

Chapter 24

The Way Forward



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Abstract This chapter points to the way ahead by introducing five recommendations to meet the requirements set forward by the Stockholm+50 agenda. The requirements identify co-working as vital to addressing the planetary crisis of climate change, biodiversity loss and pollution, better collaboration and cooperation across all sectors, reinventing to a circular economy meaning decouple economic development from its destructive footprint, accessibility of data, and raising a common awareness for our planet. In response to this potential need, they present five transition options that might facilitate realising the requirements above and recognise a need for: (1) system change, (2) radical interdisciplinarity and transdisciplinarity, (3) net positive leadership, (4) digitalization for sustainability, and (5) fair and inclusive transitions. Business leaders, their stakeholders and other groups should consider meeting these needs through their work in partnership with other actors.

24.1 Introduction

Chapter 21 focused on how the CapSEM Model tools for continuous improvement can contribute to a transition to sustainability. Chapter 21 also looked at drivers for transition achieved through the use of the CapSEM toolbox and additional drivers sourced from new policy frameworks and international roadmaps, SDG-roadmaps and the European Green Deal. Chapters 22 and 23 presented two *means* for enhancing this transition: firstly, business models innovation for sustainability, and secondly multi-criteria decision supporting tools. This final chapter explores

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possibilities inherent in forward-looking approaches, discussed new, innovative recommendation and which possible options to accelerate transitions to true sustainability.

24.2 Bottom-Up Versus Top-Down Transitions and Transition Instruments

When following the CapSEM Model, the stepwise transitions related to processes, products or organisational changes, can be viewed as a *bottom-up* approach with incremental, and measurable, achievements in sustainability. Transition towards sustainability from a *top-down* approach might look quite different. Global challenges such as climate change, scarcity of resources, pollution of oceans and land, sea-level rise, changes in the global economy, all call for radical changes and necessitate longer-term transition solutions. Global leaders are continuously searching for new perspectives and models for collaboration for sustainability. To develop such models, business and society cannot work in isolation from each other: they must act together in order to pave the way ahead.

At the top of the agenda for forward looking leaders, is how to carry out effective system changes. To this end, both *bottom-up* and *top-down* approaches are needed. The driving forces can, to some extent, be different. Figure 24.1 illustrates both *top-down* and *bottom-up* approaches. On one hand, a *bottom-up* approach might start as a result of consumer demand, for example, by putting pressure on business to document the environmental impacts or climate footprints of the products or services which they provide. When using the CapSEM Model approach, this frequently leads to incremental, and continuous, changes. On the other hand, civil society at large, exposed to pollution and increased waste streams, climate changes and loss of biodiversity, represents a driver for changes on national and international levels. This, in turn, puts pressure on governmental bodies' *top-down* instruments to consider more radical system changes. *Top-down* visions, strategies and frameworks must be connected to *bottom-up* delivery of solutions if viable solutions for systems change are to be properly implemented.

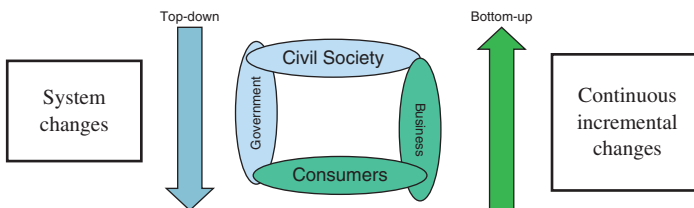


Fig. 24.1 Model of actors and their roles in the *top-down* and *bottom-up* approach

Policy makers face a considerable challenge in developing feasible combinations of instruments and incentives for facilitating transitions to sustainability. This requires, amongst a range of actions, integrating and implementing international and national regulations in both local, and regional, industrial organisations. To aid this endeavour, the following administrative, informative and economic instruments are already currently available.

The *administrative instruments* are regulatory and take the form of laws, licenses, binding regulations, and guidelines, towards the establishment and funding of a robust system of enforcement.

At a transnational level, the European Green Deal, and the Taxonomy and Transparency Act comprise holistic transition strategies for a new sustainable socio-economic model.

The *informative instruments* aim to raise awareness of the benefits of sustainability through the creation of centres of expertise. Leaflets and websites that disseminate news and best practice for information and knowledge generating examples of this, are educational programmes that train sustainability experts.

Economic instruments aim to motivate projects towards using economic instruments such as tax incentives, soft loan programmes, and funding for research. Other economic instruments may apply at consumer level such as refund and sharing systems, or taxes imposed on fossil fuel products, or other harmful and hazardous chemicals.

24.3 From Stockholm 1972 to Stockholm +50

The United Nations Conference on the Human Environment which took place in Stockholm 1972 was organized as an answer to an emerging need for a top-down view on the global situation regarding the state of the environment. As reported from the Stockholm+50 Conference that took place in 2022 (United Nations 2022), the 1972-conference succeeded in bringing the challenges facing the global environment. The importance of the 1972 conference was emphasised as follows in the report from Stockholm 2022:

Before 1972, most people saw environmental issues as local -- pollution of rivers, lakes, and streams, air pollution over their cities, and oil spills affecting their coastline. The Stockholm Conference and the creation of the United Nations Environment Programme (UNEP) – one of the conference’s most important and lasting legacies – was instrumental in raising awareness that many environmental issues are global and require intergovernmental cooperation to address them. (United Nations 2022)

The Stockholm Declaration (UNEP 1972) proclaimed 26 principles. Principle 25 states that ‘States shall ensure that international organizations play a co-ordinated efficient and dynamic role for the protection and improvement of the environment’ The UNEP declaration (1972) also proclaimed:

The protection and improvement of the human environment is a major issue which affects the well-being of peoples and economic development throughout the world; it is the urgent desire of the peoples of the whole world and the duty of all Governments.

Following 1972, numerous protocols, conventions and multilateral environmental agreements have been developed. The 1992 UN Conference on Environment and Development, also known as the Earth Summit, commemorated the twentieth anniversary of the Stockholm Conference. The Earth Summit adopted the Rio Declaration, which was a direct output of the Stockholm Declaration. Similarly, the programme of action adopted in Rio, Agenda 21, updated the Stockholm Action Plan to address sustainable development issues on the eve of the twenty-first century (United Nations 1973, 2022).

Twenty years after the Earth Summit, and 40 years after Stockholm, governments gathered again in Rio de Janeiro for the UN Conference on Sustainable Development (Rio + 20). This conference set in motion the process for negotiating the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs), which were adopted in 2015.

Recommendations by the UN for accelerating the actions for a *Healthy Planet and Prosperity for All* are summarised in five requirements (United Nations 2022):

- (a) Co-working between countries and other stakeholders to address the triple planetary crisis of climate change, biodiversity loss and pollution.
- (b) Better collaboration and cooperation across environmental efforts within the UN, the private sector, and other stakeholders. There is a strength in coming together and calling for change.
- (c) Reinventing an economy for the twenty-first century, e.g. by a green or a circular economy; meaning decouple economic development from its destructive footprint.
- (d) Science, technology, and data need to be both accessible and used effectively. In addition to strengthening the role of science across the board of enterprises.
- (e) Raising public awareness about the global nature of environmental problems.

To meet the requirements above, the need for implementation in practice is paramount, which, in turn, necessitates collaboration with business.

24.4 Long-Term Transition to Sustainability

A common roadmap which could contribute towards meeting these five recommendations set out by the UN, would make it far easier for actors and stakeholders to initiate long term transitions. However, given the complexity of these recommendations, a single straightforward roadmap is problematic to design. Moreover, in addition to deliberate modelling and development of mechanisms, emerging transition trends and the way in which business and society deal with them, will continue to influence sustainability paths in the future. Societal stakeholders will have to utilize

changes that appear in the global (business) community: that could potentially impact the quest for developments in advancing sustainability. In response to this potential need, the authors of this chapter have identified five transition options that might facilitate realising the requirements above:

1. System change
2. Radical interdisciplinarity and transdisciplinarity
3. Net positive leadership
4. Digitalization for sustainability
5. Fair and inclusive transitions

24.4.1 System Change

System change meets a need for coworking between countries and societal stakeholders to address the triple planetary crisis of climate change, biodiversity loss and pollution, as indicated in point (a), Sect. 24.3. A dynamic understanding of systems and the interaction of systems reveals to us that a great deal more than incremental changes are needed if we are to depart from the status quo. McPhearson et al. (2021) suggest five principles for initiating systems level transformation by rethinking growth, efficiency, the state, the common, and justice.

Implementing these principles globally furthers the organization of interactions by societal stakeholders so that sustainability can be taken up on a long-term basis.

A systemic understanding of transitions to sustainability commences with individual actors and comprehends that change occurs on all levels. For businesses following a top-down approach of the CapSEM Model, it concerns perceiving their place and role as change makers in a much larger system, e.g. in a larger production chain system, or as local stakeholders in the community, and realising their roles as potential game-changers when it comes to consumer behaviour across the whole of society. SDG 12 (Responsible consumption and production) with its subgoals and targets pave the way as to how business can integrate systemic sustainability premises in their strategies and deliverables. Systemic sustainability embraces “the possibility that human and other forms of life will flourish on the Earth forever” (Ehrenfeld and Hoffman 2013).

24.4.2 Radical Interdisciplinarity and Transdisciplinarity

Improving cooperation across environmental efforts ((Sect. 24.3, point (b)) calls for collaboration between disciplines: interdisciplinarity and trans-disciplinarity is a must to meet the need for science, technology, and data to be both more accessible and used effectively. Radical interdisciplinarity (RI) is merging discrete disciplines in order to generate new knowledge. It thereby combines methodologies of

traditional scholarship with narrative, creative approaches. This fusion of discrete branches of knowledge can encourage genuinely new insights on, for example, sustainability and gender issues etc. (Keitsch 2022). The systems-orientation of RI offers many opportunities, and disciplines might eventually move to transdisciplinarity, which encourages cross-communication and design, rather than the persistence of disciplinary identities (Jantsch 1972). Transdisciplinarity is defined as a

critical and self-reflexive research approach that relates societal with scientific problems; it produces new knowledge by integrating different scientific and extra-scientific insights; its aim is to contribute to both societal and scientific progress'. (Jahn et al. 2012)

Alongside a greater need for empirical data comes a necessity for broader and normatively oriented problem framing of top-down transitions to sustainability together with the demand for scientific results which can be used, and useful, for society. How, and to what extent, academic as well as non-academic actors manage to develop methodologies and engage in open and responsive discourses are key factors for success, both for sustainability scientists and for societal transition processes alike. Some authors claim that long term transitions require interest in the normative direction of innovation (Grin et al. 2010). The potential of innovation rests not solely in economic benefit or political power, but in overall desirable societal changes and citizens well-being, induced by this innovative activity.

Successful movement across levels in the CapSEM Model calls for an understanding and competence rooted in science, technology, strategic management, and governance, which encompass a mix of transdisciplinary competence. Transitions induced by methods in the CapSEM Model may be minimal or 'small-range' on some levels, in regards to the mutual knowledge generation and its wider transformational effect (Stokols 2006; Lang et al. 2012). However, the stepwise CapSEM Model provides a framework for enhancing activities and contributes towards motivating stakeholders to engage in companies' sustainability strategies (Fet and Knudson 2021).

Thereby, the CapSEM Model displays great potential for generation, implementation, and reflection of new transdisciplinary knowledge on sustainability between various actors and diverse international contexts.

24.4.3 Net Positive Leadership

Net positive leadership contributes to meet the need for reinventing the economy for the twenty-first century, e.g. via green or circular economies and decoupling economic development from its destructive footprint (Sect. 24.3, point (c)). Green competitiveness illustrates how net positivity can be approached in a network of companies. According to Polman and Winston, addressing sustainability challenges via qualitative growth and social responsibility, comprises a huge economic opportunity for companies (Harvard Business Review, September–October 2021). Core technologies such as renewable energy, batteries, smarter artificial intelligence (AI), big data, are getting cheaper and can be implemented at large scale. Companies that

have embraced action on environmental, social, and governance also increasingly demonstrate that sustainability makes for profitable business. Polman and Winston signify sustainability focused companies as ‘Net Positive’: (Such a company...) “improves well-being for everyone it impacts and at all scales – every product, every operation, every region and country, and for every stakeholder, including employees, suppliers, communities, customers, and even future generations and the planet itself.” (Polman and Winston 2021, p. 7). The foundation for Polman and Winston’s novel business architecture is a, somewhat radical, appeal to a strongly profit oriented economic community. Polman and Winston suggest companies should withdraw their seclusion: they have a global responsibility.

Responsibility is a core divider between a typical business and a net positive one. After all, the current model of shareholder capitalism generates tremendous financial value for business by pointedly not taking ownership and treating issues such as pollution or inequity as ‘someone else’s problem’. So, taking responsibility is the first step. (Polman and Winston 2021)

Strategically, responsibility can be met by rethinking what a business is, how international change can be driven and how other stakeholders can be included in the decision-making processes.

We’ve earned the distrust of society ...With everyone at the table, we can shift entire systems toward well-being for all. The potential for positive impact is exponentially larger than going it alone. Historically, governments and multilateral institutions have taken the initiative, but in an increasingly challenging national and international political environment, leading companies are expected to step up and help make political action less risky for peers and governments. This is the ultimate work of a net positive company. (Ibid., 168)

Balch (2013) discusses possible drawbacks of net positivity that are worth to address. First it seems to be a real challenge that companies will only mitigate their most relevant impacts; Coca-Cola changes its environmental policy only on water, Kingfisher and Ikea are limiting their ambitions to forests, etc. (Balch 2013). Moreover, there are industries that might have a hard time to exercise global responsibility such as weapon producers. Further, it will be difficult to measure net positivity success. What are the criteria for its impact on society?

These few points already indicate that questions and challenges related to companies’ responsibility have to be discussed by society at large, not solely by companies. Yet, the positive effect of net positivity is its radical approach, it urges the entire business culture, while corporate social responsibility (CSR) strategies often do not reach to the core of a business organization and permeate all levels.

24.4.4 Digitalization for Sustainability

Digitalization for sustainability addresses the need for better collaboration and cooperation on environmental efforts within the UN, the private sector, and other stakeholders (Sect. 24.3, point (d)). Data driven change towards sustainability is gaining momentum in the digitalization context. Utilizing data technologies to

make more efficient use of resources is the main goal of Industry 4.0. Computerization is increasingly impacting manufacturing. Business is quickly adopting mechanisms such as Internet of Things (IoT), cloud computing and analytics, and AI and machine learning for production processes and operations. IoT-related technologies promoting circular economy (CE) seem particularly promising (Rejeb et al. 2022). The successful implementation of IoT requires big data and novel analyses to detect patterns and trends that can ensure that the implementation of CE concepts is technologically and economically feasible. The crucial role of big data in enabling the transition to e.g. CE is pointed out by several authors (Rejeb et al. 2022). However, they also point to risks such as privacy protection and data security when making products ‘smart’. Technology and ICT enablers such as IoT, Augmented Reality, Digital Twins are fruitful for sustainability but they require the development of capabilities to identify, use, and assimilate internal and external information.

24.4.5 *Fair and Inclusive Transitions to Sustainability*

Fair and inclusive transitions to sustainability address, among others, public awareness about the global nature of environmental problems and contributes to acknowledge environmental challenges (see point (e) in Sect. 24.3). The twenty-first century is facing various social challenges on a global scale. That represents persistent problems such as unstable financial and economic systems, ageing populations, poverty and work migration flows. Grin et al. (2010) suggest that these challenges involve various interdependent actors, domains, and scales, and are not directly controllable. Schäpke et al. (2016) understand sustainability transitions as facilitating change in societal systems, yet the outcome is uncertain. Transition management is regarded as necessary to direct change by applying empowerment, social learning, and social capital development. Transition management helps governments to accelerate change towards sustainability. This takes place on global and national but specifically on local levels. Communities are increasingly encouraging social innovation to manage resources for the public good. Transition management on the local level for example in form of *transition towns*, for example through engaging their communities in home-grown, citizen-led education, action, and multi-stakeholder planning to increase local self-reliance and resilience (Weerakoon et al. 2021). The *transition towns* illustrate an example how the two strands of top-down and bottom-up approaches of sustainability can be connected to create potential for dialogue and dynamic interactions between the respective actors (Alexander and Rutherford 2014).

Fairness and inclusiveness are also in the core of the SDGs. The SDG-CapSEM connection is discussed in Chapter 21, and can be useful guidance for companies when addressing these themes.

24.5 Conclusion

The CapSEM Model can be regarded as the backbone for many existing roadmaps and standards for strategic and systemic innovation and implementation, as well as a foundation for business decisions for actions at the different systems levels. It also facilitates future sustainability development as ways in which to integrate knowledge across the breadth of sustainability management tools and compile them into coherent customized frameworks for different users. Small stepwise changes have been important parts of the transition towards sustainability. This publication has sought to demonstrate that over many years, these have led to incremental, critical, changes in business performance. The hope is that they will continue to be a key and important way of meeting the global challenges the world is currently facing and will continue to face for the foreseeable future. The CapSEM Model has been developed as a guiding model to help business to work systematically with the tools to achieve a stepwise transition to sustainability. It has mainly focused on the environmental aspects and the related toolbox. However, both social and economic aspects connected to the transition to sustainability could be addressed by a similar systemic mindset model. New tools and roadmaps to be added to the toolbox are steadily under development and can be implemented, mainly based on natural science principles.

Overall, the model can contribute towards the implementation of global frameworks for sustainable development, including UN Sustainable Development Goals, and to combat e.g., climate change, biodiversity loss and pollution. The model acts here as a catalyst for business transition experiments for sustainability, while future development should focus more explicitly on mutual learning between companies themselves and between companies and society. For example, combining the CapSEM Model with frugal, disruptive, and inclusive innovation strategies (Ries 2011; Bound and Thornton 2012) that can generate immediate learning and lead to practical insights, without excessive resource and time expenses, which is relevant for all SMEs, and especially sought after in developing countries. The CapSEM model could here facilitate adoption of the SDGs for business in different cultural and economic settings, which is in line with the motto of the Sustainable Development Goals: 'Leave no one behind'.

There is no doubt that the CapSEM Model contains the potential for expansion in a variety of directions. It is flexible and dynamic enough to contribute towards global transitions for sustainable development, amply demonstrated throughout this publication and harking back to where this journey began. Future developments can be achieved and underpinned by fostering multi-actor collaborative partnerships, expanding education, providing training materials and spreading knowledge about sustainability around the globe.

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