



# THEORETICAL FOUNDATIONS REPORT

RESEARCH AND EVIDENCE FOR THE  
POTENTIAL OF CONSCIOUSNESS  
APPROACHES AND PRACTICES TO UNLOCK  
SUSTAINABILITY AND SYSTEMS  
TRANSFORMATION.



## Acknowledgements

This report has been collectively written, with contributions from numerous CoFSA partners. Special thanks go to the lead author Christine Wamsler (LUCSUS), and to Thomas Legrand (UNDP), Alice Jervoise (UNDP) Noemi Altobelli (UNDP) Kira Cooper (WISIR) and Gustav Osberg (LUCSUS) for their assistance and help in coordinating the collective review process. The research was also supported by two projects funded by the Swedish Research Council Formas: i) Mind4Change (grant number 2019-00390; full title: Agents of Change: Mind, Cognitive Bias and Decision-Making in a Context of Social and Climate Change), and ii) TransVision (grant number 2019-01969; full title: Transition Visions: Coupling Society, Well-being and Energy Systems for Transitioning to a Fossil-free Society).

**This report should be cited as:** Wamsler C., Bristow J., Cooper K., Steidle G., Taggart S., Søvold L., Bockler J., Oliver T.H., Legrand T. (2022). Theoretical foundations report: Research and evidence for the potential of consciousness approaches and practices to unlock sustainability and systems transformation. Report written for the UNDP Conscious Food Systems Alliance (CoFSA), United Nations Development Programme UNDP.

**Contact:** Lead author Christine Wamsler, Professor at Lund University Centre for Sustainability Studies (LUCSUS), which is a formal cooperation partner of CoFSA. Email: [christine.wamsler@lucsus.lu.se](mailto:christine.wamsler@lucsus.lu.se)

**Reviewers:** CoFSA Breathing Room members. This report also forms part of the CoFSA/UNDP publication *Cultivating inner capacities for regenerative food systems: Rationale for action* (Legrand et al. 2022, see Annex II) and has in this context undergone another extensive review process.

**Join the conversation:** We hope that this report will stimulate critical engagement and collective reflection amongst stakeholders working in the field of sustainability. To join the conversation, discover CoFSA's activities, and explore ways to bring consciousness practices and approaches into your work, you can find more information at [www.consciousfoodsystems.org](http://www.consciousfoodsystems.org) and [www.contemplative-sustainable-futures-program](http://www.contemplative-sustainable-futures-program)

The views expressed in this publication are those of the author(s) and do not necessarily represent those of the United Nations, including UNDP, or the UN Member States.

UNDP is the leading United Nations organization fighting to end the injustice of poverty, inequality, and climate change. Working with our broad network of experts and partners in 170 countries, we help nations to build integrated, lasting solutions for people and planet. Learn more at [undp.org](http://undp.org) or follow at @UNDP.

Copyright ©UNDP 2022. All rights reserved. One United Nations Plaza, NEW YORK, NY10017, USA

## Research and Evidence for the Potential of Consciousness Approaches and Practices to Unlock Sustainability and Systems Transformation.

***This report is dedicated to all people, to all people who make us wonder, ask the right questions and compassionately engage for a more sustainable and equitable world.***

*'You are not Atlas carrying the world on your shoulder. It is good to remember that the planet is carrying you.'*

Vandana Shiva

\*\*\*

*'The true system, the real system, is our present construction of systematic thought itself, rationality itself, and if a factory is torn down but the rationality which produced it is left standing, then that rationality will simply produce another factory. If a revolution destroys a systematic government, but the systematic patterns of thought that produced that government are left intact, then those patterns will repeat themselves in the succeeding government. There's so much talk about the system. And so little understanding.'*

Robert M. Pirsig

\*\*\*

*'You cannot change a system unless you transform consciousness.'*

Otto Scharmer

\*\*\*

*'Even a wounded world is feeding us. Even a wounded world holds us, giving us moments of wonder and joy. I choose joy over despair. Not because I have my head in the sand, but because joy is what the earth gives me daily and I must return the gift.'*

Robin Wall Kimmerer

\*\*\*

*'We must be able to fill our own cups before sharing. That process of filling one's cup is reflective and can lead to an in-depth understanding of any subject as you can consult and consider it deeply before taking action.'*

Alice Ndlovu

\*\*\*

*'A human being is part of the whole called by us 'universe', a part limited in time and space. He experiences himself, his thoughts and feelings as something separated from the rest, a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection to a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty.'*

Albert Einstein

# TABLE OF CONTENTS

Executive Summary..... 6

Section A: Rationale and Evidence for Why Inner Dimensions Matters..... 7

Section B: Theoretical and Conceptual Foundations for Addressing Inner Dimensions and Supporting More Integrative Approaches..... 10

Section C: Evidence-Based Practices and Interventions for Addressing Inner Dimensions of Sustainability and Supporting Integrative Approaches..... 15

Conclusions..... 19

References..... 20

Annex..... 31

Endnotes ..... 36

List of Figures and Boxes	
Box 1: Definitions of Key Terms	9
Figure 1: The Iceberg Model, simplified	11
Figure 2: Integral Theory	11
Figure 3: Inner-Outer Transformation Model	12
Table 1: Overview of the Inner Development Goals Framework	13
Figure 4: The CoFSA Model of Transformation	19

## Executive Summary

This Theoretical Foundations Report has been developed for UNDP's Conscious Food Systems Alliance (CoFSA). It demonstrates the need for increased policy attention to the neglected inner dimension of sustainability to address today's sustainability crises. In addition, it provides an overview of current research and evidence for the potential of consciousness approaches and practices to complement current approaches and unlock transformation towards sustainability.

The 2022 IPCC assessment reports on climate change mitigation and adaptation are unequivocal: time is running out for climate solutions of the scale and depth necessary to avoid catastrophe. At the same time, they highlight the importance of more integrative approaches that link inner and outer dimensions of sustainability.

Current progress is, amongst other things, hindered by entrenched power structures and inequities that severely limit agency to create change at individual, collective and system levels. These structures maintain and are themselves maintained by pervasive cultural narratives of separation to self, others and nature. These narratives underpin a dominant paradigm of unfettered economic growth, deprioritizes care in policymaking, depresses stakeholder collaboration, and manifests in a widespread inability to think and act sustainably.

While these barriers manifest in structural inequities, they are also fundamentally rooted in human consciousness, which determines how we see and relate to ourselves, others and the world around us. This is, in turn, influenced by our individual and collective beliefs, values, worldviews and associated inner (cognitive, emotional and relational) qualities/capacities. Accordingly, the latest IPCC reports highlight the role of inner transformation and inner qualities/capacities as a lever for accelerating sustainable development. This is a real milestone, and we hope that our report can leverage related work.

The outline and structure of this report is as follows: Section A presents the rationale for why human inner dimensions at individual and collective levels matter for supporting sustainability and the need for more integrative approaches that link inner and outer transformation. On this basis, Section B provides an overview of scientific theories and knowledge that can guide more integrative interventions that support transformation across individual, collective and system levels. Finally, Section C provides the evidence base for consciousness approaches and practices that can activate related work. To facilitate comprehensibility, each subsection starts with a box that summarizes the key messages. In the subsequent text key arguments are highlighted in bold.

This report provided the scientific basis of the CoFSA/UNDP publication titled '*Cultivating Inner capacities for regenerative food systems: Rationale for action*' (Legrand et al. 2022). The latter also provides case studies that illustrate the content of our report with practical examples from diverse CoFSA partners.

## Section A

### Rationale and Evidence for Why Inner Dimensions Matters

#### KEY MESSAGES

- Sustainability challenges, such as climate change and food insecurity, are the result of an internal human crises, driven by our disconnection from self, others and nature.
- Current policy approaches have failed to catalyse the necessary change as they tend to address sustainability challenges as external, rather than internal human crises.
- New, more integrative approaches are urgently needed. They require targeted investment to (catalyse the consciousness and awareness shift necessary to) alter current approaches, cultures and systems towards sustainability.

#### Living in a World of Interlinked Socio-economic and Environmental Crises

**Humanity is facing increasingly complex sustainability challenges** (Hoek et al., 2021; Kates et al., 2001; Sol & Wals, 2015). They are a manifestation of what sustainability scientists describe as a 'systemic world' characterized by multiple causations, interactions, complex feedback loops, and inevitable uncertainty and unpredictability (Lang et al., 2012). Issues such as climate change, food crises, disasters, energy, waste and water management, land use change, and biodiversity loss are highly interlinked and require an urgent response (Bradshaw et al., 2021; Hoek et al., 2021; IPCC, 2022b, 2022a; Jerneck et al., 2011; Wals & Corcoran, 2012; Wamsler et al., 2018). We will therefore not be able to adequately address the climate or other sustainability crisis if we do not address, at the same time, the transformation of (global, national and local) food systems (Hoek et al., 2021).

#### Current Approaches and Gaps

**Today's dominant sustainability approaches have not catalysed the necessary change.**

This is despite the prominence of sustainability goals and targets that have been set since the 1980s (Brundtland Commission, 1987; Gibson, 2016; Purvis et al., 2019; Wamsler et al., 2020). We know that without additional efforts and measures, there will be irreversible impacts globally (IPCC, 2022b, 2022a).

**One important reason for our current situation is that the vast majority of sustainability scholarship, education and practice has, so far, focused on the external world:** technology, wider socio-economic structures, and isolated ecosystems (Bernal et al., 2018; IPCC, 2022a, 2022b; Ives et al., 2020; Köhler et al., 2019; O'Brien, 2018; Power, 2016). This external focus relates to the fact that a lot of this work originated in the biophysical discourse, which framed climate change as a technical problem (Bonnedahl et al., 2022; Callicott & Mumford, 1998; Leichenko & O'Brien, 2020). This translates in our overconfidence in technology and isolated attempts to 'fix things' without taking a more integrative approach (Bentz et al., 2022; Wamsler et al., 2020).

**As a result, the multidimensionality of realities and circumstances has been vastly neglected in current approaches,** side-lining the individual and collective inner aspects of sustainability and climate change (Göpel, 2016; Ives et al., 2020; Wamsler et al., 2018, 2020, 2021; Wamsler & Brink, 2018; Watkins & Wilber, 2015). This gap has been increasingly recognised by a diversity of scholars and leaders, such as Gustave Speth, former Chair of the United Nations Development Group, who once said:

*'I used to think that the top environmental problems were biodiversity loss, ecosystem collapse and climate change. I thought with 30 years of good science we could address those problems. But I was wrong. The top environmental problems are selfishness, greed and apathy... And to deal with these we need a spiritual and cultural transformation – and we scientists don't know how to do that' (in Ives et al., 2020, p. 208).*

## In Search of New Approaches

**In response to such insights, (the concepts of) inner dimensions, inner development and inner transformation have received increasing attention in sustainability and climate work** (Edwards, 2015; Ericson et al., 2014; Parodi & Tamm, 2018; Wamsler et al., 2021; Woiwode et al., 2021). Inner dimensions refer here to people's consciousness, awareness or mindsets, which includes individual and collective beliefs, values, worldviews, as well as associated inner –cognitive, emotional and relational– qualities and capacities (Wamsler, 2020; Wamsler et al., 2020, 2021).<sup>i</sup>

**There are many kinds of activities and practices that address such inner dimensions to enable a deepening and expansion of human consciousness and awareness** (Dahl et al., 2015; Davis & Hayes, 2011; Hölzel et al., 2011; Jones et al., 2019; Kang et al., 2014; Neff & Pommier, 2013; Stell & Farsides, 2016).<sup>ii</sup> Such so-called inner transformation can, in turn, drive changes in our behaviour and perspectives, which have been shown to be more ethical, more prosocial, connected, compassionate and in alignment with what is needed for supporting sustainability across scales (Berry et al., 2018; Cameron & Fredrickson, 2015; Hick & Furlotte, 2010, 2009; Leiberg et al., 2011; Luberto et al., 2018; Lutz et al., 2008; Ruedy & Schweitzer, 2010; Wamsler, 2018; Wamsler & Brink, 2018; Woiwode et al., 2021).

**The associated changes in consciousness and awareness refer to the lens through which we see and relate to ourselves, and the world we share: others, nature, and future generations, leading to an increasing circle of identity, care and responsibility** (Wamsler et al., 2021). They involve a profound shift in perspectives towards a more relational paradigm, by expanding our awareness and interconnectedness (Schlitz et al., 2007; Walsh et al., 2021). Inner transformation can thus unlock inner potential and capacities to care for, commit to, and effect change for a better, more sustainable life (Magnuson, 2008; Sharma, 2017; Wamsler, 2018).<sup>iii</sup>

## Re-establishing Connection

**There is mounting evidence and support that the human story of disconnection is the underlying common thread of our interlinked socio-economic and environmental crises** (Eisenstein, 2013; Wamsler et al., 2021). We know today that climate change and other sustainability challenges are, in fact, internal, human relationship crises (Leichenko & O'Brien, 2020; Wamsler et al., 2021; White Jr., 1967). The human story of separation or disconnection forms part of the Modern worldview.<sup>iv</sup> In communities dominated by this worldview we have increasingly excelled in abstract thinking, predicting and controlling our environments to every greater material and technological advantage, we have in fact become increasingly removed from ourselves, each other and nature – gradually embracing a story of separation which finds its expression in a deep-seated sense of superiority, and issues like consumerism, racism and polarisation (Reiljan, 2020). It assumes that we are all separate from each other, and that we are separate and superior to the rest of the natural world (Eisenstein, 2013; Hendersson & Wamsler, 2020). Treating the environment as a resource that exists solely for the material benefit of (certain parts of) humankind, and as an end for our economy, has led to its abuse and destruction.

**The way we relate to ourselves others and nature is thus crucial.** However, an increasing number of studies show that current forms of disconnection from self, others and nature reinforce each other, as do inner and outer dimensions of sustainability (Compton & Kasser, 2009; T. Oliver, 2021; Wamsler et al., 2021; Wamsler & Bristow, 2022). In fact, interlinkages between the mind, our

emotions and climate change lead to a vicious cycle of deteriorating individual and planetary well-being and increasingly undermine progress toward sustainability (Wamsler & Bristow, 2022).

Hence, whilst most large-scale sustainability and climate action to date has focused upon political and practical solutions to physical problems, voices coming from diverse traditions, perspectives, disciplines and professions increasingly warn that the neglect of inner factors leaves current approaches and theories of change wanting. Empirical studies, e.g. from the past international climate conferences and reviews of current sustainability approaches provide a clear evidence base of this neglect and the need for more integrative approaches (Wamsler et al., 2020, 2021).

**New, more integrative approaches are thus urgently needed.** It is imperative that we deepen investment for adequately addressing individual and collective inner dimensions of sustainability and re-establish connection in order to reduce irreversible impacts on our climate and food systems to ultimately support societal and planetary well-being, flourishing and regeneration. As expressed in the 2020 UN Human Development Report (UNDP, 2020, p. 398): 'Nothing short of a wholesale shift in mindsets, translated into reality by policy, is needed to navigate the brave new world of the Anthropocene, to ensure that all people flourish while easing planetary pressures.'

### Box 1: Definitions of Key Terms

- **Consciousness:** awareness of inner and outer phenomena, which influences the way we see and relate to ourselves and the world: others, nature, and future generations. Cultivating consciousness leads to an increasing circle of identity, care and responsibility. See Section A.
- **Inner dimensions\*:** individual and collective consciousness, awareness, mindsets, values, beliefs, worldviews and associated inner –cognitive, emotional and relational– qualities and capacities. See Section A. Note: The term mindsets and inner dimensions are often used as synonyms.
- **Transformative qualities/capacities\*:** cognitive, emotional and relational qualities and capacities which have been shown to support the cultivation of people’s consciousness and inner dimensions that are conducive for sustainable transformation. In other words, transformative qualities/capacities support cultivation of values, beliefs, and worldviews regarding how people relate (or reconnect) to themselves, others, nature, and future generations in ways that can support transformation. See Section A-B.
- **Consciousness approaches** aim to integrate/mainstream the consideration of inner dimensions and consciousness practices into interventions across all sectors and levels: individual, group (collective), and institutional (system) levels. See Section B-C.
- **Consciousness practices** actively cultivate transformative qualities/capacities. They include a vast range of contemplative, psychological, cognitive-behavioral, educational, communication and leadership methods, practices and processes. See Section C.

Source: Adapted from (Wamsler, 2020; Wamsler et al., 2020, 2021)

\*Note: For simplicity, in the UNDP/CoFSA Rationale Report the term *inner capacities* (instead of inner dimensions) was used for referring to those inner dimensions that are conducive for sustainable transformation. Consequently, in the UNDP/CoFSA Rationale Report the term transformative *qualities/skills* (not *qualities/capacities*) was used to differentiate this concept from the concept of *inner capacities* (see Legrand et al. 2022).



## Section B

### Theoretical and Conceptual Foundations for Addressing Inner Dimensions and Supporting More Integrative Approaches

#### KEY MESSAGES

- There is increasing evidence that inner and outer dimensions of transformation are deeply interconnected and that addressing inner dimensions holds great potential for advancing sustainability.
- Theories and frameworks have been developed to address gaps in current approaches, indicating how sustainable change can be achieved by addressing and linking systems change, behavioural change, cultural change, and personal inner dimensions that underlie today's sustainability crises. They provide a thorough basis for targeted investment and innovation.

**A growing body of scientific evidence demonstrates the linkages between inner and outer change and transformation, and how to support related processes.** A recent systematic literature review, published in the prominent sustainability journal *Global Environmental Change*, systematizes how the linkages between inner and outer transformation are portrayed and understood in current research (Wamsler et al., 2021). It shows that related work comes from a variety of disciplines and fields with different foci, gaps and biases.<sup>v</sup> Central to all fields is an increasing number of studies that highlight the constraints of the dominant approaches and suggest various consciousness and awareness-expanding ways to address them (Wamsler et al., 2021; cf. Abson et al., 2017; Ardila Sánchez et al., 2020; Chan et al., 2020; Cihon et al., 2021; Dorninger et al., 2020; Fischer & Riechers, 2019; T. H. Oliver et al., 2018).

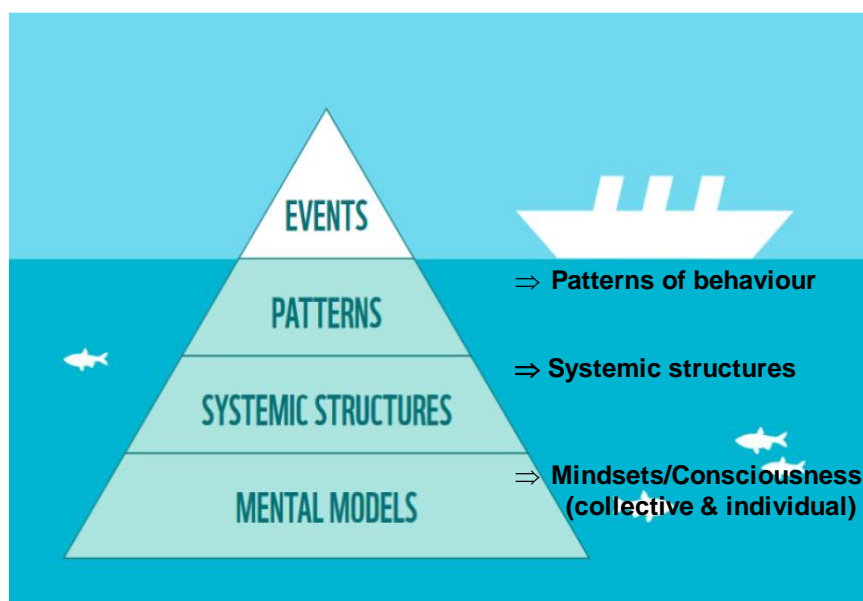
#### Existing theories and frameworks

Accordingly, different **theories** have been developed to bridge knowledge from different disciplines and fields. What they all have in common is that they highlight the role and value of bringing inner development to the context of sustainability. In addition, they all show that **systemic change and inner transformation are deeply interconnected – and that addressing inner dimensions might hold a great potential for transforming systems and advancing sustainability**. This diversity of complementary frameworks is helpful for guiding and advancing diverse approaches and innovation to support behavioral, cultural and systems change.

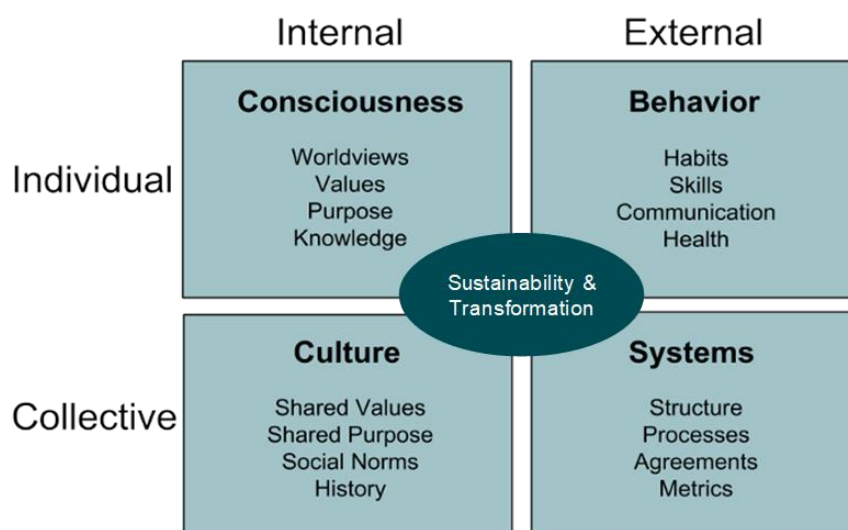
Many of these frameworks are based on the Meadows' *Iceberg Model* that comes from systems thinking (Meadows, 2009; Meadows et al., 1972) and is similar to other, psychological models (Freud, 1955; Kamil & Abidin, 2013). In simple terms, the Iceberg Model likens the events and crises that define our world today to the part of an iceberg visible above the surface of the water, the majority of its mass hidden from view (see Figure 1 and Annex). In human terms, the larger mass hidden beneath the surface comprises the underlying patterns, structures and mindsets that ultimately manifest in the individual and collective actions, institutions, systems, events and crises that characterize our world today. Based on this model, we can see that **the capacity to address and reflect on our inner lives and mindsets and, potentially, adopt new paradigms can be a powerful lever (theoretically, the *most* powerful) to influence sustainability outcomes**. In

scientific terms, this is called a deep leverage point for change (Abson et al., 2017; Fischer & Riechers, 2019; Meadows, 2009; Woiwode et al., 2021).

The *Iceberg Model* also suggests that we may work at different levels to bring about change toward sustainability: at the level of behaviour, at the level of systems or structures, and how we as individuals (individually or collectively) make meaning regarding the world around us: our consciousness and mindsets (Figure 1). This is also expressed in *Integral Theory*, which is illustrated in Figure 2 (Hochachka, 2021; Ives et al., 2020; Wilber, 1999). It proposes that, **when working on change, we can address four areas: 1) behavioural change, 2) systems change, as well as 3) collective/cultural change, and 4) individual inner dimensions that relate to shifts in human consciousness. Importantly, it also implies that all levels are interrelated, and therefore that emphasizing one area to the exclusion of others may not yield the kind of change we are hoping for.**

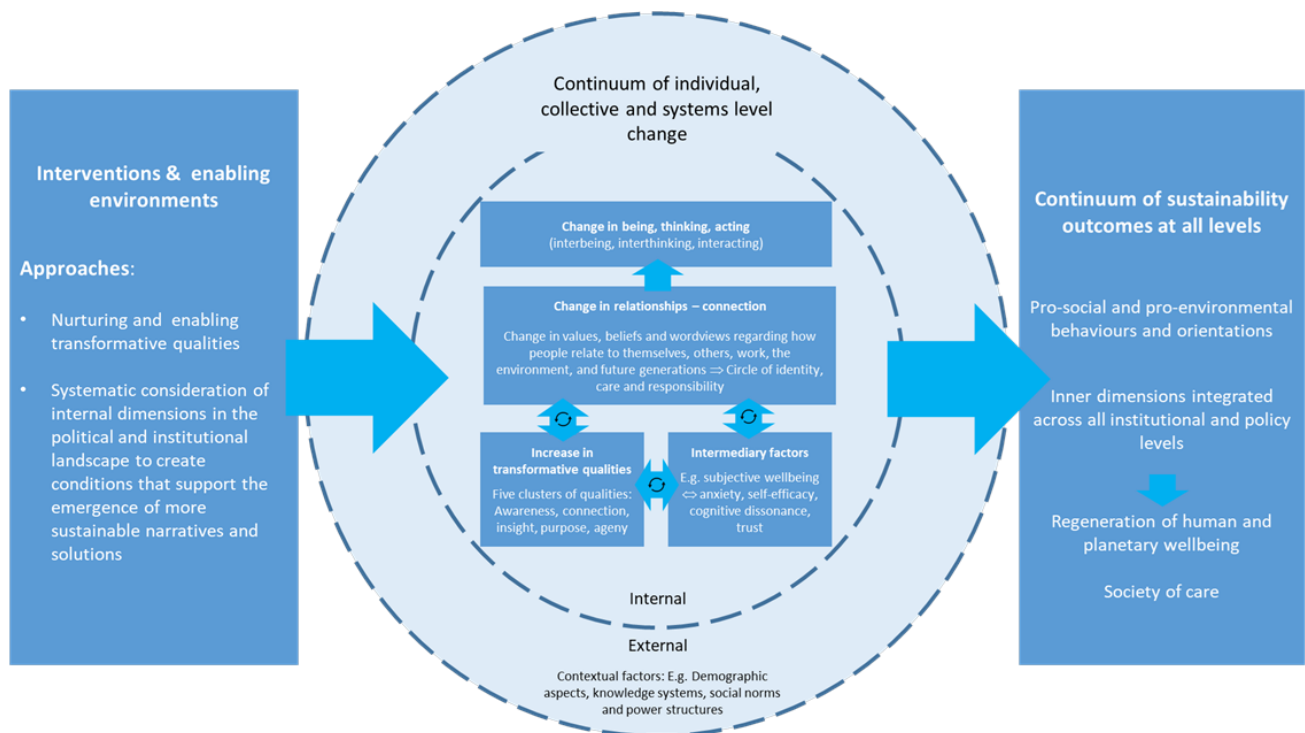


**Figure 1:** The Iceberg Model, simplified. Source: Adapted from Meadows (1999). See also Figure A1 in Annex.



**Figure 2:** Integral Theory. Source: Adapted from Wilber (1999). See also Figure A2 in Annex.

The idea of integrative transformation, relationality and interconnectedness described above is also centrally expressed in the *Model of Inner-Outer Transformation* (Wamsler et al., 2021), the *Three Spheres of Transformation* (O'Brien, 2013, 2018), *The Conscious Full Spectrum Response Model* (Sharma, 2017), *the Framework for Contemplative Scientific Inquiry, Practice and Education in Sustainability* (Wamsler et al., 2018), and *Theory U* (Scharmer & Senge, 2016) (see Figure 3 and Annex for illustrations).<sup>vi</sup> The same ideas also underlie many religious, traditional and/or indigenous knowledge and wisdom traditions and are expressed in various notions such as inter-being relationality (Francis, 2015; Vásquez-Fernández & Ahenakew pii tai poo taa, 2020; Walsh et al., 2021).



**Figure 3:** Inner-Outer Transformation Model. Meta-model of Inner-Outer Transformation toward Sustainability presented in Wamsler et al. (2021). See also Figure A5 and Box A1 in Annex.

In addition, *the Model of Inner-Outer Transformation* (Wamsler et al. 2021) and *the Framework for Contemplative Scientific Inquiry, Practice and Education in Sustainability* (Wamsler et al., 2018) show that personal and planetary well-being are intrinsically interrelated (see also Darnton & Horne, 2013; Frank, Fischer, et al., 2019). They highlight some of the key links between inner transformation and sustainability that form our relationship to ourselves, others and the world around us. Examples are emotional and behavioural regulation, the activation of core values, and relational qualities such as compassion and human–nature connection, which are key elements in creating what in these frameworks is called the (individual-to-global) sustainability continuum.

*Personal and adult development theory* adds to this understanding and supports comprehension of the relationship between inner transformation and systems change (Kegan & Lahey, 2009). According to this theory, mindsets change and develop throughout the life-course, with every stage representing a significant shift in how we experience ourselves, others and the world. This shift in our self-and-other awareness, thinking patterns, and sense of identity/inclusivity has clear implications for sustainability and climate change work. A greater sense of connection can lead to choices that are

more prosocial, mindful of impact, and proactive in working towards the good of others and the environment (Hochachka, 2019; Lynam, 2019; Thiermann & Sheate, 2020).<sup>vii</sup> Adult development theory also suggests that we can develop particular inner capacities that help us to grow and engage with the world in more inclusive and equitable ways<sup>viii</sup> (see Section C; Girgis et al., 2018; Kegan & Lahey, 2009; Kjellström & Andersson, 2017; Moyer & Sinclair, 2020).

This idea is in line with the concept of 'transformative qualities and capacities' that have been introduced and defined in the *Inner-Outer Transformation Model* (see Figure 3 and Figure A5 in Annex). **In recent decades, various competency frameworks have emerged to support sustainable development. Only recently however have such frameworks also recognised the importance of inner qualities or capacities** (see Box 1 for definitions).

On the basis of systematic theoretical and empirical analyses of current knowledge and associated gaps, the *Inner-Outer Transformation Model* presents an overview of transformative qualities/capacities that have been clustered under five themes: awareness, insight, connection, purpose and agency (Wamsler et al., 2020, 2021). They cover a set of competencies proposed to enable sustainability across individual, collective, and institutional/system levels and support the Sustainable Development Goals (SDGs). The Inner Development Goals Framework, a framework aimed to advocate inner development for sustainability in communication and practice, follows the same logic by clustering certain qualities and capacities under the headings of being, thinking, relating, collaborating, and acting (IDG Initiative, 2021). They are presented in Table 1.

**Table 1:** Overview of the Inner Development Goals framework that clusters a set of potential transformative qualities and capacities under the headings of being, thinking, relating, collaborating and acting.

<b>Being</b> <i>Relationship to Self</i>	<b>Thinking</b> <i>Cognitive Skills</i>	<b>Relating</b> <i>Caring for others and the world</i>	<b>Collaborating</b> <i>Social Skills</i>	<b>Acting</b> <i>Driving Change</i>
Inner compass	Critical thinking	Appreciation	Communication	Courage
Integrity and Authenticity	Complexity awareness	Connectedness	Skills	Creativity
Openness and Learning mindset	Perspective Skills	Humility	Co-creation Skills	Optimism
Self-awareness	Sense-making	Empathy and compassion	Inclusive mindset and intercultural competence	Perseverance
Presence	Long-term orientation and visioning		Trust	
			Mobilization Skills	

Source: IDG Initiative (2021). Note: The indicated five themes correspond to a great extent to the five clusters of transformative qualities/capacities of the Inner-Outer Transformation Model: awareness, insight, connection, purpose and agency. See also Figure 3 and Annex for definitions.

The *Inner-Outer Transformation Model* shows that **transformative qualities/capacities and associated intermediary factors (such as well-being or climate anxiety) influence sustainability across individual, collective and system level because they relate to certain worldviews, beliefs and values that delineate our connections or relationships with ourselves, others, and nature** (Wamsler et al., 2021). These influence, in turn, the three dimensions of agency at individual and collective levels: interbeing, interthinking and interacting (ibid). Grey literature and conceptual mapping by other organisations supports this understanding (Bockler & Hector, 2022; Global Grassroots, 2022).

The *Inner-Outer Transformation Model* also indicates that **there are three complementary ways to support such change, which we call here consciousness approaches**. The aim of these



approaches is to integrate/mainstream the consideration of inner dimensions of sustainability across individual, collective and system levels.<sup>ix</sup> Accordingly, the three approaches include:

- a) Individual level: Initiatives which support inner capacities and practices that can help people to tap into their potential to support change (e.g. through education, training, coaching);
- b) Collective/group level: Initiatives which support related learning environments, e.g. in form of transformative multi-stakeholder spaces, dialogues and networks to create a culture of growth and nourish fields of change;
- c) Institutional/system level: Initiatives to support policy integration to systematically mainstream the consideration of inner dimensions into existing institutional and political systems, thus creating the structural conditions for sustained action across all sectors and fields and, ultimately, support the emergence of a new, more sustainable narrative in companies, governments and society at large. It requires for instance the systematic revision of organisations' and institutions' vision statements, communication and project management tools, working structures, policies, regulations, human and financial resource allocation, learning infrastructures and collaboration (Wamsler et al., 2021).

**The three consciousness approaches thus include complementary engagement at a) individual, b) collective/group and c) institutional/system level and the associated political and power landscape.**<sup>x</sup> Related consciousness practices can be applied across all three levels and are described in detail in the following section. Related examples from the food sector can be found in the Rationale Report, Boxes 8-18 (Legrand et al., 2022).

## Section C

### Evidence-Based Practices and Interventions for Addressing Inner Dimensions of Sustainability and Supporting Integrative Approaches

#### KEY MESSAGES

- Integrative approaches that address both inner and outer dimensions of sustainability require targeted interventions to integrate/mainstream the consideration of inner dimensions at individual, group (collective), and institutional (systems) levels.
- They involve personal development to nourish transformative qualities and capacities. The latter can be supported by diverse practices, including contemplative, psychological, cognitive, and transformative education, facilitation and leadership methods and interventions.
- Supporting integrative approaches requires targeted investment.

Current theory on inner-outer transformation, suggests that **there are three complementary approaches to systematically link inner transformation and sustainability**, which have been described in Section B. They require the explicit consideration of inner dimensions across all levels and involve targeted measures for personal development to nourish transformative qualities/capacities and supporting (the integration of) individual, cultural, behavioural and systems change (see Sections A-B).

**From an ethical standpoint, it is important to highlight that such approaches are not about saying we need to change people's beliefs, values, and worldviews, as this would turn them into objects to be changed rather than seeing them as change agents** (Jensen & Schnack, 2006; Wamsler et al., 2021). The former risks co-opting the concept of transformation to preserve business-as-usual, through a 'fix-it' and 'fix-others' mentality that reinforces unsustainable paradigms that lead to a focus on technical solutions and individual behaviour change while ignoring systemic factors and the underlying causes of today's sustainability crises (Bentz et al., 2022; Blythe et al., 2018; Wamsler et al., 2021; see Sections A-B). Rather, integrative approaches for inner-outer transformation are about creating spaces and conditions that help nurture a culture of inner growth, mutual support and engagement from a place of shared, universal values and connection (O'Brien, 2018; Wamsler et al., 2021). If these spaces and conditions do not, however, include explorations of power and bias, they may not lead to the deeper shifts needed in mindset needed, or worse may reinforce a dominant groups' values.

Increasingly, governments and private actors are implementing personal development interventions to support democratic governance for sustainable development. At the same time, critical analyses and empirical evidence to understand if and how related practices impact wider sustainability outcomes are in their infancy (Wamsler et al., 2021).<sup>xi</sup> In the following, we describe the types of practices that exist and present the growing evidence regarding their potential for supporting sustainability at individual, collective and system levels.

**Evidence-based academic literature suggests that there are four broad categories of consciousness practices that can support certain transformative qualities and capacities. For ease of communication, we use the umbrella term 'practices' for all four categories. They include: 1) contemplative practices and interventions, 2) psychological and cognitive-behavioral based interventions, 3) transformative facilitation, communication and coaching tools, and 4) transformational education and leadership approaches.<sup>xii</sup>**

### **Contemplative Practices and Interventions**

This category encompasses a broad array of mind-body practices coming from a variety of scientific disciplines, professional fields and/or wisdom traditions. They include for instance meditation, mindfulness<sup>xiii</sup> and compassion<sup>xiv</sup> practices, somatics<sup>xv</sup>, journaling<sup>xvi</sup>, storytelling, prayer, visualization, vision quests<sup>xvii</sup>, contemplative dyads<sup>xviii</sup>, deep listening, and arts-based approaches<sup>xix</sup>. Cultivating and expanding self-reflection, awareness and consciousness is the foundation of all contemplative practices.

Contemplative science, health sciences, neuroscience and other fields provide ample scientific evidence of the important benefits of such practices at an individual level (e.g., in terms of health, well-being, and performance). In addition, there is increasing research that shows their influence at societal levels (e.g. Blake, 2005; Hildebrandt et al., 2017; Kok & Singer, 2017).<sup>xx</sup>

Recent research also indicates that certain practices can support all clusters of transformative qualities/capacities, associated worldviews, beliefs and values that are key for sustainability (Wamsler et al., 2021). Currently, most evidence relates to mindfulness- and compassion-based practices and interventions, coming for instance from educational, healthcare, business and other professional settings (Bristow et al., 2022; Kapoor, 2007; Sajjad & Shahbaz, 2020; Thiermann & Sheate, 2020, 2021; Wamsler & Restoy, 2020).

There is also an increasing body of knowledge that shows how mindfulness and compassion can be linked and adapted to sustainability-related interventions, such as climate leadership courses (e.g. Beyond/ Inner Green Deal course by Awaris<sup>xxi</sup>)A sustainable consumption education and sustainability education more broadly (Dhandra, 2019; Frank, Sundermann, et al., 2019; Grabow et al., 2018; Guckian et al., 2017; Park & Dhandra, 2017; Ramstetter et al., 2022; Wamsler, 2018; Wamsler et al., 2018).

Research on the application of other contemplative approaches to sustainability is also rapidly growing. Even at the most important international climate conferences COP, related approaches have been increasingly explored and with positive results (Fraude et al., 2021; Mar et al., 2021; Wamsler et al., 2020).<sup>xxii</sup> See also below under transformative communication, facilitation, education and leadership approaches.

### **Psychological and Cognitive-Behavioral Based Interventions**

A range of well-established and evidence-based psychotherapeutic modalities, practices and interventions have emerged from the social, psychological and cognitive sciences that are relevant for sustainability (Beck, 1964, 1995). Cognitive-behavioral therapy (CBT), which aims to challenge and change dysfunctional cognitive distortions and behaviors, is one of the best known psychotherapeutic modalities (David et al., 2014).<sup>xxiii</sup> The Acceptance and Commitment Therapy ACT (a further development of CBT) (Biglan et al., 2020; Hayes et al., 2009, 2011), the ABC model (Ellis, 1991), the Cycle of Change (Prochaska & DiClemente, 1983) and Trauma Therapy (Briere & Scott, 2015) are additional examples of tools to facilitate individual change processes within the cognitive-behavioral approach. Cognitive-behavioral interventions are based on evidence-based principles and

techniques that can support people's personal development and change processes. Evidence for their applications and impact on wider societal and systems change is still nascent, but related practices show encouraging results (Ardila Sánchez et al., 2020; Cihon et al., 2021; Clear, 2018).

Tools related to personal and adult development theory, such as the immunity to change (ITC) process (Kegan & Lahey, 2009), the integral process for working on complex issues (TIP) (Ross, 2006) and related worldview approaches (Hochachka, 2019; Lynam, 2019) also fall within this category of psychological and cognitive-behavioral based interventions. Empirical work shows for instance how related approaches can support perspective-taking and deeper understanding, which in turn helps to address climate change in a more integrative way (Hochachka, 2019; Lynam, 2019).<sup>I</sup>

### **Transformative Communication, Facilitation and Coaching Tools**

This category covers transformative communication, facilitation and coaching methods and tools that support an enabling environment for introspection, dialogue and collaboration. They can strengthen transformative qualities and capacities and more integrative action-taking. Creating such enabling environments, or so-called 'transformative spaces', involves the consideration of their physical settings, non-hierarchical communication setups, and different coaching and facilitation practices (such as Non-violent Communication<sup>xxiv</sup>, deep listening, circles and councils), which can be used in combination with, for instance, contemplative practices (Fraude et al., 2021; Mar et al., 2021; Wamsler et al., 2020). Research suggests that transformative spaces can be powerful ways to support the creation of new networks and new cultures of collaboration and practice (Fraude et al., 2021; Mar et al., 2021; Wamsler et al., 2020). They are increasingly offered in the context of international climate conferences (Fraude et al., 2021; Mar et al., 2021; Wamsler et al., 2020), as well as transformative education and leadership approaches (see below).

### **Transformative Education and Leadership Approaches**

Over the past years, some scholars and practitioners have combined and adapted consciousness practices to the context of sustainability to develop transformative education and leadership approaches. They combine complexity, systems and/or design thinking with various practices. They come with a certain theory and pedagogy, together with associated processes and tools, for linking inner and outer change.

Transformative education and leadership courses<sup>xxv</sup> are offered by different Universities, private and non-profit organisations. One example is 'the Work That Reconnects' that is aimed at helping people discover and experience their innate connections with each other and transform despair and overwhelm into inspired, collaborative action (Macy & Brown, 2014). Other examples are courses that apply the Theory U process and associated methods (e.g. the 'UN Action Learning Lab - Transforming Systems in the Decade of Action');<sup>xxvi</sup> the 'Sustainability and Inner Transformation' course at Lund University; 'Transformative Climate Advocacy' by Pacific Integral; 'Ecojustice' by Courage of Care; 'Transformational Leadership' by RTLWorks and CChange; 'Beyond' and 'The Inner Green Deal' by Awaris; and 'The Sustainability Mindset Action Lab' supported by PRME (Rimanoczy & Llamazares, 2021; Ramstetter et al., 2022; Scharmer & Senge, 2016; Sharma, 2017; Walsh et al., 2020; Wamsler, 2019).

Some of the climate leadership and sustainability-related courses offered by Universities also include education about how to systematically integrate/mainstream inner dimensions into existing systems, which relates to the third type of consciousness interventions described in Section B. Related strategies are derived from climate policy integration and related evidence-based assessments (Runhaar et al., 2018; Wamsler, 2015). It involves more than just scaling up training approaches and adapting learning processes within organisations. Instead, it requires governmental and non-



governmental organisations across all sectors and levels to systematically revise their communication and project management structures and tools, along with their governance mechanisms, policies, regulations, and resource allocation (Wamsler et al., 2021; Wamsler, 2015). See also Section B.

Finally, it should be noted that there is an increasing number of guidelines, toolboxes and resources that provide an overview of different practices, how they can be adapted, combined and applied in the context of sustainability, and/or how related outcomes can be monitored or evaluated (e.g. Inner Pathways, 2020; Rimanoczy & Klinenbert, 2021; Transformation Hosts International, 2022; UNFPA, 2021; Visionautik Akademie, 2020). At the same time, more research is needed to develop these fields further.

## Nature-Based Approaches

**Nature-based approaches exist across all four categories and are receiving increasing interest in the context of sustainability.** They focus on immersion in natural surroundings to support, amongst other things, human-nature connection. Examples include nature-based mindfulness (Djernis et al., 2019), activities to enhance nature experience such as nature quests, painting, bird-watching and unstructured play in nature (Richardson et al., 2020), outdoor learning (Prince, 2017), forest bathing (Hansen et al., 2017), and green-social prescribing schemes (NHS England, 2022). A large body of evidence links the increased sense of nature-connectedness that such approaches provide with pro-environmental attitudes and behavior, such as sustainable purchasing of food (Arnocky et al., 2007; Hurst et al., 2013; Martin et al., 2020; Richardson et al., 2020; Rosa et al., 2018; Udall et al., 2021).

## Combination of Consciousness Approaches and Practices

**Findings from the research literature suggest that the success of sustainable inner-outer transformation lies in the combination of consciousness approaches and practices, the diversity of tools offered, and how they are combined and adapted to specific contexts and participants' interests and needs** (Ivanova & Rimanoczy, 2021; Wamsler et al., 2021, 2022). Similar to muscle training, different consciousness practices result for instance in different mental outcomes and effects at individual, collective and system levels (Böckler et al., 2018; Singer & Engert, 2019). Research is needed to further explore related factors and processes (Wamsler et al. 2021).

Generally, interventions should involve the systematic consideration of inner dimensions and transformative qualities/capacities across all sectors and levels (Wamsler & Osberg, 2022) and offer and combine different practices and activities for: i) self-inquiry; ii) reflection and coaching; iii) cognitive study (of inner-outer transformation processes); iv) action-learning, prototyping; and v) supporting communities of practice to nourish fields of change, and deepen the understanding and application of the learning (Fraude et al., 2021; Mar et al., 2021).

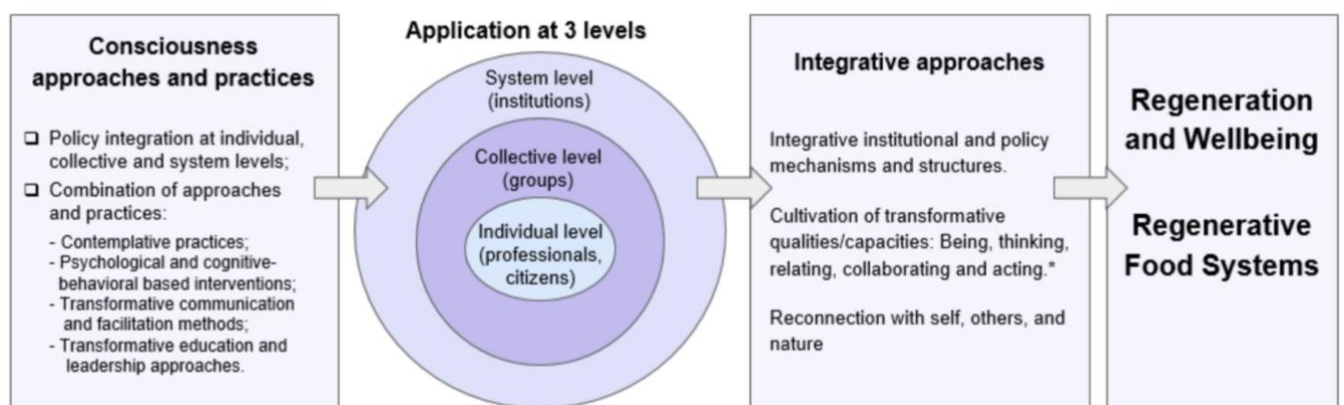
In sum, evidence exists that when one makes an investment in inner development and transformation, individuals, being citizens, professional or policymakers, and members of collective groups and systems, engage and make choices from a place of deeper connection to others and the planet that are more beneficial to long-term sustainability at individual, collective, institutional and system levels. Investment in related policy approaches and practices is thus crucial. In addition, investment is needed for further investigating the differential effects of certain consciousness approaches and practices and associated group dynamics for supporting policy integration, nurturing transformative qualities/capacities and fostering sustainability outcomes in different contexts.

## Conclusions

This report presents important research and evidence that shows that a critical dimension is missing from mainstream sustainability approaches. If we go on treating sustainability challenges, such as climate change and food insecurity, purely as external challenges, solutions will continue to elude us. They are human, relational crises that call for broader and deeper approaches.

The 2022 IPCC assessment reports on climate change mitigation and adaptation are unequivocal: time is running out for climate solutions of the scale and depth necessary to avoid catastrophe (IPCC, 2022a,b). At the same time, they highlight the importance of more integrative approaches that link inner and outer dimensions of sustainability and make reference to the potential of consciousness approaches and practices to support related endeavors (ibid). This is a real milestone, and we hope that our report can leverage related work.

Our report shows that there is an urgent need to complement and integrate external approaches with inner work, and it provides research and evidence-based knowledge that is critical to develop related interventions at individual, collective, and institutional/system levels. In the context of CoFSA, it provides guidance and a basic roadmap to support actions and transformation in the food sector (Figure 4).



**Figure 4:** The CoFSA Model of Transformation. This linear model simplifies the process of change for ease of communication. In practice, transformation is a complex and emergent process. The CoFSA Model is based on Wamsler et al. (2021) and IDG Initiative (2021) (see Section B).

\*Note: The indicated transformative qualities/capacities can also be clustered under the headings of awareness, insight, connection, purpose and agency (see Section B, Figure 3 and the Annex for further information).

## References

- Abson, D. J., Fischer, J., Leventon, J., Newig, J., Schomerus, T., Vilsmaier, U., von Wehrden, H., Abernethy, P., Ives, C. D., Jager, N. W., & Lang, D. J. (2017). Leverage points for sustainability transformation. *Ambio*, 46(1), 30–39. <https://doi.org/10.1007/s13280-016-0800-y>
- APA (American Psychological Association). (2010). *Psychology and global climate change: Addressing a multi-faceted phenomenon and set of challenges*. American Psychological Association (APA). <https://www.apa.org/science/about/publications/climate-change>
- Ardila Sánchez, J. G., Cihon, T. M., Malott, M. E., Mattaini, M. A., Rakos, R. F., Rehfeldt, R. A., Richling, S. M., Roose, K. M., Seniuk, H. A., & Watson-Thompson, J. (2020). Collective editorial: Ten guidelines for strategic social action. *Behavior and Social Issues*, 29(1), 15–30. <https://doi.org/10.1007/s42822-020-00038-8>
- Arnocky, S., Stroink, M., & DeCicco, T. (2007). Self-construal predicts environmental concern, cooperation, and conservation. *Journal of Environmental Psychology*, 27(4), 255–264. <https://doi.org/10.1016/j.jenvp.2007.06.005>
- Baer, R. (2015). Ethics, values, virtues, and character strengths in mindfulness-based Interventions: A psychological science perspective. *Mindfulness*, 6(4), 956–969. <https://doi.org/10.1007/s12671-015-0419-2>
- Beck, J. (1964). *Cognitive Therapy: Basics and beyond*. Guildford Press.
- Beck, J. (1995). *Cognitive Therapy: Basics and beyond*. Guildford Press.
- J., O'Brien, K., & Scoville-Simonds, M. (2022). Beyond “blah blah blah”: Exploring the “how” of transformation. *Sustainability Science*, 17(2), 497–506. <https://doi.org/10.1007/s11625-022-01123-0>
- Berkes, F. (2017). *Sacred Ecology* (4th ed.). Routledge. <https://doi.org/10.4324/9781315114644>
- Bernal, E., Edgar, D., & Burnes, B. (2018). Building sustainability on deep values through mindfulness nurturing. *Ecological Economics*, 146, 645–657. <https://doi.org/10.1016/j.ecolecon.2017.12.003>
- Berry, D. r., Cairo, A. h., Goodman, R. j., Quaglia, J. t., Green, J. d., & Brown, K. w. (2018). Mindfulness increases prosocial responses toward ostracized strangers through empathic concern. *Journal of Experimental Psychology: General*, 147(1), 93–112. <https://doi.org/10.1037/xge0000392>
- Biglan, A., Johansson, M., Van Ryzin, M., & Embry, D. (2020). Scaling up and scaling out: Consilience and the evolution of more nurturing societies. *Clinical Psychology Review*, 81, 101893. <https://doi.org/10.1016/j.cpr.2020.101893>
- Blake, T. K. (2005). Journaling; An active learning technique. *International Journal of Nursing Education Scholarship*, 2(1). <https://doi.org/10.2202/1548-923X.1116>
- Blythe, J., Silver, J., Evans, L., Armitage, D., Bennett, N. J., Moore, M.-L., Morrison, T. H., & Brown, K. (2018). The Dark Side of Transformation: Latent Risks in Contemporary Sustainability Discourse. *Antipode*, 50(5), 1206–1223. <https://doi.org/10.1111/anti.12405>
- Böckler, A., Tusche, A., Schmidt, P., & Singer, T. (2018). Distinct mental trainings differentially affect altruistically motivated, norm motivated, and self-reported prosocial behaviour. *Scientific Reports*, 8(1), 13560. <https://doi.org/10.1038/s41598-018-31813-8>
- Bockler, J., & Hector, F. (2022). *Nurturing the fields of change: An inquiry into the living dynamics of holistic change facilitation*. Alef Trust. [https://www.aleftrust.org/wp-content/uploads/2022/04/ALEF\\_CCP\\_REPORT\\_11\\_compressed.pdf](https://www.aleftrust.org/wp-content/uploads/2022/04/ALEF_CCP_REPORT_11_compressed.pdf)

- Bonnedahl, K. J., Heikkurinen, P., & Paavola, J. (2022). Strongly sustainable development goals: Overcoming distances constraining responsible action. *Environmental Science & Policy*, *129*, 150–158. <https://doi.org/10.1016/j.envsci.2022.01.004>
- Bradshaw, C. J. A., Ehrlich, P. R., Beattie, A., Ceballos, G., Crist, E., Diamond, J., Dirzo, R., Ehrlich, A. H., Harte, J., Harte, M. E., Pyke, G., Raven, P. H., Ripple, W. J., Saltr , F., Turnbull, C., Wackernagel, M., & Blumstein, D. T. (2021). Underestimating the challenges of avoiding a ghastly future. *Frontiers in Conservation Science*, *1*. <https://www.frontiersin.org/article/10.3389/fcosc.2020.615419>
- Briere, J. N., & Scott, C. (2015). *Principles of trauma therapy: A guide to symptoms, evaluation, and treatment, 2nd ed., DSM-5 update* (pp. ix, 428). Sage Publications, Inc.
- Bristow, J., Bell, R., & Nixon, D. (2020). *Mindfulness: Developing agency in urgent times*. Mindfulness Initiative. <https://www.themindfulnessinitiative.org/agency-in-urgent-times>
- Bristow, J., Bell, R., & Wamsler, C. (2022). *Reconnection: Meeting the climate crisis inside out*. The Mindfulness Initiative and LUCSUS. <https://www.themindfulnessinitiative.org/reconnection>
- Brundtland Commission. (1987). From one earth to one world. In *Our common future* (pp. 1–23). Oxford University Press.
- Callicott, J. B., & Mumford, K. (1998). Ecological sustainability as a conservation concept. In J. Lemons, L. Westra, & R. Goodland (Eds.), *Ecological sustainability and integrity: Concepts and approaches* (pp. 31–45). Springer. [https://doi.org/10.1007/978-94-017-1337-5\\_3](https://doi.org/10.1007/978-94-017-1337-5_3)
- Camerer, C. (1999). Behavioral economics: Reunifying psychology and economics. *Proceedings of the National Academy of Sciences of the United States of America*, *96*(19), 10575–10577.
- Cameron, C. D., & Fredrickson, B. L. (2015). Mindfulness facets predict helping behavior and distinct helping-related emotions. *Mindfulness*, *6*(5), 1211–1218. <https://doi.org/10.1007/s12671-014-0383-2>
- Chan, K. M. A., Boyd, D. R., Gould, R. K., Jetzkowitz, J., Liu, J., Muraca, B., Naidoo, R., Olmsted, P., Satterfield, T., Selomane, O., Singh, G. G., Sumaila, R., Ngo, H. T., Boedhihartono, A. K., Agard, J., de Aguiar, A. P. D., Armenteras, D., Balint, L., Barrington-Leigh, C., ... Brond zio, E. S. (2020). Levers and leverage points for pathways to sustainability. *People and Nature*, *2*(3), 693–717. <https://doi.org/10.1002/pan3.10124>
- Cihon, T. M., Borba, A., Benvenuti, M., & Sandaker, I. (2021). Research and training in culturo-behavior science. *Behavior and Social Issues*, *30*(1), 237–275. <https://doi.org/10.1007/s42822-021-00076-w>
- Clayton, S. (2019). Psychology and climate change. *Current Biology*, *29*(19), R992–R995. <https://doi.org/10.1016/j.cub.2019.07.017>
- Clear, J. (2018). *Atomic habits: An easy & proven way to build good habits & break bad ones*. Avery.
- Compassion Institute. (2022). *Unlocking our best human qualities through the transformative power of compassion*. Compassion Institute. <https://www.compassioninstitute.com/>
- Compton, T., & Kasser, T. (2009). *Meeting environmental challenges: The role of human identity*. WWF-UK. [http://assets.wwf.org.uk/downloads/meeting\\_environmental\\_challenges\\_the\\_role\\_of\\_human\\_identity.pdf](http://assets.wwf.org.uk/downloads/meeting_environmental_challenges_the_role_of_human_identity.pdf)
- Cook-Greuter, S. R. (2004). Making the case for a developmental perspective. *Industrial and Commercial Training*, *36*(7), 275–281. <https://doi.org/10.1108/00197850410563902>
- Dahl, C. J., Lutz, A., & Davidson, R. J. (2015). Reconstructing and deconstructing the self: Cognitive mechanisms in meditation practice. *Trends in Cognitive Sciences*, *19*(9), 515–523. <https://doi.org/10.1016/j.tics.2015.07.001>



- Darnton, A., & Horne, J. (2013). *Influencing behaviours—Moving beyond the individual: ISM user guide*. Scottish Government. <https://www.gov.scot/publications/influencing-behaviours-moving-beyond-individual-user-guide-ismtool/#:~:text=ISM%20is%20based%20on%20%27moving%20beyond%20the%20individual%27,mor e%20effective%20policies%20and%20interventions%20can%20be%20developed.>
- David, O. A., Matu, S. A., Pinteá, S., Cotet, C. D., & Nagy, D. (2014). Cognitive-behavioral processes based on using the ABC analysis by trainees' for their personal development. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, 32(3), 198–215. <https://doi.org/10.1007/s10942-014-0189-0>
- Davis, D. M., & Hayes, J. A. (2011). What are the benefits of mindfulness? A practice review of psychotherapy-related research. *Psychotherapy*, 48(2), 198–208. <https://doi.org/10.1037/a0022062>
- Dhandra, T. K. (2019). Achieving triple dividend through mindfulness: More sustainable consumption, less unsustainable consumption and more life satisfaction. *Ecological Economics*, 161, 83–90. <https://doi.org/10.1016/j.ecolecon.2019.03.021>
- Djernis, D., Lerstrup, I., Poulsen, D., Stigsdotter, U., Dahlgard, J., & O'Toole, M. (2019). A systematic review and meta-analysis of nature-based mindfulness: Effects of moving mindfulness training into an outdoor natural setting. *International Journal of Environmental Research and Public Health*, 16(17), 3202. <https://doi.org/10.3390/ijerph16173202>
- Dorninger, C., Abson, D. J., Apetrei, C. I., Derwort, P., Ives, C. D., Klaniécki, K., Lam, D. P. M., Langsenlehner, M., Riechers, M., Spittler, N., & von Wehrden, H. (2020). Leverage points for sustainability transformation: A review on interventions in food and energy systems. *Ecological Economics*, 171, 106570. <https://doi.org/10.1016/j.ecolecon.2019.106570>
- Edwards, A. R. (2015). *The heart of sustainability*. New Society Publishers.
- Eisenstein, C. (2013). *The more beautiful world our hearts know is possible*. North Atlantic Books.
- Ellis, A. (1991). The revised ABC's of rational-emotive therapy (RET). *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, 9(3), 139–172. <https://doi.org/10.1007/BF01061227>
- Ericson, T., Kjønstad, B. G., & Barstad, A. (2014). Mindfulness and sustainability. *Ecological Economics*, 104, 73–79. <https://doi.org/10.1016/j.ecolecon.2014.04.007>
- Francis, P. (2015). *Laudato Si': On Care for Our Common Home*. Vatican City Press
- Farrow, K., Grolleau, G., & Ibanez, L. (2017). Social Norms and Pro-environmental Behavior: A Review of the Evidence. *Ecological Economics*, 140, 1–13. <https://doi.org/10.1016/j.ecolecon.2017.04.017>
- Fischer, J., & Riechers, M. (2019). A leverage points perspective on sustainability. *People and Nature*, 1(1), 115–120. <https://doi.org/10.1002/pan3.13>
- Frank, P., Fischer, D., & Wamsler, C. (2019). Mindfulness, education, and the Sustainable Development Goals. In W. Leal Filho, L. Azul, L. Azul, P. Brandil, G. Özuygar, & T. Wall (Eds.), *Encyclopedia of the UN Sustainable Development Goals, quality education* (pp. 1–11). Springer.
- Frank, P., Sundermann, A., & Fischer, D. (2019). How mindfulness training cultivates introspection and competence development for sustainable consumption. *International Journal of Sustainability in Higher Education*, 20(6), 1002–1021. <https://doi.org/10.1108/IJSHE-12-2018-0239>
- Fraude, C., Bruhn, T., Stasiak, D., Wamsler, C., Mar, K., Schäpke, N., Schroeder, H., & Lawrence, M. (2021). Creating space for reflection and dialogue: Examples of new modes of communication for empowering climate action. *GAIA - Ecological Perspectives for Science and Society*, 30(3), 174–180. <https://doi.org/10.14512/gaia.30.3.9>
- Freud, S. (1955). *The unconscious XIV*. Hogarth Press.

- Gibson, R. (2016). Opportunities: Finding best openings for influential applications. In *Sustainability assessment*. Routledge.
- Girgis, F., Lee, D. J., Goodarzi, A., & Ditterich, J. (2018). Toward a neuroscience of adult cognitive developmental theory. *Frontiers in Neuroscience*, 12. <https://www.frontiersin.org/article/10.3389/fnins.2018.00004>
- Global Grassroots. (2022). *Conscious change study*. <https://www.consciouschangestudy.org>
- Göpel, M. (2016). *The great mindshift: How a new economic paradigm and sustainability transformations go hand in hand* (1st ed. 2016 edition). Springer.
- Grabow, M., Bryan, T., Checovich, M. M., Converse, A. K., Middlecamp, C., Mooney, M., Torres, E. R., Younkin, S. G., & Barrett, B. (2018). Mindfulness and climate change action: A feasibility study. *Sustainability*, 10(5), 1508. <https://doi.org/10.3390/su10051508>
- Guckian, M., De Young, R., & Harbo, S. (2017). *Beyond green consumerism: Uncovering the motivations of green citizenship*. <https://doi.org/10.3998/mjs.12333712.0005.105>
- Hansen, M. M., Jones, R., & Tocchini, K. (2017). Shinrin-Yoku (Forest Bathing) and Nature Therapy: A state-of-the-art review. *International Journal of Environmental Research and Public Health*, 14(8), 851. <https://doi.org/10.3390/ijerph14080851>
- Hayes, S., Strosahl, K., & Wilson, K. (2009). *Acceptance and Commitment Therapy*. American [Psychological Association](#).
- Hayes, S., Strosahl, K., & Wilson, K. (2011). *Acceptance and Commitment Therapy: The process and practice of mindful change*. [Guildford Press](#).
- Hendersson, H., & Wamsler, C. (2020). New stories for a more conscious, sustainable society: Claiming authorship of the climate story. *Climatic Change*, 158(3), 345–359. <https://doi.org/10.1007/s10584-019-02599-z>
- Hensley, N. (2018). Transforming higher education through trickster-style teaching. *Journal of Cleaner Production*, 194, 607–612. <https://doi.org/10.1016/j.jclepro.2018.05.116>
- Heras, M., Galafassi, D., Oteros-Rozas, E., Ravera, F., Berraquero-Díaz, L. & Ruiz-Mallén, I. (2021) Realising potentials for arts-based sustainability science. *Sustainability Science*, 16, 1875–1889. <https://doi.org/10.1007/s11625-021-01002-0>
- Hick, S. F., & Furlotte, C. (2010). An exploratory study of radical mindfulness training with severely economically disadvantaged people: Findings of a Canadian study. *Australian Social Work*, 63(3), 281–298. <https://doi.org/10.1080/0312407X.2010.496865>
- Hick, S. F., & Furlotte, C. R. (2009). Mindfulness and social justice approaches: Bridging the mind and society in social work practice. *Canadian Social Work Review / Revue Canadienne de Service Social*, 26(1), 5–24.
- Hildebrandt, L. K., McCall, C., & Singer, T. (2017). Differential effects of attention-, compassion-, and socio-cognitively based mental practices on self-reports of mindfulness and compassion. *Mindfulness*, 8(6), 1488–1512. <https://doi.org/10.1007/s12671-017-0716-z>
- Hochachka, G. (2019). On matryoshkas and meaning-making: Understanding the plasticity of climate change. *Global Environmental Change*, 57, 101917. <https://doi.org/10.1016/j.gloenvcha.2019.05.001>
- Hochachka, G. (2021). Integrating the four faces of climate change adaptation: Towards transformative change in Guatemalan coffee communities. *World Development*, 140, 105361. <https://doi.org/10.1016/j.worlddev.2020.105361>

- Hoek, A. C., Malekpour, S., Raven, R., Court, E., & Byrne, E. (2021). Towards environmentally sustainable food systems: Decision-making factors in sustainable food production and consumption. *Sustainable Production and Consumption*, 26, 610–626. <https://doi.org/10.1016/j.spc.2020.12.009>
- Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R., & Ott, U. (2011). How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. *Perspectives on Psychological Science*, 6(6), 537–559. <https://doi.org/10.1177/1745691611419671>
- Hurst, M., Dittmar, H., Bond, R., & Kasser, T. (2013). The relationship between materialistic values and environmental attitudes and behaviors: A meta-analysis. *Journal of Environmental Psychology*, 36, 257–269. <https://doi.org/10.1016/j.jenvp.2013.09.003>
- Huy, Q. N. (1999). Emotional Capability, Emotional Intelligence, and Radical Change. *The Academy of Management Review*, 24(2), 325–345. <https://doi.org/10.2307/259085>
- IDG Initiative. (2021). *Inner Development Goals (IDG): Background, method and the IDG framework*. IDG Initiative. [https://static1.squarespace.com/static/600d80b3387b98582a60354a/t/616eb1adbee9380a25085e35/1634644401138/211019\\_IDG\\_Report.pdf](https://static1.squarespace.com/static/600d80b3387b98582a60354a/t/616eb1adbee9380a25085e35/1634644401138/211019_IDG_Report.pdf)
- Inner Pathways. (2020). *The inner pathways guide for facilitators design and implementation in the field of education for sustainability*. <https://innerpathways.eu/tools/curriculum/>
- IPCC. (2022a). *Climate Change 2022: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. In Press. [https://report.ipcc.ch/ar6wg2/pdf/IPCC\\_AR6\\_WGII\\_FinalDraft\\_FullReport.pdf](https://report.ipcc.ch/ar6wg2/pdf/IPCC_AR6_WGII_FinalDraft_FullReport.pdf)
- IPCC. (2022b). *Climate Change 2022: Mitigation of climate change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. [J. Skea, P. Shukla, A. Reisinger, R. Slade, M. Pathak, A. Khouradajie, R. van Diemen, A. Abdulla, K. Akimoto, M. Babiker, Q. Bai, I. Bashmakov, C. Bataille, G. Berndes, G. Blanco, K. Blok, M. Bustamante, E. Byers, L. Cabeza, K. Calvin, C. Carraro, L. Clarke, A. Cowie, F. Creutzig, D. Korecha Dadi, D. Dasgupta, H. de Coninck, F. Denton, S. Dhakal, N. Dubash, O. Geden, M. Grubb, C. Guivarch, S. Gupta, A. Hahmann, K. Halsnaes, P. Jaramillo, K. Jiang, F. Jotzo, T. Yong Jung, S. Ribeiro, S. Khennas, Ş. Kilkış, S. Kreibiehl, V. Krey, E. Kriegler, W. Lamb, F. Lecocq, S. Lwasa, N. Mahmoud, C. Mbow, D. McCollum, J. Minx, C. Mitchell, R. Mrabet, Y. Mulugetta, G. Nabuurs, G. Nemet, P. Newman, L. Niamir, L. Nilsson, S. Nugroho, C. Okereke, S. Pachauri, A. Patt, R. Pichs-Madruga, J. Pereira, L. Rajamani, K. Riahi, J. Roy, Y. Saheb, R. Schaeffer, K. Seto, S. Some, L. Steg, F. Toth, D. Ürges-Vorsatz, D. van Vuuren, E. Verdolini, P. Vyas, Y. Wei, M. Williams, H. Winkler (eds.)]. Cambridge University Press. In Press. [https://report.ipcc.ch/ar6wg3/pdf/IPCC\\_AR6\\_WGIII\\_FinalDraft\\_FullReport.pdf](https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_FullReport.pdf)
- Ivanova, E., & Rimanoczy, I. (2021). *Revolutionizing sustainability education: Stories and tools of mindset transformation*. Routledge. <https://doi.org/10.4324/9781003229735>
- Ives, C. D., Freeth, R., & Fischer, J. (2020). Inside-out sustainability: The neglect of inner worlds. *Ambio*, 49(1), 208–217. <https://doi.org/10.1007/s13280-019-01187-w>
- Jaworski, J. (2011). *Synchronicity: The inner path of leadership*. Berrett-Koehler Publishers.
- Jensen, B. B., & Schnack, K. (2006). The action competence approach in environmental education. *Environmental Education Research*, 3(2), 163–178. <https://doi.org/10.1080/1350462970030205>
- Jerneck, A., Olsson, L., Ness, B., Anderberg, S., Baier, M., Clark, E., Hickler, T., Hornborg, A., Kronsell, A., Lövbrand, E., & Persson, J. (2011). Structuring sustainability science. *Sustainability Science*, 6(1), 69–82. <https://doi.org/10.1007/s11625-010-0117-x>

- Jones, S. M., Bodie, G. D., & Hughes, S. D. (2019). The impact of mindfulness on empathy, active listening, and perceived provisions of emotional support. *Communication Research*, 46(6), 838–865. <https://doi.org/10.1177/0093650215626983>
- Kamil, M. J. M., & Abidin, S. Z. (2013). Unconscious human behavior at visceral level of emotional design. *Procedia - Social and Behavioral Sciences*, 105, 149–161. <https://doi.org/10.1016/j.sbspro.2013.11.016>
- Kang, Y. ( 1 ), Dovidio, J. f. ( 1 ), & Gray, J. r. ( 2 ). (2014). The nondiscriminating heart: Lovingkindness meditation training decreases implicit intergroup bias. *Journal of Experimental Psychology: General*, 143(3), 1306–1313. <https://doi.org/10.1037/a0034150>
- Kapoor, R. (2007). Transforming self and society: Plural paths to human emancipation. *Futures*, 39(5), 475–486. <https://doi.org/10.1016/j.futures.2006.10.001>
- Kates, R. W., Clark, W. C., Corell, R., Hall, J. M., Jaeger, C. C., Lowe, I., McCarthy, J. J., Schellhuber, H. J., Bolin, B., Dickson, N. M., Faucheux, S., Gallopin, G. C., Grübler, A., Huntley, B., Jäger, J., Jodha, N. S., Kasperson, R. E., Mabogunje, A., Matson, P., ... Svedin, U. (2001). Sustainability Science. *Science*, 292(5517), 641–642. <https://doi.org/10.1126/science.1059386>
- Kegan, R., & Lahey, L. (2009). *Immunity to Change: How to overcome it and unlock potential in yourself and your organization*. Harvard Business Press.
- Kjellström, S., & Andersson, A.-C. (2017). Applying adult development theories to improvement science. *International Journal of Health Care Quality Assurance*, 30(7), 617–627. <https://doi.org/10.1108/IJHCOA-09-2016-0124>
- Köhler, J., Geels, F. W., Kern, F., Markard, J., Onsongo, E., Wieczorek, A., Alkemade, F., Avelino, F., Bergek, A., Boons, F., Fünfschilling, L., Hess, D., Holtz, G., Hyysalo, S., Jenkins, K., Kivimaa, P., Martiskainen, M., McMeekin, A., Mühlemeier, M. S., ... Wells, P. (2019). An agenda for sustainability transitions research: State of the art and future directions. *Environmental Innovation and Societal Transitions*, 31, 1–32. <https://doi.org/10.1016/j.eist.2019.01.004>
- Kok, B. E., & Singer, T. (2017). Effects of contemplative dyads on engagement and perceived social connectedness over 9 months of mental training: A randomized clinical trial. *JAMA Psychiatry*, 74(2), 126–134. <https://doi.org/10.1001/jamapsychiatry.2016.3360>
- Laccarino, M. (2003). Science and culture. *EMBO Reports*, 4(3), 220–223. <https://doi.org/10.1038/sj.embor.embor781>
- Lang, D. J., Wiek, A., Bergmann, M., Stauffacher, M., Martens, P., Moll, P., Swilling, M., & Thomas, C. J. (2012). Transdisciplinary research in sustainability science: Practice, principles, and challenges. *Sustainability Science*, 7(1), 25–43. <https://doi.org/10.1007/s11625-011-0149-x>
- Legrand, T., Jervoise, A., Wamsler, C., Dufour, C., Bristow, J., Bockler, J., Cooper, K., Corção, T., Negowetti, N., Oliver, T., Schwartz, A., Steidle, G., Taggart, S., Søvold, L., & Wright, J. (2022). *Cultivating inner capacities for regenerative food systems: Rationale for action*. United Nations Development Programme (UNDP).
- Leiberg, S., Klimecki, O., & Singer, T. (2011). Short-Term Compassion Training Increases Prosocial Behavior in a Newly Developed Prosocial Game. *PLOS ONE*, 6(3), e17798. <https://doi.org/10.1371/journal.pone.0017798>
- Leichenko, R., & O'Brien, K. (2020). *Climate and society: Transforming the future*. John Wiley & Sons.
- Levin, S., Xepapadeas, T., Crépin, A.-S., Norberg, J., Zeeuw, A. de, Folke, C., Hughes, T., Arrow, K., Barrett, S., Daily, G., Ehrlich, P., Kautsky, N., Mäler, K.-G., Polasky, S., Troell, M., Vincent, J. R., & Walker, B. (2013). Social-ecological systems as complex adaptive systems: Modeling and policy implications. *Environment and Development Economics*, 18(2), 111–132. <https://doi.org/10.1017/S1355770X12000460>

- Luberto, C. M., Shinday, N., Song, R., Philpotts, L. L., Park, E. R., Fricchione, G. L., & Yeh, G. Y. (2018). A Systematic Review and Meta-analysis of the Effects of Meditation on Empathy, Compassion, and Prosocial Behaviors. *Mindfulness*, 9(3), 708–724. <https://doi.org/10.1007/s12671-017-0841-8>
- Lutz, A., Slagter, H. A., Dunne, J. D., & Davidson, R. J. (2008). Attention regulation and monitoring in meditation. *Trends in Cognitive Sciences*, 12(4), 163–169. <https://doi.org/10.1016/j.tics.2008.01.005>
- Lynam, A. (2019). How worldview development influences knowledge and beliefs about sustainability. In W. Leal Filho (Ed.), *Encyclopedia of sustainability in higher education* (pp. 899–909). Springer International Publishing. [https://doi.org/10.1007/978-3-030-11352-0\\_22](https://doi.org/10.1007/978-3-030-11352-0_22)
- Macy, J., & Brown, M. (2014). *Coming back to life: The updated guide to the work that reconnects*. New Society Publishers.
- Magnuson, J. (2008). Pathways to a mindful economy. *Society and Economy*, 29(2), 253–284. <https://doi.org/10.1556/socec.29.2007.2.8>
- Mar, K., Fraude, C., Bruhn, T., Schöpke, N., Stasiak, D., Schröder, H., Wamsler, C., & Lawrence, M. (2021). *Fostering reflection, dialogue and collaboration among actors at the UN climate change conferences* [IASS Policy Brief]. [https://www.iass-potsdam.de/sites/default/files/2021-10/Online\\_policy\\_brief\\_5\\_EN\\_211004.pdf](https://www.iass-potsdam.de/sites/default/files/2021-10/Online_policy_brief_5_EN_211004.pdf)
- Martin, L., White, M. P., Hunt, A., Richardson, M., Pahl, S., & Burt, J. (2020). Nature contact, nature connectedness and associations with health, wellbeing and pro-environmental behaviours. *Journal of Environmental Psychology*, 68, 101389. <https://doi.org/10.1016/j.jenvp.2020.101389>
- Meadows, D. (1999). *Leverage points: Places to intervene in a system*. The Sustainability Institute.
- Meadows, D. (2009). *Thinking in systems: A primer* (D. Wright, Ed.). Earthscan.
- Meadows, D., Meadows, D., Randers, J., & Behrens III, W. (1972). *The limits to growth: A report for the Club of Rome's project on the predicament of mankind*. Potomac Associates – Universe Books.
- Morin, E. (1992). From the concept of system to the paradigm of complexity. *Journal of Social and Evolutionary Systems*, 15(4), 371–385. [https://doi.org/10.1016/1061-7361\(92\)90024-8](https://doi.org/10.1016/1061-7361(92)90024-8)
- Moyer, J. M., & Sinclair, A. J. (2020). Learning for Sustainability: Considering Pathways to Transformation. *Adult Education Quarterly*, 70(4), 340–359. <https://doi.org/10.1177/0741713620912219>
- Mundaca, L., Sonnenschein, J., Steg, L., Höhne, N., & Ürge-Vorsatz, D. (2019). The global expansion of climate mitigation policy interventions, the Talanoa Dialogue and the role of behavioural insights. *Environmental Research Communications*, 1(6), 061001. <https://doi.org/10.1088/2515-7620/ab26d6>
- Neff, K. D., & Pommier, E. (2013). The relationship between self-compassion and other-focused concern among college undergraduates, community adults, and practicing meditators. *Self and Identity*, 12(2), 160–176. <https://doi.org/10.1080/15298868.2011.649546>
- NHS England. (2022). *Green social prescribing*. <https://www.england.nhs.uk/personalisedcare/social-prescribing/green-social-prescribing/>
- O'Brien, K. (2013). Responding to climate change: The three spheres of transformation. *Proceedings of Transformation in a Changing Climate*, 16(23).
- O'Brien, K. (2018). Is the 1.5°C target possible? Exploring the three spheres of transformation. *Current Opinion in Environmental Sustainability*, 31, 153–160. <https://doi.org/10.1016/j.cosust.2018.04.010>
- Oliver, T. (2021). *The self delusion: The surprising science of our connection to each other and the natural world*. Weidenfeld & Nicolson.



- Oliver, T. H., Boyd, E., Balcombe, K., Benton, T. G., Bullock, J. M., Donovan, D., Feola, G., Heard, M., Mace, G. M., Mortimer, S. R., Nunes, R. J., Pywell, R. F., & Zaum, D. (2018). Overcoming undesirable resilience in the global food system. *Global Sustainability*, 1. <https://doi.org/10.1017/sus.2018.9>
- Park, H. J., & Dhandra, T. K. (2017). Relation between dispositional mindfulness and impulsive buying tendency: Role of trait emotional intelligence. *Personality and Individual Differences*, 105, 208–212. <https://doi.org/10.1016/j.paid.2016.09.061>
- Parodi, O., & Tamm, K. (Eds.). (2018). *Personal Sustainability: Exploring the Far Side of Sustainable Development*. Routledge. <https://doi.org/10.4324/9781315159997>
- Power, C. (2016). The integrity of process: Is inner transition sufficient? *Journal of Social and Political Psychology*, 4(1), 347–363. <https://doi.org/10.5964/jsp.p.v4i1.538>
- Prince, H. E. (2017). Outdoor experiences and sustainability. *Journal of Adventure Education and Outdoor Learning*, 17(2), 161–171. <https://doi.org/10.1080/14729679.2016.1244645>
- Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology*, 51(3), 390–395. <https://doi.org/10.1037/0022-006X.51.3.390>
- Purvis, B., Mao, Y., & Robinson, D. (2019). Three pillars of sustainability: In search of conceptual origins. *Sustainability Science*, 14(3), 681–695. <https://doi.org/10.1007/s11625-018-0627-5>
- Ramstetter, L., Rupprecht, S., Mundaca, L., Klackl, J., Osika, W., Stenfors, C., & Wamsler, C. (2022). Fostering (collective) climate action and leadership: Insights from a pilot experiment with a 10-week behavioral intervention involving mindfulness and compassion. *Forthcoming*.
- Reiljan, A. (2020). 'Fear and loathing across party lines' (also) in Europe: Affective polarisation in European party systems. *European Journal of Political Research*, 59(2), 376–396. <https://doi.org/10.1111/14756765.12351>
- Richardson, M., Passmore, H.-A., Barbett, L., Lumber, R., Thomas, R., & Hunt, A. (2020). The green care code: How nature connectedness and simple activities help explain pro-nature conservation behaviours. *People and Nature*, 2(3), 821–839. <https://doi.org/10.1002/pan3.10117>
- Rimanoczy, I., & Llamazares, A. M. (2021). Twelve Principles to Guide a Long-Overdue Paradigm Shift. *Journal of Management, Spirituality & Religion*, 18(6), 54-76.
- Rimanoczy, I., & Klingenberg, B. (2021). THE SUSTAINABILITY MINDSET INDICATOR: A Personal Development Tool. *Journal of Management for Global Sustainability*, 9(1).
- Rosa, C. D., Profice, C. C., & Collado, S. (2018). Nature experiences and adults' self-reported pro-environmental behaviors: The role of connectedness to nature and childhood nature experiences. *Frontiers in Psychology*, 9. <https://www.frontiersin.org/article/10.3389/fpsyg.2018.01055>
- Rosenberg, M. B. (1999). *Nonviolent Communication: A language of compassion*. Puddledancer Press.
- Ross, S. (2006). *The integral process for working on complex issues*. OH: Arina.
- Ruedy, N. E., & Schweitzer, M. E. (2010). In the Moment: The Effect of Mindfulness on Ethical Decision Making. *Journal of Business Ethics*, 95(1), 73–87. <https://doi.org/10.1007/s10551-011-0796-y>
- Runhaar, H., Wilk, B., Persson, Å., Uittenbroek, C., & Wamsler, C. (2018). Mainstreaming climate adaptation: Taking stock about "what works" from empirical research worldwide. *Regional Environmental Change*, 18(4), 1201–1210. <https://doi.org/10.1007/s10113-017-1259-5>
- Ryan, R. C., & Bateson, N. (2021, August 30). *Is stage theory colonial? Nora Bateson in dialogue with Robert Conan Ryan*. <https://www.youtube.com/watch?v=8ZNPE4spRok>

- Sajjad, A., & Shahbaz, W. (2020). Mindfulness and social sustainability: An integrative review. *Social Indicators Research*, 150(1), 73–94. <https://doi.org/10.1007/s11205-020-02297-9>
- Scharmer, O., & Senge, P. (2016). *Theory U: Leading from the future as it emerges*. Berrett-Koehler Publishers, Inc.
- Schlitz, M., Vieten, C., & Amorok, T. (2007). *Living deeply: The art and science of transformation in everyday life*. New Harbinger Publications.
- Sharma, M. (2007). World wisdom in action: Personal to planetary transformation. *Kosmos*, 31–35.
- Sharma, M. (2017). *Radical transformational leadership: Strategic action for change agents*. North Atlantic Books.
- Singer, T., & Engert, V. (2019). It matters what you practice: Differential training effects on subjective experience, behavior, brain and body in the ReSource Project. *Current Opinion in Psychology*, 28, 151–158. <https://doi.org/10.1016/j.copsyc.2018.12.005>
- Sol, J., & Wals, A. E. J. (2015). Strengthening ecological mindfulness through hybrid learning in vital coalitions. *Cultural Studies of Science Education*, 10(1), 203–214. <https://doi.org/10.1007/s11422-014-9586-z>
- Stell, A. J., & Farsides, T. (2016). Brief loving-kindness meditation reduces racial bias, mediated by positive other-regarding emotions. *Motivation and Emotion*, 40(1), 140–147. <https://doi.org/10.1007/s11031-015-9514-x>
- Strozzi-Heckler, R. (2014). *The art of somatic coaching: Embodying skillful action, wisdom, and compassion*. North Atlantic Books.
- Suler, J. R. (1990). Wandering in search of a sign: A contemporary version of the vision quest. *Journal of Humanistic Psychology*, 30(2), 73–88. <https://doi.org/10.1177/0022167890302010>
- Thiermann, U. B., & Sheate, W. R. (2020). Motivating individuals for social transition: The 2-pathway model and experiential strategies for pro-environmental behaviour. *Ecological Economics*, 174, 106668. <https://doi.org/10.1016/j.ecolecon.2020.106668>
- Thiermann, U. B., & Sheate, W. R. (2021). The way forward in mindfulness and sustainability: A critical review and research agenda. *Journal of Cognitive Enhancement*, 5(1), 118–139. <https://doi.org/10.1007/s41465-020-00180-6>
- Transformation Hosts International. (2022). *Toolbox*. <https://hostingtransformation.eu/toolbox/>
- Udall, A. M., de Groot, J. I. M., De Jong, S. B., & Shankar, A. (2021). How I see me—A meta-analysis investigating the association between identities and pro-environmental behaviour. *Frontiers in Psychology*, 12. <https://www.frontiersin.org/article/10.3389/fpsyg.2021.582421>
- UNDP (United Nations Development Programme). (2020). *Human development report 2020: The next frontier: Human development and the Anthropocene*. United Nations Development Programme (UNDP). <https://hdr.undp.org/content/human-development-report-2020>
- UNFPA (United Nations Population Fund). (2021). *Step up! A pocket guide to social change for young leaders*. UNFPA (United Nations Population Fund). [https://www.unfpa.org/sites/default/files/pub-pdf/Step\\_Up\\_A\\_Pocket\\_Guide\\_to\\_Social\\_Change\\_for\\_Young\\_Leaders.pdf](https://www.unfpa.org/sites/default/files/pub-pdf/Step_Up_A_Pocket_Guide_to_Social_Change_for_Young_Leaders.pdf)
- Vásquez-Fernández, A. M., & Ahenakew pii tai poo taa, C. (2020). Resurgence of relationality: Reflections on decolonizing and indigenizing 'sustainable development.' *Current Opinion in Environmental Sustainability*, 43, 65–70. <https://doi.org/10.1016/j.cosust.2020.03.005>

- Visionautik Akademie. (2020). *A transformative edge – Knowledge, inspiration and experiences for educators of adults*. <https://visionautik.de/product/a-transformative-edge-knowledge-inspiration-and-experiences-for-educators-of-adults>
- Wals, A., & Corcoran, P. (Eds.). (2012). *Learning for sustainability in times of accelerating change*. Wageningen Academic Publishers.
- Walsh, Z., Böhme, J., Lavelle, B. D., & Wamsler, C. (2020). Transformative education: Towards a relational, justice-oriented approach to sustainability. *International Journal of Sustainability in Higher Education*, 21(7), 1587–1606. <https://doi.org/10.1108/IJSHE-05-2020-0176>
- Walsh, Z., Böhme, J., & Wamsler, C. (2021). Towards a relational paradigm in sustainability research, practice, and education. *Ambio*, 50(1), 74–84. <https://doi.org/10.1007/s13280-020-01322-y>
- Wamsler, C. (2015). Mainstreaming ecosystem-based adaptation: Transformation toward sustainability in urban governance and planning. *Ecology and Society*, 20(2). <https://www.jstor.org/stable/26270196>
- Wamsler, C. (2018). Mind the gap: The role of mindfulness in adapting to increasing risk and climate change. *Sustainability Science*, 13(4), 1121–1135. <https://doi.org/10.1007/s11625-017-0524-3>
- Wamsler, C. (2019). Contemplative sustainable futures: The role of individual inner dimensions and transformation in sustainability research and education. In W. Leal Filho & A. Consorte McCrea (Eds.), *Sustainability and the Humanities* (pp. 359–373). Springer International Publishing. [https://doi.org/10.1007/978-3-319-95336-6\\_20](https://doi.org/10.1007/978-3-319-95336-6_20)
- Wamsler, C. (2020). Education for sustainability: Fostering a more conscious society and transformation towards sustainability. *International Journal of Sustainability in Higher Education*, 21(1), 112–130. <https://doi.org/10.1108/IJSHE-04-2019-0152>
- Wamsler, C. (2021, June 10). *Inner transformation and sustainability. Presentation held for Mind&Life, the IDG Initiative, and Stanford University*.
- Wamsler, C., & Brink, E. (2018). Mindsets for sustainability: Exploring the link between mindfulness and sustainable climate adaptation. *Ecological Economics*, 151, 55–61. <https://doi.org/10.1016/j.ecolecon.2018.04.029>
- Wamsler, C., & Bristow, J. (2022). At the intersection of mind and climate change: integrating inner dimensions of climate change into policymaking and practice. *Climatic Change* 173(7). <https://doi.org/10.1007/s10584-022-03398-9>
- Wamsler, C., Brossmann, J., Hendersson, H., Kristjansdottir, R., McDonald, C., & Scarampi, P. (2018). Mindfulness in sustainability science, practice, and teaching. *Sustainability Science*, 13(1), 143–162. <https://doi.org/10.1007/s11625-017-0428-2>
- Wamsler, C., Hertog, I., & Di Paola, L. (2022). Education for sustainability: Sourcing inner qualities and capacities for transformation. In E. Ivanova & I. Rimanoczy (Eds.), *Revolutionizing sustainability education: Stories and tools of mindset transformation* (pp. 49–62). Routledge.
- Wamsler, C., & Osberg, G. (2022). Transformative climate policy mainstreaming: Engaging the political and the personal. *Global Sustainability* 5(E13). <https://doi.org/10.1017/sus.2022.11>
- Wamsler, C., Osberg, G., Osika, W., Hendersson, H., & Mundaca, L. (2021). Linking internal and external transformation for sustainability and climate action: Towards a new research and policy agenda. *Global Environmental Change*, 71, 102373. <https://doi.org/10.1016/j.gloenvcha.2021.102373>
- Wamsler, C., & Restoy, F. (2020). Emotional Intelligence and the Sustainable Development Goals: Supporting peaceful, just, and inclusive societies. In W. Leal Filho, A. M. Azul, L. Brandli, A. Lange Salvia, P. G. Özyayar, & T. Wall (Eds.), *Peace, justice and strong institutions* (pp. 1–11). Springer International Publishing. [https://doi.org/10.1007/978-3-319-71066-2\\_123-1](https://doi.org/10.1007/978-3-319-71066-2_123-1)

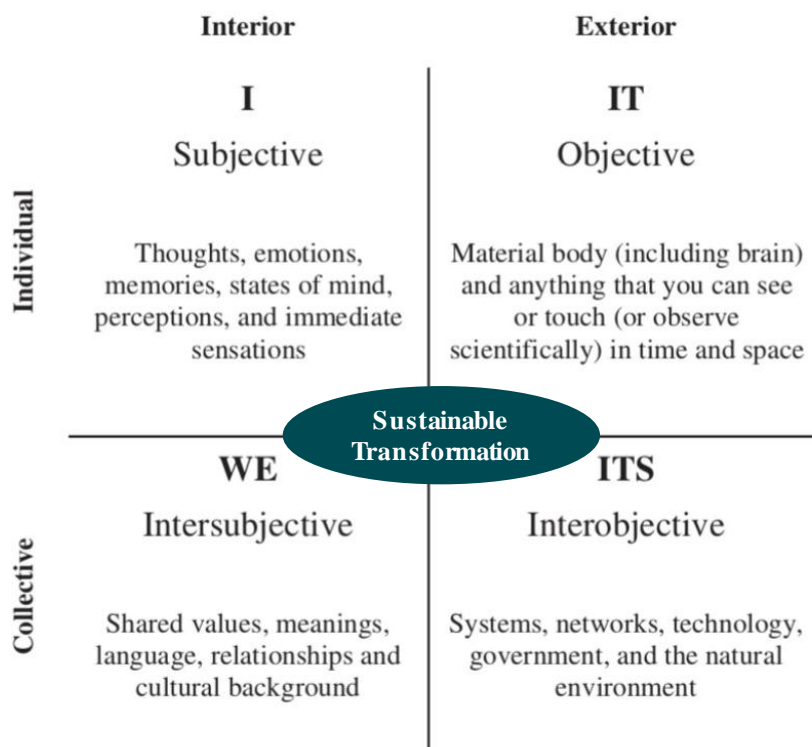
- Wamsler, C., Schöpke, N., Fraude, C., Stasiak, D., Bruhn, T., Lawrence, M., Schroeder, H., & Mundaca, L. (2020). Enabling new mindsets and transformative skills for negotiating and activating climate action: Lessons from UNFCCC conferences of the parties. *Environmental Science & Policy*, *112*, 227–235. <https://doi.org/10.1016/j.envsci.2020.06.005>
- Watkins, A., & Wilber, K. (2015). *Wicked and wise: How to solve the world's toughest problems*. Urbane Publishing.
- White Jr., L. (1967). The historical roots of our ecologic crisis. *Science*, *155*(3767), 1203–1207. <https://doi.org/10.1126/science.155.3767.1203>
- Whyte, W. H. (2013). *The Organization Man*. University of Pennsylvania Press.
- Wilber, K. (1999). *Collected works of Ken Wilber, vol. 4: Integral psychology, transformations of consciousness, selected essays*. Shambhala.
- Woiwode, C., Schöpke, N., Bina, O., Veciana, S., Kunze, I., Parodi, O., Schweizer-Ries, P., & Wamsler, C. (2021). Inner transformation to sustainability as a deep leverage point: Fostering new avenues for change through dialogue and reflection. *Sustainability Science*, *16*(3), 841–858. <https://doi.org/10.1007/s11625-020-00882-y>

## Annex

Additional information and illustrations of the mentioned frameworks for understanding, addressing and integrating inner and outer dimensions of sustainability (see Section B).

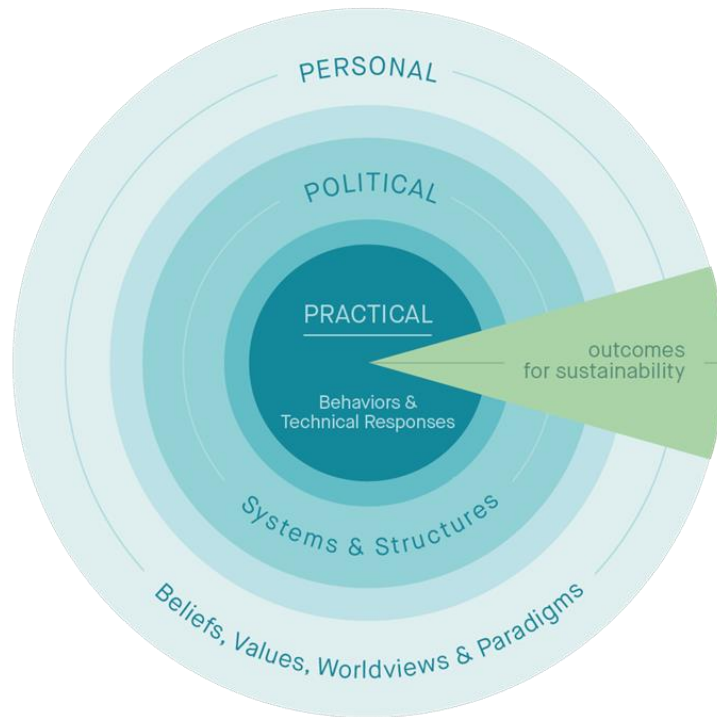


**Figure A1:** *The Iceberg Mode.* Source: Adapted from Meadows (1999), presented in Wamsler (2021).

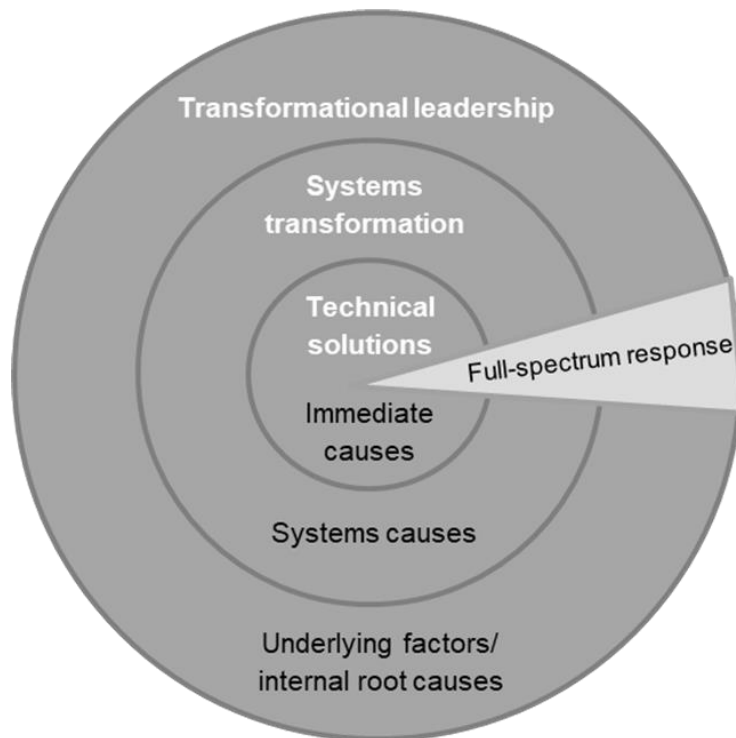


**Figure A2:** *Integral Theory.* Source: Adapted from Wilber (1999).

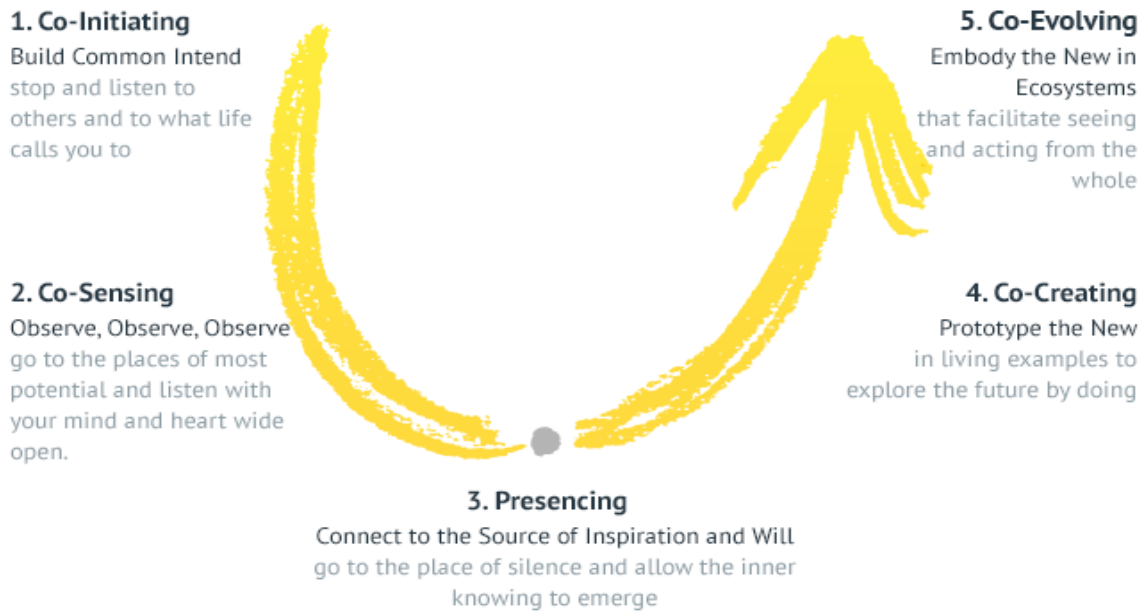




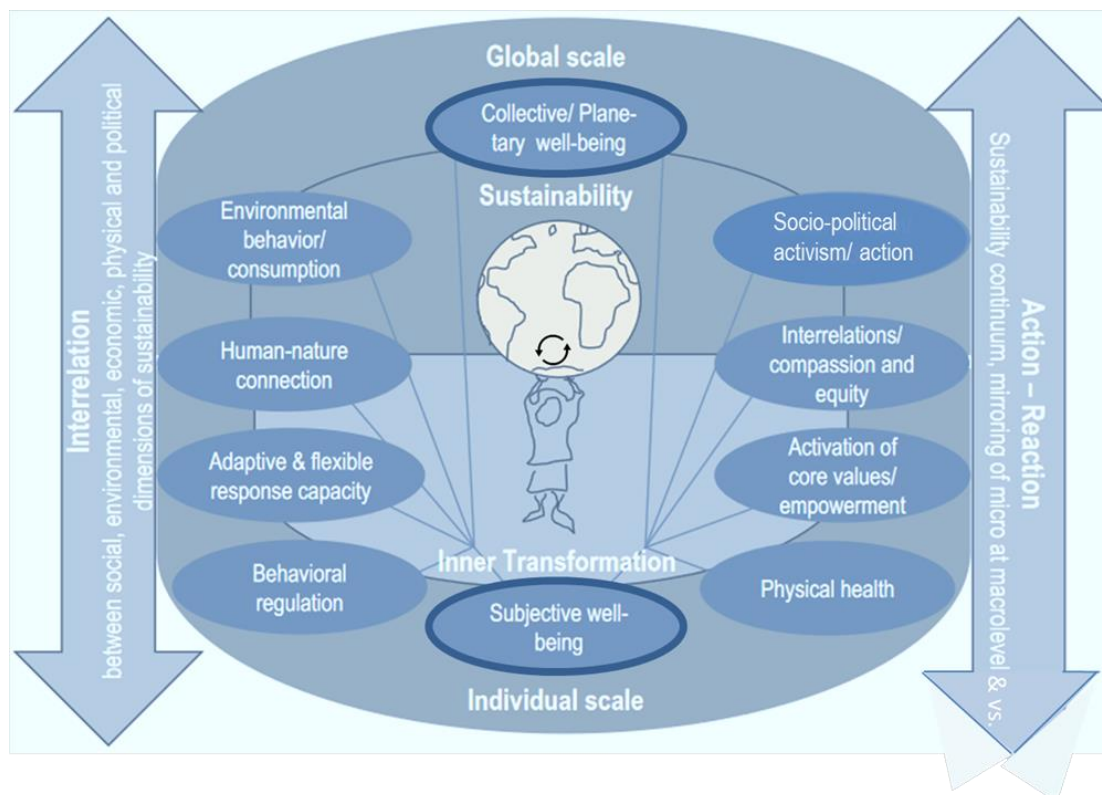
**Figure A3:** *The Three Spheres of Transformation.* Source: O'Brien, 2013.



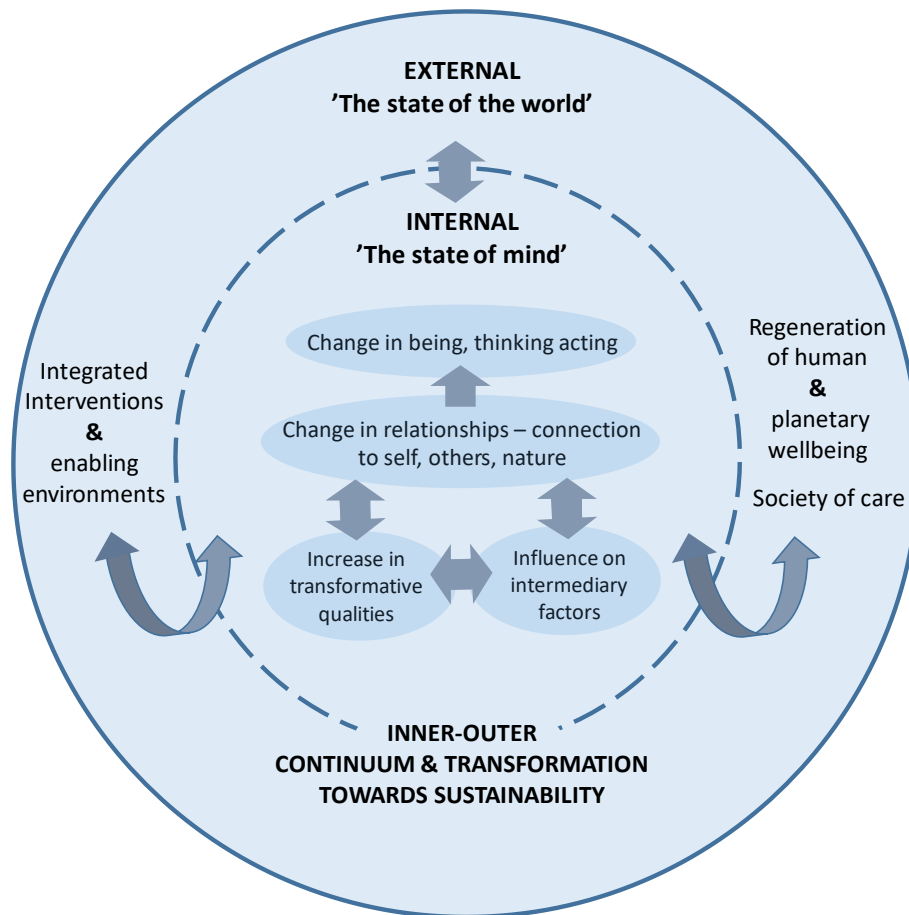
**Figure A4:** *The Conscious Full Spectrum Response Framework.* Source: Adapted from Sharma (2007) and Sharma (2017). See also Wamsler and Osberg (2022).



**Figure A5:** Theory U. Source: [www.presencing.org/aboutus/theory-u](http://www.presencing.org/aboutus/theory-u).



**Figure A6:** Framework for Contemplative Scientific Inquiry, Practice and Education in Sustainability. Source: Wamsler 2019, adapted and presented in Wamsler (2021).



**Figure A7:** Inner-Outer Transformation Model simplified. Meta-model of Inner-Outer Transformation toward Sustainability presented in Wamsler et al. (2021), Suppl. Material E. For an overview of related transformative qualities/capacities, please see Box A1 below. Note: The model provides a roadmap for systematic research, policy and practice that integrates inner and outer transformation. The classification into internal and external (inner/ outer), which marks the boundary between what is 'inside' (a subject) and what is 'outside' (a subject), is artificial and applied for simplicity. Internal dimensions, such as values, beliefs, worldviews and paradigms are for instance inter-subjective (e.g. socially defined) and qualities/ capacities are enacted (e.g. cultivated and expressed in relationship to other subjects and the world at large). The continuum of sustainability outcomes relates to all levels of change (consciousness, culture, behaviour, systems) and the associated spheres of transformation (personal, practical, political) (cf. Wilber 2005; O'Brien and Sygna 2013).

## Box A1: Clusters of Transformative Qualities/Capacities

- **Awareness:** The ability to meet situations, people, others and one's own thoughts and feelings with openness, presence and acceptance. This cluster encompasses qualities/capacities such as presence, attention, self-awareness and self-reflection, psychological/ cognitive flexibility and resilience. These are, in turn, related to qualities such as equanimity, discernment, authenticity, the capacity to listen and communicate, and openness to change.
- **Connection:** The ability and desire to see and meet oneself, others and the world with care, humility and integrity, from a place of empathy and compassion. This cluster includes qualities/capacities such as compassion (to both humans and the environment), empathy, kindness, gratitude and generosity.
- **Insight:** The ability to see, understand and bring in more perspectives for a broader, relational understanding of oneself, others and the whole. This cluster extends to qualities/capacities such as perspective-taking, relational awareness, integral, equitable thinking and the integration of different ways of knowing. There are close links to the qualities of humility, optimism, and hope.
- **Purpose:** The ability to navigate oneself through the world, based on insights into what is important (intrinsic, universal values). This cluster encompasses qualities/capacities such as the activation and reflectivity of one's values, sense of purpose, intentions and responsibility, future orientation, intrinsic value orientation and associated senses of reciprocity, equity, fairness and solidarity.
- **Agency:** The ability to see and understand broader and deeper patterns and our own role in the world in this regard, and to have the intention, optimism and courage to act on it. This cluster refers to a sense of empowerment and related qualities/capacities that can foster and enhance cooperation, the co-creation of meaning and action. There are close links to qualities such as courage, creativity, passion, perseverance, optimism, and hope.

Source: Adapted from Wamsler et al. 2021. See Suppl. Material F of Wamsler et al. 2021 for the full list of potential transformative qualities/capacities and related intermediary factors.

Note: The term transformative qualities/capacities refers to cognitive, emotional and relational qualities/capacities that have the potential to support sustainable development and transformation. They influence how people relate to themselves, others, the environment and future generations. They find expression in individual and collective values, beliefs, worldviews and paradigms that support more relational being, thinking and acting that links individual and planetary well-being, flourishing and regeneration. See also Figure 3 and Figure A7 above.

## Endnotes

---

<sup>i</sup> These inner dimensions have a direct bearing on our collective social norms and cultural narratives.

<sup>ii</sup> They are therefore here also called 'consciousness approaches' and 'consciousness practices'.

<sup>iii</sup> In other words, inner development work involves practices that can nourish inner transformation. In this context, inner transformation is understood as positive inner development or inner changes that can support deepening or expanding one's consciousness or awareness, leading to increasing circles of identity, care and responsibility (Wamsler et al. 2021). It thus allows the unleashing of human inner potential for a better, more sustainable life.

<sup>iv</sup> Please note that this is a dominant but not a universal human story as there are certainly also communities, particularly indigenous groups, where this is not reality. The described Modern worldview is linking to the dominant, reductionist, westernized, scientifically-validated lens through which most sustainability progress is examined through.

<sup>v</sup> **Psychology and mental health:** In the fields of psychology, mental health and related applied sciences (including leadership, personal and adult development), complex and context-sensitive frameworks have been developed for understanding individuals, their (cognitive) drivers and the motivations that can influence sustainability. However, interventions and analyses within this field have a main focus on the personal level and give less consideration to wider societal or systemic issues. Exceptions come dominantly from the field of environmental psychology (APA, 2010; Clayton, 2019). / **Behavioral economics:** In the field of behavioral economics, most scientific and policy attention focuses on individuals (or consumers) and the cognitive, motivational and contextual factors that affect their decisions and choices. Within this context, approaches are limited with respect to: i) the consideration of underlying psychological mechanisms; ii) the emphasis on quantitative assessments (mostly via experiments); and iii) their instrumental approach (of 'nudging') (Camerer, 1999; Farrow et al., 2017; Mundaca et al., 2019). / **Sustainability Science and education:** Studies from the field of sustainability science and education tend to emphasize the importance of systems change and the lack of individual agency, due to structural constraints. The focus is on systems analyses of wider socio-economic structures, governance dynamics, and technology, and is often based on interdisciplinary approaches. The role of individuals is, in this context, often perceived to be of less importance (Hensley, 2018). For further details see Wamsler et al. (2021).

<sup>vi</sup> The mentioned theories also challenge current dominant paradigms (a specific set of epistemology, ontology, axiology and methodology). Sustainable development models are rooted within western paradigms such as the neoliberal capitalism approach, which structures relationships with Indigenous Peoples and land based on disrespectful relationships (Vásquez-Fernández & Ahenakew pii tai poo taa, 2020). Indigenous knowledge is one example of more holistic ontologies and epistemologies that have been increasingly considered in response to the shortcomings of dominant (positivist) models of theory of science (e.g. Berkes, 2017; Laccarino, 2003; Levin et al., 2013; Morin, 1992; Whyte, 2013).

<sup>vii</sup> Whilst its focus is not per se related to sustainability, some scholars thus define adult development similar to inner transformation (see Section A), as being 'the unfolding of human potential towards deeper understanding, wisdom and effectiveness in the world' (Cook-Greuter, 2004, p. 277).

<sup>viii</sup> Whilst it has to be noted that some scholars have raised concerns regarding the colonial nature of stage development theories (Ryan & Bateson, 2021), adult development theory refers here not to a hierarchical perspective, but as a way to address and integrate different perspectives and worldviews in sustainability work.

<sup>ix</sup> Since the Inner-Outer Transformation Model builds on and integrates current disciplinary knowledge, it can provide professionals working in the field with a common, and scientifically-sound reference point.

<sup>x</sup> Please note that the terms institution(al) and organisation(al) are used interchangeably in this framework/report.

<sup>xi</sup> This relates to the fact that the applied practices, co-opted for this broader sustainability purpose, have so far mostly been developed and validated for individual purposes only.

<sup>xii</sup> Please note that the different terminology or wording of certain practices does not always indicate differences in approach. In some cases it is rather a reflection of the fields from which the practices have emerged from.

<sup>xiii</sup> Mindfulness is a natural capacity that enables people to intentionally become aware of and pay attention to present-moment experience, inside themselves and in their environment, with an attitude of openness, allowing, curiosity and care (Baer, 2015; Bristow et al., 2020).



- 
- <sup>xiv</sup> Compassion is a motivational system or capacity which combines a will to turn towards distress with a drive to help (Compassion Institute, 2022).
- <sup>xv</sup> Somatics describes broadly any practice that uses the mind-body connection to help survey one's internal self, often combined with bodywork, movement and touch. For more information on somatic transformation see Strozzi-Heckler (2014).
- <sup>xvi</sup> See for instance Blake (2005).
- <sup>xvii</sup> See for instance Jaworski (2011) and Suler (1990).
- <sup>xviii</sup> Contemplative dyads are like vocal meditation in pairs. One person speaks and the other listens quietly, while feeling empathetic or trying to put themselves in the mind of the speaker, depending on the type of dyad. Then they switch roles (Kok & Singer, 2017).
- <sup>xix</sup> There are five key areas, where arts-based practices can significantly contribute to sustainability: embracing more-than-cognitive aspects of knowledge, improving communication, grappling with power dynamics, shifting relationships to nature, and facilitating futures visioning (Heras et al. 2021).
- <sup>xx</sup> See also literature on individual and collective emotional intelligence (e.g. Huy, 1999).
- <sup>xxi</sup> See also Box 10 in the CoFSA Rationale report for more information of the climate leadership program.
- <sup>xxii</sup> See also Box 9 in the CoFSA Rationale report for related partner engagement at COP 26.
- <sup>xxiii</sup> They aim to improve emotional regulation to support the development of personal coping strategies, improve problem solving skills, and increase mental health and well-being. Whilst related practices are most often used to treat specific mental disorders and mental health challenges, there is increasing evidence that it can also work for more general personal development at both individual and group levels (David et al., 2014).
- <sup>xxiv</sup> Nonviolent Communication (NVC) is an approach to communication based on principles of nonviolence and the common good in mind (Rosenberg, 1999). NVC teaches people to express themselves with honesty and clarity, while simultaneously paying others a respectful and empathic attention, and as such can enable greater and deeper collaboration and conflict solving (ibid).
- <sup>xxv</sup> Leadership approaches and leadership programs/courses that explicitly link inner and outer dimensions of change can be found under terms, such as transformative leadership, awareness-based leadership, consciousness-based leadership, inclusive leadership, collaborative leadership, or system leadership, etc.
- <sup>xxvi</sup> Theory U includes methods for sensing, presencing and enacting. Theory U and other approaches listed under the fourth category are also important facilitation and communication tools. Due to their integrated approach linked to sustainability they are however listed separately.