example, particularly lower healthcare costs, not just in coal-dominated states such as Mongolia (NG, 2021b), but also the European Union (EU) (Workman et al., 2019). Markkanen and Anger-Kraavi (2019) systematically analysed the social impacts of greenhouse gas mitigation policies and found only a small number of measures with minimal conflict potential between climate policy and social policy. However, the most promising measures for reducing gender inequality in particular include expanding public transport networks (which supporters have been demanding for many years), reducing subsidies for fossil fuels, and offering feed-in tariffs for renewable electricity to private households (Markkanen and Anger-Kraavi, 2019). Projects and initiatives whose primary objective is not related to climate policy, but which may nevertheless produce co-benefits, are less widely debated. For example, climate-friendly urban development can be a co-benefit of policies whose main aim is to improve air quality and public health. At the same time, urban development can create wider opportunities for public participation, for example with a sustainable mobility system that does not rely solely on electric private transport (with zero local emissions).

## 4 Success factors and problem-solving approaches

An analysis of the challenges and opportunities reveals multiple approaches for shaping the transformation process successfully. Based on the examples outlined and the relevant studies, we have identified a number of possible approaches and pinpointed the key success factors:

### Policy design

Fundamental social change needs forward-looking policies, i.e. government stakeholders at all governance levels who can create a framework and build trust in the relevant change processes and who are able to anticipate windows of opportunity. These stakeholders perform different roles in different contexts as part of a complex network, and institutional, social, cultural and economic expectations may be particularly high. However, they also have scope for interpreting and shaping their roles outside of established notions, for example as "enablers" of innovative social niches (Kristof) or neighbourhoods (Widmer) (Bornemann, 2018, 184). In this sense, the state can be defined as a place "*where conflicting social values, ideas and interests are institutionalised*" and is therefore more "*integrated into networks where a variety of government, social and economic stakeholders act collectively*" than ever before (Bornemann et al., 2018, 183). The state is therefore uniquely placed to bring together individual and institutionalised stakeholders from a range of debate cultures. This has particular relevance in transformation processes where equal priority is given to environmental and social issues. Particularly in situations where environmental and climate protection issues potentially have adverse social impacts, such as job losses, the leading socio-political stakeholders such as trade unions and welfare organisations, as well as the affected individuals themselves, must get involved in finding a solution. In keeping with the network concept, government stakeholders should therefore

remain mindful of socio-political issues and include them when debating new policy instruments. As mentioned in chapter 1.2, the early stages of a transformation process are often dominated by social and technological innovations by "pioneers of change" from civil society and companies, and only later do government institutions begin to play a more formative role (Grießhammer and Brohmann, 2015). Local initiatives are often critical of inertia at the higher political level and address the issue in social debate. This creates pressure for change, which in turn opens up opportunities for influencing transformational climate and environmental policy at a national and international level.

Many social innovations (such as car-sharing, urban gardening, solidarity farming) are born at a local level. Recognition of their importance as a starting point for social transformation processes is growing (Jacob et al., 2020), and it is important to harness the creative power of local initiatives by taking their impetuses up at local government level. One way for local governments to extend their political reach is through (re-)municipalisation processes (see also Reineck, 2012). They can also adopt innovative new approaches by specifying criteria for the award of local contracts (e.g. by imposing strict sustainability criteria when farming state-owned agricultural land (CorA et al, 2018)). The European ARTS project (Accelerating and Rescaling Transitions to Sustainability)<sup>30</sup> has identified seven mechanisms that can help to accelerate urban transformation processes by sharing and promoting new mindsets, approaches and organisational methods: 1) Growth of individual initiatives, 2) Organisational development and professionalisation, 3) Replication of successful approaches by other initiatives, 4) Translation and communication work between different system logics, world views and languages, 5) Formation of partnerships and networks, 6) Using points of contact and windows of opportunity arising from the various contextual levels of a conurbation (regional, national, European and international), e.g. by incorporating it into higher-level political debate or using funding programmes, and 7) Ensuring that innovative mindsets, approaches and organizational methods are anchored in existing urban development processes and governance structures (Peuker et al., 2020). A supportive transformative innovation policy that encourages experimentation with social innovations in real-life laboratories, for example, may provide assistance and support (Jacob et al., 2020). However, experience has shown that merely supporting innovations is not enough to ensure a comprehensive transformation (SRU, 2016). Local initiatives cannot develop a transformational dynamic beyond the local level unless political influence can be exerted at the next level up.<sup>31</sup>

To achieve a socially just, sustainable transformation, a politically balanced approach to the removal of barriers (exnovations) must exist alongside the promotion of innovative impetuses. It is important to support not only *"changing technologies, but parallel to this, changing industry structures and the associated impacts on society, e.g. of phasing out coal or transitioning to electromobility"* (SRU, 2016). Support for innovations needs exnovation to become fully effective. For example, phasing out nuclear and coal-based energy simultaneously increases the proportion of renewables in the energy mix. Particularly against the backdrop of a socially just transformation process, therefore, efforts should also focus on other adjacent systems (or system elements) to identify potential triggers for further developments such as positive feedback or co-evolution (Wolff et al., 2018). For example, one might

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<sup>30</sup> Based on an evaluation of various studies and our own empirical surveys in five European cities.

<sup>31</sup> The rural district of Chimanimani in Zimbabwe is a good example. Smallholders receive support when working together to protect the natural resources soil, water, forest and grassland. This policy was taken up at federal level and Chimanimani became one of three pilot districts in Zimbabwe to implement a national climate change adaptation strategy. *"Successful implementation in Chimanimani could lead to ground-breaking impetuses for participatory governance at national level."* (CorA et al, 2018, 48)

explore the potential for transforming transport systems by incorporating changing work forms or demographic changes; or the extent to which alternative financing models (such as crowdfunding) can help to revolutionise our food chains (Jacob et al., 2020).

Given the complex correlations between these issues, there is a particular need for broad alliances of stakeholders beyond the usual constellations – governmental, social, economic – with a mixture of organisational and individual skills (knowledge, power, resources, creativity, willingness to innovate, ability to communicate, persuasiveness and process management skills). This is also vital for ensuring the visibility and representation of marginalised groups. Major political events such as the annual integration summit at the Federal Chancellery in Berlin could be more accessible and diverse in terms of the participating representatives, organisations and organisational formats.<sup>32</sup> On the other hand, social movements like "La via Campesina" deserve to be more visible.<sup>33</sup> With more than 200 million members worldwide (including smallholders, the landless and workers), it is one of the largest social movements in the world (Braidotti, 1994), yet receives relatively little publicity, at least among western media.<sup>34</sup>

Far-reaching transformations need substantial investments, accompanied by appropriate political groundwork (cf. Gensch and Kahlenborn, 2018). This includes setting and communicating clear, quantifiable targets and underpinning them with appropriately ambitious, socially differentiated policy instruments, as well as establishing alternative, sustainable technologies and products as sound investments. As well as planning confidence, there is also a need for directional certainty and guiding principles that go far beyond political objectives. Yet despite a growing consensus on the need for change, the correct approach or format remains a controversial topic. Environmental stakeholders committed to social justice must compete with other stakeholders and with one another (Jacob et al., 2020), making it even more important for them to join forces and represent their interests within the context of a broad-based social debate.

### **Shaping the debate and developing new narratives**

We need new narratives highlighting the benefits of a socially just, consistently ecological transformation towards sustainability that will raise the profile of this issue and its social relevance. Studies suggest it is not enough simply to focus on sustainability as an overarching aim (Gensch and Kahlenborn, 2018). As such, a discussion of co-benefits could provide the starting-point for a new narrative elucidating the achievable benefits of socially just climate and environmental policies – such as distribution effects above and beyond preserving biodiversity and limiting global warming (Claeys et al., 2018). As promises for the future, positive narratives can help to motivate and legitimise actions and offer guidance. New narratives should explicitly reflect all viewpoints, emphasise the diversity of stakeholders, and highlight the benefits of communication and cooperation in multi-stakeholder

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<sup>32</sup> For example, think tanks on migration issues are still rare in Germany, so the few that do exist, like the Center for Intersectional Justice, should be considered particularly important.

<sup>33</sup> Intersectionality approaches to environmental and climate policy research remain a minority. The monograph "Gender, Intersectionality and Climate Institutions in Industrialised States" (Magnusdottir and Kronsell, 2021) is particularly worth mentioning in this connection. The authors argue that as well as developing strategies and policies, these institutions must also (re)produce power structures, promote certain standards and values, and distribute resources. Although intersectionality approaches are widely used in research into inequality and poverty (e.g. Choo and Ferree, 2010; Corus et al., 2016), here too there is an evident knowledge bias in favour of industrialised countries.

<sup>34</sup> A similar picture applies to the women's network DAWN ("Development with Women for a New Era"), founded in 1984, and comprised primarily of feminist researchers from Global South countries who are fiercely critical of the Western development model (Braidotti, 1994).

processes (WBGU, 2011). By broadening the debate there is an opportunity to build new constellations and associations of stakeholders. Change agents play a crucial role across all groups of stakeholders, sectors and disciplines.

### **Re-interpreting the role played by the economy**

Alongside politics and civil society, a socio-ecological transformation processes must also focus on the economy. As mentioned in chapter 1.2, over the last decade we have seen a number of new approaches based on a broader definition of success that includes indicators other than GDP to gauge society's overall wellbeing and elucidate the social dimensions of a sustainable economy. Various organisations have developed alternative systems of indicators to measure the wellbeing of society. For example, the Organisation for Economic Co-operation and Development (OECD) launched the Better Life Initiative<sup>35</sup> in 2011 in response to the recommendations of the Stiglitz/Sen/Fitoussi Commission. This includes the publication of a biennial report comparing quality of life indicators across the OECD (Stiglitz et al., 2018). Other more recent concepts, such as the so-called "doughnut economy" (Raworth, 2018), follow a similar approach and have since been adopted at a municipal level by the Thriving Cities Initiative (TCI) (C40 Knowledge Hub, 2020).<sup>36</sup> The "wellbeing approach" follows similar lines and stresses that the prevailing definition of an economic system is anchored in government structures, social power dynamics and cultural narratives. In order to change the way we do business, therefore, we need to fine-tune these areas as well. Case studies by the Wellbeing Economy Alliance (WEAll, n.d.a) from countries as diverse as Ecuador, Austria and Bhutan comprehensively summarise policy innovations that have improved people's wellbeing around the globe in recent years and decades. It also offers a number of starting points for the role of government, to ensure that the realignment of economic systems is reflected in the political system.

Structural changes may take the form of ministerial reshuffles – in the Netherlands, for example, where the Ministry of Economic Affairs and Climate Policy was set up in 2017 (WEAll, n.d.b), the Icelandic Ministry of Welfare (2011) and the Icelandic inter-ministerial working party of the Gender Budgeting Committee (WEAll, n.d.c), as well as in the national budgets of New Zealand (see chapter 5) and South Korea, for example. We also need new Specific, Measurable, Achievable, Relevant, Time-bound (SMART) indicators that can complement GDP as a means of gauging success, with corresponding annual reporting. Good governance indicators are now well-established in countries such as Scotland (since 2015; WEAll, n.d.d, n.d.e) and Italy (since 2016; WEAll, n.d.f). More ambitious projects include Bhutan's Gross National Happiness index, in use since 2008 (WEAll, n.d.g) and the philosophy of "Buen Vivir" ("good life") in Ecuador, which guides national economic planning and was responsible adding the Rights of Nature ("Pachamama") to the constitution as a separate item in 2008 (WEAll, n.d.h). By contrast, the wellbeing approach begins with the development of a vision and view the participation of all stakeholders as the key to holistic change (Wellbeing Economy Alliance, 2017).

The "Sustainable Livelihood Approach" is one example of a participatory approach. The "livelihood" concept incorporates both material and intangible components (such as political participation and cultural heritage) and demands its protection and participatory definition as a prerequisite for sustainable development. Participation encompasses collective rights for access to and the use of

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<sup>35</sup> Commission set up in 2009 under the leadership of Joseph E. Stiglitz, Amartya Sen and Jean-Paul Fitoussi.

<sup>36</sup> TCI is trialling the doughnut approach to promote community-led action in three cities (Amsterdam, Philadelphia and Portland) for a green and equitable future.

resources as well as an appreciation of indigenous knowledge (Gottschlich and Katz, 2016). Inspired by climate and environmental transformation processes, some of these aspects may be combined in the "Just Transition" concept.<sup>37</sup> As previously mentioned, this approach aims to harmonise social and environmental interests, rather than playing them off against one other, and relies on the participation of all relevant stakeholders and the integration of their knowledge, experiences and interests. Multi-stakeholder processes facilitate the multi-sectoral, trans-disciplinary cooperation that is essential for successful transformation processes (Hemmati, 2002; Brouwer et al, 2015; DGB, n.d.; CSIS and CIF, 2021).

**Status review and knowledge generation**

Forward-looking, transformative policies rely on a broad knowledge base and careful analysis of existing frameworks. Identifying and remedying the sources of any institutional inflexibility is essential. Merely reforming individual institutions without considering their relationships with other institutions is not enough. An appropriate solution may be to reform complementary institutions collectively (Wetzel et al., 2020). At the same time, it is important to identify those system elements where change processes are already ongoing or well-advanced and ascertain how they interact with one another (Jacob et al., 2020). A systemic analysis is needed, not only in relation to the status quo, but also with a view to possible future developments and aspired system states (Wolff et al., 2018). This knowledge should embrace the complexity arising from the described interdependencies rather than attempting to simplify it. Table 1 summarises the success factors.

Table 1: Success factors of socio-ecological transformations

Success factor	Brief description
<b>Polymaking</b>	Establish stakeholder networks (especially change agents) Promote social innovations Focus on fringe areas of the system (elements) Offer incentives and create planning confidence
<b>Shape discourse and develop new narratives</b>	Widen the debate: Include co-benefits and distribution effects Positive image of the future Include as many diverse players as possible to reflect society
<b>Re-interpret production</b>	Broaden the concept of wealth beyond GDP Anchor new economic approaches in political institutions Sufficiency instead of efficiency, participatory approaches
<b>Status review and knowledge generation</b>	Reflective: Learn from existing barriers Inter- and trans-disciplinary

Source: Authors' own illustration.

<sup>37</sup> The concept of a just transition, originally developed by US trade unions in the 1990s (ILO, 2015), combines approaches to socially just policymaking. The Global North tends to focus on the energy sector, particularly phasing out the use of fossil fuels, whereas in the Global South, the concept is also applied to other sectors, such as production avoiding deforestation.

## 5 Case studies

The following case studies illustrate the opportunities for initiating and formulating a socially just transformation of climate and environmental policy in a specific area. As mentioned in the first part of this report, we focused our attention on institutional drivers and analysed particular challenges and learning experiences as well as the selected approach. Finally, we identified the key success factors for replicating this approach.

### 5.1 New Zealand: Towards a new maxim for sustainable economic development?

#### Background and starting point

New Zealand was the first industrialised country to attempt to integrate the "Wellbeing Economy" approach into its national budget. With the highest youth suicide rate of any developed country (McClure, 2021) and consistently high levels of child poverty, in 2019 the New Zealand Government led by Prime Minister Jacinda Ardern adopted a national budget that incorporates social and environmental indicators alongside traditional budgetary yardsticks (gross domestic product) (WEAll, 2021a; Hall, 2019).

#### Objective

The Wellbeing Budget (WBB) aspires to broaden the definition of "successful development" beyond mere growth, to include not just *"the health of our finances but also of our natural resources, people and communities."* This should be *"in line with New Zealanders' values (the importance of fairness, the protection of the environment, the strength of our communities)"*, according to Prime Minister Ardern and Finance Minister Robertson (Treasury New Zealand, 2019, 2-3). The WBB heralds a departure from dominant economic narratives about growth-based prosperity in favour of a more holistic view of the economy as the basis for everyone's wellbeing. Environmental indicators have played a critical role in budget priorities to date,<sup>38</sup> prompted by the realisation that there is *"increasing evidence that low-carbon, climate-resilient growth can be progressed alongside other socio-cultural, environmental and economic goals."* (Treasury New Zealand, 2019, 17)

#### Approach/implementation

The WBB is based on the Living Standards Framework (LSF) adopted by the New Zealand Ministry of Finance in 2009. Analogous to the OECD's Wellbeing Framework (n.d.), the WBB identifies twelve domains of current wellbeing<sup>39</sup> and four types of capital<sup>40</sup> relevant to Future Wellbeing (Treasury New Zealand, 2019). The LSF measures progress in the following sectors: (1) "Our People", (2) "Our Country" and (3) "Our Future" (Huber Social, 2019) and includes the quality of economic activity as well as the long-term impact of current policies (Huang et al., 2020).

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<sup>38</sup> Based in part on the Environment Aotearoa 2019 Report (New Zealand's Environment Report; Ministry for the Environment, 2019) which is critical of various environmental problems such as species extinction and the quality of New Zealand's waterways

<sup>39</sup> These are: civic engagement and governance, cultural identity, environment, health, housing, income and consumption, jobs and earnings, knowledge and skills, time use, safety and security, social connections, and subjective wellbeing.

<sup>40</sup> These are: natural capital, social capital, financial & physical capital and human capital.

Broadly speaking, the WBB 2019 comprised:

- a wellbeing agenda and funding allocation for the financial year
- a child poverty report
- a fiscal strategy and a financial/economic forecast
- and a wellbeing outlook.<sup>41</sup>

Based on its underlying definition of wellbeing (*'when people are able to lead fulfilling lives with purpose, balance and meaning to them'*; Treasury New Zealand, 2019, 5), the first WBB 2019 focused on five priority areas with indicators largely similar to the OECD Better Life Index but also aligned with the indicators of the United Nations Sustainable Development Goals (Huber Social, 2019). These include suicide rates, homelessness, family violence, material hardship among children, Māori and Pasifika living standards and educational achievements, quality of waterways, greenhouse gas emissions, and sustainable land use and waste (Treasury New Zealand, 2019). In 2020, the priorities were slightly adjusted (see Table 2).

Table 2: Priorities of the Wellbeing Budget, 2019 and 2020

2019	Taking mental health seriously	Improving child wellbeing	Supporting Māori and Pasifika aspirations	Building a productive nation	Transforming the economy
2020	Physical and mental health	Improving child wellbeing	Supporting Māori and Pasifika aspirations	The future of work	Just Transition

Source: Treasury New Zealand (2019, 2020).

The WBB aims to trial a new sustainable approach to economic policy by incorporating three basic institutional principles into policy-making: 1) Breaking down agency silos and working across government to assess, develop and implement policies that improve well-being (for example, ministries are required to collaborate when planning the national budget);<sup>42</sup> 2) Focusing on outcomes that meet the needs of present generations at the same time as thinking about the long-term impact for future generations; 3) Tracking our progress with broader measures of success, also by revamping budget documentation (WEAll, 2017). This is designed to show how each policy or initiative, including the government's balance sheet and asset management, contributes to improving wellbeing (Treasury New Zealand, 2019). The Public Finance (Wellbeing) Amendment Act 2020 anchored the wellbeing approach into the country's institutions. In addition, since 2019 Statistics New Zealand (2021) has explicitly reported on some 100 wellbeing indicators, even more numerous than the WBB. Nevertheless, the country still lacks a comprehensive framework to guarantee public accountability (Anderson and Mossialos, 2019).

A total of 25.6 billion New Zealand dollars (NZD; about EUR 15 billion) has been set aside for the five priority areas between now and 2023/24, equating to around 5 % of total budget expenditure (WEAll, 2021b). Key investments included a new frontline mental health service (NZD 455 million; about EUR

<sup>41</sup> The 2020 WBB ("Rebuilding Together") did not include a wellbeing outlook, due to the global COVID-19 pandemic in 2020 (and beyond) (Treasury New Zealand, 2020).

<sup>42</sup> For example, ten departments joined forces to submit a budget proposal for combating family and sexual violence.

270 million); innovations to help New Zealand transition to a low-carbon future (NZD 106 million; about EUR 60 million); and an investment of NZD 1 billion (about EUR 600 million; Treasury New Zealand, 2019) in KiwiRail, the government-owned rail operator.

Various committees have been tasked with supporting implementation of the WBB, including an Independent Infrastructure Commission<sup>43</sup> and an Industry Reference Group<sup>44</sup> (Global Infrastructure Hub, 2020). New Zealand is also promoting its vision of wellbeing on the global stage and co-founded the Wellbeing Economy Governments (WEGo) Partnership at the 2018 OECD Wellbeing Forum (Costanza, 2018).

As environmental protection and climate change mitigation are an integral part of the WBB, the policy measures and structural/institutional innovations in this area are building blocks towards the goal of sustainable economic development, but still lack any form of systematic integration into the WBB and its allocation is more contextual than financial.

### Challenges

New Zealand's WBB is a politically innovative transformational approach (e.g. Mintrom, 2019) but it is hampered by existing government structures, social power dynamics and cultural narratives that continue to be led by conventional economic growth. A Wellbeing Economy calls for a recalibration of society's relationship with the economy and government/administrative approaches (Treasury New Zealand, 2019).<sup>45</sup> In the medium term, allocating a mere 5 % of the total budget casts doubt on the longevity and timescale of this approach.

The extent to which the WBB's priorities are translated into specific policies remains to be seen. For example, the Commissioner for Mental Health recently criticised the absence of a long-term strategy for improving mental health, slated as a political priority in the WBB 2019 (Scoop Health, 2021).

Although the WBB was preceded by extensive public consultations dating back to 2009 within the framework of the LSF,<sup>46</sup> there was little public involvement in the first two wellbeing budgets (Huang et al., 2020), with one exception: the inclusion of Māori perspectives in the WBB drafting process. Self-elected representatives published their own discussion paper on this topic, He Ara Waiora/A Pathway to Wellbeing (WEAll, 2021d; Treasury New Zealand, 2018). However, cross-societal involvement is still lacking.

### Success factors

Based on WEAll recommendations (2021e, 2021f) and New Zealand's experiences, we have identified the following success factors when introducing a WBB:

- The Ministries of Finance and Economics should maximise the scope available to them and broaden current indicators of economic success to include social and environmental progress,

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<sup>43</sup> *Inter alia*, it has been tasked with developing a 30-year infrastructure strategy by the end of 2021.

<sup>44</sup> It will identify infrastructure projects whose planning is sufficiently well-advanced to allow prompt implementation.

<sup>45</sup> As evidenced by the fact that many of these indicators were dropped from the 2020 WBB (albeit due to COVID-19). The 2021 and subsequent editions of the WBB will need to (re)establish continuities.

<sup>46</sup> Comments from the general public were invited via various platforms, including online, on postcards and via community participation. *Statistics New Zealand* reported on these consultations and their outcomes, as well as consultations with stakeholders, peers and experts. The government has also acknowledged a number of shortcomings, particularly in its attempts to collaborate with Māori on indicator development (Huang et al., 2020).

- Interministerial coordination on cross-sectoral issues,
- Institutionalisation of the process, e.g. via a legal framework,
- Structural anchoring of the process by redesigning governance structures,
- Participatory processes at local and national level to create acceptance and ensure that all relevant stakeholders have their voices heard,
- A measurable and expandable definition of wellbeing requires clear objectives and transparent reference points, as well as permanence and continuity between budget years,
- Broad societal discourse on what constitutes "a good life" and how this should be reflected in our economy and policies.

## 5.2 Mobility and urban development in Denmark and Brazil

### Background and starting point

Brazil and Denmark have traditionally been pioneers of environmental protection and climate change mitigation. Denmark began severing the link between economic growth and energy consumption several decades ago: Energy consumption levels stagnated between 1970 and the early 2000s and have been decreasing ever since (World Bank, 2021a). Denmark's 2019 "Klimalov" aspires to a 70 % reduction in greenhouse gas emissions (GHG) by 2030 compared to 1990 levels. The framework law is binding for the future and sets out procedures and responsibilities. Brazil has been actively involved in global climate and environmental policy since hosting the UN Conference on Environment and Development in Rio de Janeiro in 1992 ('Earth Summit'), and its national legislation was also very progressive until the current President Bolsonaro took office in 2019 (Rudolph et al., 2021).

Transport and mobility play a crucial role in all economies worldwide and are the main obstacle to actively reducing investments in road infrastructure to expedite a climate-friendly transformation, which no country to date has succeeded in achieving. Nevertheless, car mobility trends in Denmark and Brazil have been changing for many years, helping to promote sustainable urban development as a whole and social advancements at a local level.

In particular, a socially transformative approach to mobility and urban development aspires to eliminate social exclusion arising from unequal infrastructure development, and reduce dependency on cars as the only means of transport (e.g. Daubitz, 2011), giving fast and affordable access to work, education, provisioning, healthcare and recreation. Short distances and alternative modes of transport also help to protect the environment, mitigate climate change, and minimise the externalities of car use and production (Hennicke et al., 2020).

### Approaches at national government level

Both countries are making every effort to provide alternatives to cars and promote alternative powertrains and fuels. Achievable climate mitigation targets are a key motivator in both cases. Brazil has traditionally prioritised car production and biofuels, while Denmark focuses more on electromobility. This is also reflected in the legislation of both countries. Table 3 outlines the relevant laws and measures.

Table 3: Transformative Policies in Denmark and Brazil

Denmark	Brazil
Road tax on passenger cars: Reduction for e-cars and their charging current, with a simultaneous, gradual increase for combustion engine vehicles.	Early promotion of alternative fuels (PROALCOOL, 1975) and introduction of air quality standards (PRONAR, 1989).
Car registration tax which takes effect as a luxury tax depending on the size and age of the car.	As part of the national policy against climate change, a sector plan for transport and urban mobility was adopted for climate protection. Among other things, it sets emission limits for vehicles.
Since 2014, more money has been allocated to rail investment than to road (OECD/ITF, 2021).	Funding for urban transport infrastructure is available under the national urban mobility policy and the Growth Acceleration Act.

Source: Own compilation.

Denmark has a two-pronged strategy for promoting new car technologies, while at the same time promoting alternative modes of transport. This embraces two vital social elements: creating sustainable industries and jobs and using alternative modes of transport to generate multiple social benefits at a local level.

By contrast, many Brazilian cities (promoted by the national government) also promote compact, mixed-use areas, as well as public and non-motorised transport to provide equal access to jobs, services and leisure for many different segments of the population and encourage more liveable cities overall, but have far less ambitious targets for passenger cars than their Danish counterparts.

To foster innovation in its automotive industry, the Brazilian government is currently working on Route 2030, a national scheme to promote technological development and efficiency. It includes incentives and targets designed to help the Brazilian automotive industry remain competitive in the global market.

### Approaches in Copenhagen

Copenhagen is known as the European capital of cycling, or perhaps even the world. Cyclists have benefited from decades of support in countless policies and measures (including rigorous restrictions on private cars) and this has helped to forge its identity as a city for cyclists (cf. Gössling, 2013). Cycling and public transport are so well integrated that everywhere in Copenhagen is accessible without a car.

The administration realised that urban planning and transport planning needed to be placed on an equal footing. Copenhagen has an integrated department that promotes holistic solutions and discourages a silo mentality (Koglin, 2015). The Danish government has also promoted cycling in its national policies, partly by supporting municipalities who develop "cycling city projects" focusing on road safety on commuter and school routes to encourage commuters to switch to two wheels. It has also rolled out a series of nationwide campaigns.

### Approaches in Belo Horizonte

Belo Horizonte was the first Brazilian city to adopt its own mobility plan in 2010. It has since evolved into an important tool for steering mobility measures, prioritising public transport, walking and cycling

and aiming to limit individual motorised transport. Public participation and the involvement of all neighbourhoods are highly valued. It includes comprehensive measures such as 30 km/h speed zones, mixed-use neighbourhoods connected to the city centre by public transport, corridors for express bus routes, and a dedicated infrastructure for cyclists. Belo Horizonte was also the first city in Brazil to link its plan for sustainable urban mobility to a long-term vision that combines mobility with urban development goals. By 2030, it hopes to achieve a 36 % reduction in greenhouse gas emissions, a 25 % reduction in travel time and a 19 % reduction in transport costs with the help of these measures (Secretaria Municipal de Governo BH, 2013).

Faced with significant resistance to its first proposed 30 km/h zone in Belo Horizonte city centre, the municipal agency BHTRANS decided to begin its work in the vicinity of schools in outlying neighbourhoods. This new approach also fitted well with the new political priorities, focusing more on social inclusion than sustainability. In 2019, four Zone 30 projects were implemented in different neighbourhoods of Belo Horizonte, predominantly in peripheral (often economically disadvantaged) areas of the city with poor infrastructure conditions for all road users, but especially pedestrians and cyclists. To improve conditions for non-motorised traffic, the planners changed road widths and lane sizes with a view to accessibility and implemented school route concepts. Overall, these measures have improved mobility and access to public life for population groups who cannot or do not want to drive a car.

### **Challenges**

In Denmark and all over Europe, inner cities are under extreme pressure. After the war, Copenhagen was by no means planned as a cycling city, but the pressures in inner city areas prompted considerations about the redistribution of uses, leading to a loss of parking spaces. Copenhagen has been successful on many fronts, while in large parts of Europe, promoting a shift to sustainable transport is seen as politically risky. Governments often shy away from tackling taboo subjects, such as the inequality of individual contributions to traffic volumes and emissions, the role of lobbying, and the various social and psychological functions of mobility (Gössling and Cohen, 2014).

Belo Horizonte was built in 1897 as a symbol of modernity in Brazil. For decades, road-building and cars were prioritised and promoted as the principal mode of transport. Like Copenhagen, from the 1960s onwards Belo Horizonte was forced to re-examine its urban planning process to counter the impairments to urban quality of life caused by ever greater numbers of cars on the roads. Nevertheless, it remains a car-centric city (Campos, 2017). Despite comprehensive plans to build a more sustainable city, there is still strong resistance from the public and some politicians to measures such as 30 km/h speed limits, pedestrian zones and bicycle lanes, so these have not been implemented as quickly as originally hoped. It is nevertheless worth noting that a critical mass exists and is gathering pace, both in the city administration and among civic groups, and continues to drive these processes, indicating their importance and success.

### **Success factors and potential for replication**

At local level at least, the achievements of cities like Copenhagen and Belo Horizonte have been successfully replicated multiple times. The key is to combine long-term effectiveness with demonstrable short-term success. The following success factors are particularly worth mentioning:

- The national government should set long-term goals, work tirelessly to implement them and provide role models. It should also prioritise local (mobility) development in its fiscal policies.

- At a local level, participation processes are vital for creating long-term acceptance, which in turn helps to shape a new identity. In Copenhagen in particular, local residents are proud of the narrative that has been created.
- In the traditional automotive industry, promoting technology can provide sustainable jobs. Supporting alternative modes of transport also offers potential for the labour market. Denmark has the advantage that there are no major corporations headquartered there to lobby against ambitious targets that could impact them.
- Coherence and vertical/horizontal integration of measures and governance levels can boost success at a local level, and incentives and cross-sectoral approaches may prove effective.
- Pilot measures in selected neighbourhoods or on a limited scale help residents to experience the benefits of new policies and can lead to rapid success, provided social aspects are integrated.

### 5.3 Jordan's strategy for 100 % renewable energy

#### Background and starting point

Energy systems in the Middle East and North Africa (MENA) region face pressure from rapidly increasing demand due to population growth and changing consumer behaviour. Unlike some of its neighbours, Jordan does not have extensive oil or natural gas reserves but relies on (fossil) energy imports to meet domestic demand (Griffiths, 2017).

Because basic needs such as energy, water and food are so closely interrelated, rising energy prices can adversely impact private households. Furthermore, a lack of future prospects for young people has exacerbated the trend for European migration, leading to a *brain drain effect*, even though the country's unique solar and wind potential makes it well-placed to create powerful industries and jobs in the renewable energy (RE) sector and beyond (de Bel-Air, 2019).

At the same time, unfavourable living conditions are exacerbated by climate change, in a region already affected by rising temperatures. This leads to increased incidences of heat waves and droughts, reduced precipitation and limited water availability, as well as flooding. Jordan's water crisis is in danger of escalating (Yoon et al., 2021).

#### Objective

Jordan is committed to transforming its energy system. A phase model is now well-established in research and policy consultation, and is applicable to Jordan (Fischedick et al., 2014; Henning et al., 2015; Fischedick et al., 2020). The theory behind this phase model builds on a multi-layered analysis of transformation processes; in practical terms, it follows Germany's experiences with the expansion of renewables (see section on solutions).

Essentially, Jordan's strategy to transform its energy system focuses on promoting technology with a view to

- Creating viable jobs in industry,
- Retaining highly qualified workers in the country,

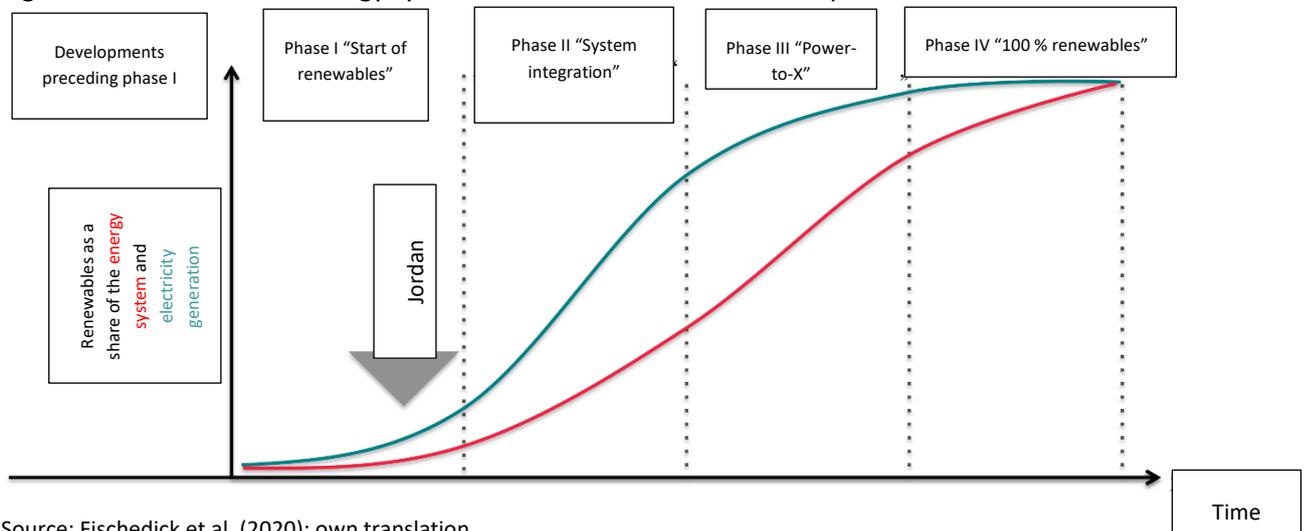
- Safeguarding the domestic energy supply and minimising dependency on imports, thereby reducing the foreign trade deficit and in turn
- Keeping energy prices stable in the long term and conserving public funds that can be channelled into social policy measures; and finally
- Improving the quality of life, by countering worsening water scarcity with seawater desalination plants.

The Jordanian Government, supported by King Abdullah II, is committed to the expansion of renewables. The country has set itself a target of significantly increasing the share of renewables in its overall energy mix from a baseline of just one percent in 2010. Various energy policies have been adopted over the past decade, with a target of installing 2,000 MW of wind power and solar energy capacity by 2020 (Abu-Rumman et al., 2017). Official government targets for renewables remain moderate for the time being, primarily due to the projected sharp rise in energy demand (Azzuni et al., 2020).

### Approach

Figure 3 illustrates the four possible phases for the expansion of renewables from niche product to market-based growth. Jordan is currently at the end of phase 1, and the next priority should be to formulate market launch policies. The second phase entails integrating renewable electricity into the overall energy system, in particular making the remaining fossil fuel-based electricity generation more flexible, building and integrating storage facilities and activating demand-side flexibilization.

Figure 3: Phase model of energy system transformation and Jordan’s position



Source: Fishedick et al. (2020); own translation

It also includes some degree of linking the electricity system to the heat and mobility system (Fishedick et al., 2020).

In addition, in 2018 Jordan introduced a minimum 35 % local content for projects involving renewables in order to create and add value in this sector, and help retain workers in the country (Climascope, 2019).

## Challenges

The rapid development of renewables over the last decade has not been matched by an equivalent expansion of the electricity grid, so auctions and new licences for projects with a capacity of more than one MW are currently suspended until grid capacity can be reassessed (Terrapon-Pfaff et al., 2021).

Another challenge is the level of education in the country. It is among the highest in the MENA region and only a small percentage (8.5 %) of firms cited inadequately educated workers as a major constraint compared with the MENA average of 21.2 % (World Bank, 2019). There is a very high proportion of well-educated women, but although they have the constitutional right to work, participation in the economy by women remains low due to the prevailing social norms. There is a mismatch between the demand for technically qualified workers in the renewables sector and the qualifications of university graduates (Terrapon-Pfaff et al., 2021).

The local content requirement appears feasible for solar projects as the sector is well-developed in Jordan and there is local availability of panels, cables and steel structures. However, wind power projects may find it difficult to meet the local content requirement as there are no major component manufacturers in Jordan at present (Climascope, 2019).

Social acceptance of renewables has yet to be addressed in Jordan (Terrapon-Pfaff et al., 2021). Surveys to gauge the level of knowledge of renewables in schools found a positive attitude towards and willingness to use renewables among the majority of students and teachers (Zyadin et al., 2014). The number of private small-scale systems is rising, with a total of 360 MW installed by the end of 2018 (Almasri et al., 2019).

## Success factors

According to Fishedick et al. (2020), the phase model for expanding renewables is a replicable basic structure for all countries and regions. The Jordanian Government is poised to ramp up its development of renewable energy, which includes actively supporting the development of a synthetic fuels sector. Terrapon-Pfaff et al. (2021) cite the following success factors as critical for the country at present:

- Grid capacities must be expanded to accommodate a large share of renewables, while licensing and authorisation procedures need to be made more efficient.
- Financial incentives could be offered for synthetic fuel production.
- At the same time, college curriculums should be further developed to train more (technically) qualified workers to meet the growing demand for labour in both sectors.

The effect of social acceptance and the extent to which it promotes or hinders the expansion of renewables is still unclear. It is possible that the employment opportunities created in the renewables and synthetic fuels sectors and the associated economic development will help to boost social acceptance and drive the expansion forwards.

## 5.4 Food sovereignty in South Africa

### Background and starting point

Twelve million people in South Africa are on the verge of famine. Farm workers, smallholders and township dwellers are particularly hard hit by food insecurity. The distribution of basic needs such as land ownership, income and access to vital resources like water is extremely uneven. 95 % of fields and water are used by large-scale farms with investor backing, while smallholders have very limited rights and opportunities.

Women are particularly disadvantaged when it comes to land rights and severely affected by (domestic) violence. To make matters worse, the country is struggling with high youth unemployment. Two million people between the ages of 15 and 24 are without a job or training place. Uncertainties over land ownership, monocultures, a lack of jobs and poor education prevent people from securing a livelihood (Vollbrecht, 2021).

As a transformational task, food sovereignty seeks to gain local control over resources such as seeds, water and land, and secure access rights to markets, knowledge and capital. Its success depends on the political participation of many different national and international stakeholders in agriculture and within the food system.

### Institutional setting

President Ramaphosa and his South African government have prioritised the land issue. In 2018, the Government set up a ten-member Advisory Panel on Land Reform and Agriculture representing all stakeholders,<sup>47</sup> led by Dr Vuyo Mahlati, a member of the National Planning Commission and President of the African Farmers Association of South Africa (Presidential Advisory Panel on Land Reform and Agriculture, 2019). In 2019, a ministerial reshuffle created the new Department of Agriculture, Land Reform and Rural Development (DALRRD), tasked with enabling equal access to land, integrated rural development, sustainable agriculture and food security for all South Africans (DALRRD, 2021a). There is intensive involvement by national scientists from universities and agricultural research institutions, civic groups such as South African Women in Dialogue (SAWID), NGOs such as LandNNEs, and trusts such as the Nelson Mandela Foundation (Presidential Advisory Panel on Land Reform and Agriculture, 2019).

### Approaches at national and regional/provincial government level

Specific political solutions for fairer access to land are still lacking: Since the publication of the Panel's report, there have been no new national or regional policy documents outlining details of the new land reform, and the government has fallen short of its goals. New regional planning projects, such as the Karoo Regional Development Framework, focus more on business-as-usual scenarios of revitalising small towns or leasing state-owned lands (DALRRD, 2020). The Ministry of Agriculture has likewise missed its targets: So-called Previously Disadvantaged Individuals are still waiting for the return of their

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<sup>47</sup> The panel members are Prof. Ruth Hall (University of the Western Cape), Prof. Mohammad Karaan (Stellenbosch University), Dan Kriek (President of the AgriSA Industry Association), Bulelwa Mabasa (Director and Head of Land Reform and Practice at Werksmans Law Firm), Thato Moagi (farmer in the Western Cape and Limpopo regions), Thandi Ngcobo (Dr. J.L. Dube Institute/University of KwaZulu-Natal), attorney Tembeka Ngcukaitobi (Johannesburg Bar Association), Nick Serfontein (farmer in the Free State Province, Chairman of the Sernick Group) and Wandile Sihlobo (agricultural economist at the South African Chamber of Agriculture).

ancestors' dispossessed land; and the government's target of transferring 30 % of all productive land to disadvantaged groups by 2014 and settling all restitution claims by 2009 is long overdue (Presidential Advisory Panel on Land Reform and Agriculture, 2019). At a global level, however, support is available from organisations such as the World Bank (World Bank, 2021b), which has loaned the South African Land Bank some USD 93 million (about EUR 77 million) for a fairer agricultural sector.

### **Challenges**

The situation has become even more challenging since the onset of the COVID-19 pandemic. In the current crisis, the food and job insecurity of women and children from vulnerable families, farm workers, smallholders and township dwellers has deteriorated still further. An estimated 2.2 million people have lost their jobs; countless numbers are starving. Income from the informal sector has fallen by 45 %. Farm occupations and attacks on industrial farms and farmers continue to rise (Mlaba, 2020). Farmers can only access a very limited COVID-19 disaster fund (DALRRD, 2021b). The USD 26 billion (about EUR 21.5 billion) COVID-19 bailout package has been overshadowed by corruption and misuse, and there have been massive delays in payments to affected individuals (BBC, 2020; Oliver, 2020).

There are multiple civic stakeholder groups, many of whom meet once with international funding; alliances are proclaimed but often fizzle out again. One example is the International Farm Workers Forum held in Stellenbosch in 2018 with representatives from over 90 trade unions from more than 30 countries, co-organised by the Rosa Luxemburg Foundation (RLS) and the International Food Workers' Union (RLS, n.d.). The union's strategies to improve the situation of agricultural workers in wine-growing areas, for example, by imposing higher prices and "social" surcharges, have yet to be implemented; the forum did not meet a second time.

### **Success factors**

The transformational journey to food sovereignty for South Africa is and will remain a long process. There is a lack of specific action by the government. Entrepreneurs and civic groups are starting to get active. In recent years, and even during the COVID-19 pandemic, various opposing movements have become established. The multinational seed corporations continue to invest in South Africa and control the seed sector, forcing farmers to pay inflated prices for many cash crop seeds such as maize (RLS, n.d.b). At the same time, entrepreneurs and civic groups are making progress with small-scale, local approaches. For example, Thandi Wines (2021) is South Africa's first Black Economic Empowerment project in the agricultural sector. The exclusively Black workers at these three wineries and their families own 51 % of the company shares and hope to achieve 85 % ownership eventually. They invest the revenues from Fairtrade certification in the farm workers' homes and their children's education. Thandi can therefore claim to be the first truly broad-based, empowered wine company and also the largest Black-owned wine exporter in South Africa.

The South African food sovereignty movement, which works with individuals and communities (municipalities, cities, metropolitan regions) to establish an alternative food system, also deserves a mention. With the government still incapable of ensuring sufficient food supplies during the COVID crisis, crop plantings and allotments are springing up in the townships, at universities and in rural areas to tackle hunger. New local water councils are set to replace the inefficient municipal and state organisations and ensure an adequate water supply for the entire population. The social movement based on the Climate Justice Charter is expected to gather speed before the end of 2021 and ensure

implementation of the Charter in collaboration with various civic groups. Their efforts are centred around the demand for food sovereignty (Satgar, 2021; Satgar and Cherry, 2019).<sup>48</sup>

## 6 Summary

The socio-ecological transformation process is still in its infancy at both a national and global level, despite achieving notable success in some sectors and issues. This report highlights some promising examples of approaches combining both environmental and social aspects, but also show that no country has embraced a major cross-societal transformation incorporating all essential aspects with a cross-sectoral, holistic approach as yet. A broader debate on the socially just design of such a process (or processes) is still needed.

Transformation processes comprise many different, interdependent processes running parallel to one another and call for a systemic approach to policymaking with the participation of different stakeholder groups. Given their wide-ranging influence, governments play a particularly significant role whose nature evolves as the transformation progresses. According to the SRU's 3-phase model, system change process begins with a dynamizing preliminary phase, picks up speed during the acceleration phase and eventually culminates in a stabilisation phase.

The study elucidates the fact that we are currently in the first two phases.

Globally, attempts to systematically combine the environmental and social dimensions are still in their infancy. Many countries are addressing niche areas, setting out competing visions and launching promising (social) innovations on the market. As outlined above, civic stakeholders can play a ground-breaking role during this phase. The food sovereignty activists in South Africa and the proponents of renewable energies in Jordan are also at this stage. In selected areas and sectors, such as the energy policy transition, many countries have already entered the acceleration phase and are incorporating social aspects into their environmental and climate policies. Here too, their innovations and visions have the support of government stakeholders. Exnovations, such as the move away from a car-oriented infrastructure, are currently ongoing, as we have seen from the case studies of the Wellbeing Budget in New Zealand and mobility and urban development in Denmark and Brazil. However, they lack a consistent and properly thought-out focus on social justice (see chapter 1.3). Chapter 4 identified the key success factors for socio-ecological transformation. Further debate is needed on the following issues:

- **Policymaking:** While they are not necessarily the initiators of socio-ecological transformation processes, governments would appear to have a decisive influence on their dynamics and perpetuation. Providing a constant source of funding, adopting relevant legislation and organising networks and involving (civic) groups are all crucial in the early phases, and something which is outside the remit of the private sector.
- **Shaping discourse and developing new narratives:** Positive narratives as promises for the future can offer motivation and guidance and help to legitimise actions, provided there is visible success. Good examples and early, continuous successes are crucial for acceptance of and identification with the new narratives and models.

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<sup>48</sup> See also the long-standing work of the South African Food Sovereignty Campaign (<https://www.safsc.org.za/>) and the campaigns led by the Co-operation and Policy Alternative Centre (<https://copac.org.za/>).

- **Redefining the role of business:** By developing new economic and wellbeing models and indicators alongside existing structures, we can disrupt prevailing interpretations and adopt more sustainable ways of doing business. This too calls for a medium to long-term perspective if we are to overcome existing barriers and transition into the mainstream.
- **Status review and knowledge generation:** More holistic attitudes and approaches, a broad social discourse, coherence of activities, education, reflection, and comprehensive, cross-sectoral action are the keys to success. Ultimately, what is needed is a proactive, bold approach by multiple stakeholders to establish new role models and change people's perceptions.

In summary, from examining the multiple interesting approaches, many of them at grass-roots level, we conclude that it is worth experimenting with social innovations to achieve an environmental transformation with a consistent social focus. These local approaches should be selectively promoted to explore the political boundaries and establish new approaches highlighting the interdependencies between environmental and social aspects. There is an opportunity to boost the acceptance and visibility of environmental and climate policy issues in the broader social debate.

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