

Case Studies ('initiatives') Illustrating Contraction and Convergence

EQUITY AND LIMITS
IN THEORY AND PRACTICE

BACKGROUND PAPER

TO COMPLEMENT CONVERGE DELIVERABLE 33

CONVERGE

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Introduction

The **CONVERGE project** is an interdisciplinary research project funded by the 7th Framework Programme of the European Union, including partners from industrialised nations such as Sweden, the UK and Iceland, transition economies such as Hungary and rapidly industrialising nations such as India. The project is still ongoing, and further development of some of the themes presented in this Background Paper will be revisited in the synthesis phase of the project – to be completed at the end of 2013.

CONVERGE project explores challenging ideas about how to address major current disparities in access to the benefits of natural resources by exploring a justice-based approach to allocating the benefits of goods and services and resources needed for technological development and maintenance. The project is designed to find ways of behaving and relating that reduce consumption of materials while at the same time providing sustainable livelihoods more equally across populations and nations.

We seek to explore convergent sustainability relationships across different scales from local, national, global-regional to global and have researched current examples of **Convergence** in communities as well as policies and indicators moving towards sustainability.

In this Background Paper we present a review of the literature and our thinking behind the work introduced in D33, the e-book (see Vadovics and Milton 2012) which presents the case studies (or initiatives) illustrating how progress is being made towards **Convergence** in different parts of the world, and the **Convergence Mapping** system which was developed to show how initiatives address **Convergence**, or, in other words, how far they have moved in terms of living within the limits of the planet and sharing its resources equitably.

Convergence (for Sustainability)

Convergence is a rights-based framework based on the principle that every global citizen has the right to a fair share of the Earth's biocapacity and access to fundamental human rights. It advocates socio-ecological justice, calling for wealth, well-being and consumption to converge across and within nations to a level that the biosphere can support. **Convergence** aims to enshrine intragenerational equity in the sustainability discourse. Pontin & Roderick (2007) state that **Convergence** is not about creating one homogeneous culture; it is about allowing diversity while advocating universal concepts of human rights. **Convergence** is not restricted to the global scale, it can occur at regional, national and local levels as well. Any framework for **Convergence** requires participation and equitable sharing of benefits and costs. (definition of **Convergence** from Fortnam et al. 2010)

chapter 1. Contraction and Convergence (C&C™)

'Convergence' has been a subject of study in economics literature since the mid-1980s in terms of trends in distribution of world per capita income and productivity (Abramovitz 1986, Baumol 1986, Sutcliffe 2005). However, the concept of Contraction and Convergence™ to which we refer in this document and from which the CONVERGE project originated comes from Aubrey Meyer and The Global Commons Institute (GCI). Contraction and Convergence™ (C&C™) is a global climate policy framework which has been proposed to the UN since 1990 by the Global Commons Institute as one way to manage and reduce anthropogenic carbon dioxide through a burden-sharing approach (Meyer 2000). C&C™ proposes combining recognition of planetary limits with an equity approach to distribution in the following format: (a) Establishing a full-term contraction budget (a 'cap') for global emissions consistent with stabilising atmospheric concentrations of greenhouse gases (GHGs) at a pre-agreed concentration maximum deemed to be safe by the UNFCCC¹, and: (b) The international sharing of this budget as a pre-distribution of entitlements that result from a negotiable rate of linear convergence to equal shares per person globally by an agreed date². The framework would be given flesh and blood through the setting of interim carbon reduction targets, drawing up of national de-carbonization strategies and a carbon trading scheme to allow a degree of flexibility to account for national differences in carbon intensity. That the C&C™ concept has gained substantial traction and recognition since the foundation of the Global Commons Institute in 1990 in the national and international policymaking and decision-making arena can be recognised in the following quotation from the executive secretary of the pre-eminent international climate change treaty, The United Nations Framework Convention on Climate Change: "Achieving the goal of the climate treaty [to stabilize Greenhouse gas emissions] inevitably requires Contraction & Convergence" (Waller Hunter, UNFCCC Executive Secretary, in GCI³, p. 1). C&C™ has been explicitly credited with influencing both the Kyoto Protocol¹ and its successor. The principle of C&C™ has been formally recognised in European Parliament resolutions (European Parliament 1998) and is supported by numerous policy makers, academics, NGOs and lay people.

One of the advantages of the C&C™ proposal is the recognition that any effective and sustainable response to slowing the rise in carbon dioxide levels in the atmosphere inevitably requires addressing the issue of equity – **who** should reduce carbon emissions and **by how much**? C&C™ effectively slices the Gordian knot of allocating responsibility for cutting carbon

¹ United Nations Framework Convention on Climate Change, <http://unfccc.int/2860.php>

² The C&C™ proposal therefore appears to be congruent with ideas about the ethical and instrumental need for recognition of a 'Global Commons'. A critical perspective of the Commons approach by Massimi De Angelis is presented at <http://turbulence.org.uk/turbulence-5/capitalist-commons/> (last accessed September 6th 2012).

³ http://www.gci.org.uk/Documents/RSA_C&C_G8_Quotes.pdf (last accessed June 6th 2012)

dioxide emissions by proposing a global per capita allocation solution (a so-called 'strong equity' approach) which also takes account of the issue of the 'historical responsibility' of industrialised nations through its proposal for a negotiated rate of convergence. Many scientists and policymakers have come to consider this approach to be not only the most equitable but also the most pragmatic approach to managing climate change when compared to other carbon reduction regimes: according to Böhringer and Welsch (2004; see also Berk and den Elzen 2001) who examined the implications on economic welfare of various approaches to emissions reduction "a Converge approach to emissions trading stands out for offering the developing countries substantial incentives for participation in the international greenhouse gas abatement effort without imposing excessive burdens on industrialised countries" (p. 21.), and is therefore the most acceptable arrangement.

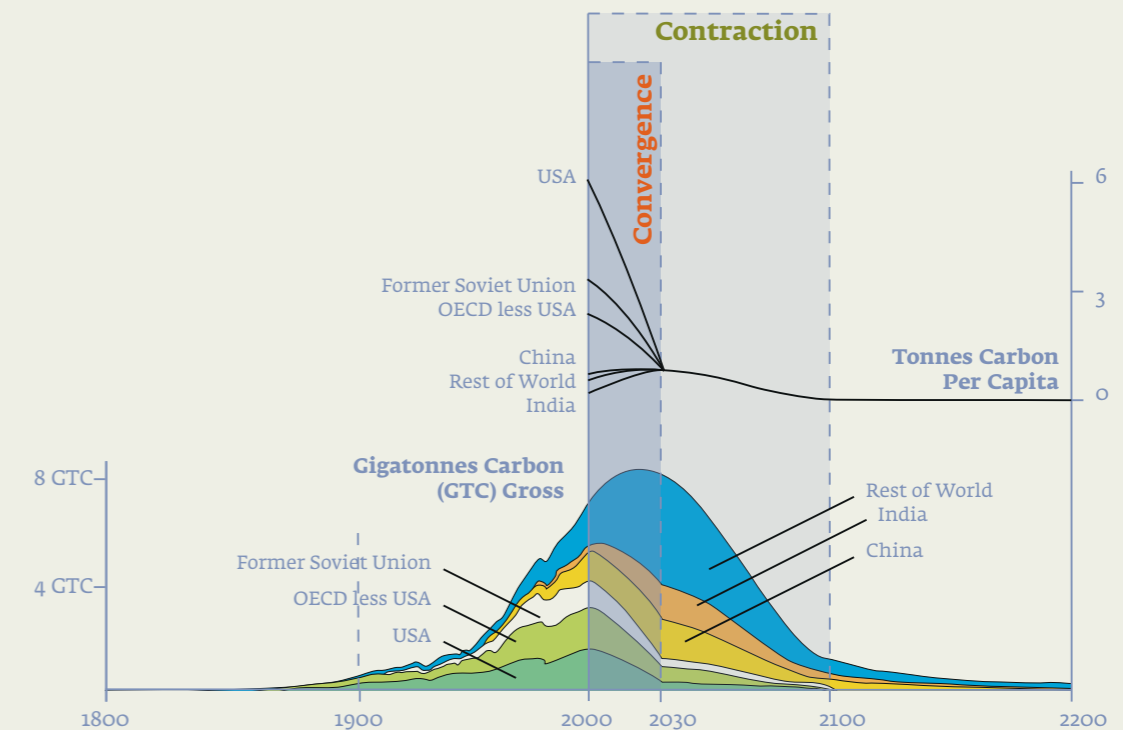


Figure 1: Contraction and Convergence by 2030¹

Despite this positive review, criticisms and contrasting views of the viability of the C&C™ approach are easy to find, and generally concern procedural issues (i.e. concerns with implementation) although substantive criticism also exist². Allocation of carbon emission entitlements/the nature of burden-sharing or differentiation of future commitments tends to be highly controversial. The results of adopting a strong equity (per capita) approach to emission rights with a short time frame for emission contractions could induce deep structural changes to the global economy, which in some arenas has caused doubts about how realistic it is for a C&C™ approach to be accepted in the timeframe needed to prevent substantial climate-change induced damage (Aldy 2005).

¹ Source: <http://www.gci.org.uk/contconv/cc.html> (last accessed June 6th 2012)

² Further discussion of the C&C™ approach can be found in Deliverable 11 of the CONVERGE project (see Fortnam et al. 2010).

The diversity of negotiating positions over the emission rights of nation states was formally documented in article 3.1 of the UNFCCC, which states that developed and developing countries have “*common but differentiated responsibilities*” and is reflected in the much lamented failure to agree on internationally binding carbon contraction goals at the Copenhagen Summit in 2009¹. The C&C™ approach thus runs counter to current policymaking efforts which have tended to focus on an ‘increasing participation/graduation’ approach to meeting carbon targets by simply extending the current carbon regimes to encompass more countries based on ad hoc criteria or pre-defined rules. A fuller comparison of the Contraction and Convergence™ approach contrasted with greenhouse gas development rights is provided by Kraus (2009). A further criticism that has been levelled at C&C™ is that per capita based allocation rights might promote national pro-population growth policies. As a solution to this, Meyer (2000) suggests a cut off year after which population growth is no longer factored in to carbon allowances.

Despite the above criticisms, the potentially severe impacts of climate change (IPCC 2007) and the resounding lack of success of alternative approaches to decreasing carbon emissions continue to make the C&C™ approach attractive. Furthermore, the need to recognise ecosystem limits and ensure more equal access to resources and the benefits they provide (as well as to more equally share burdens) has become more pronounced². Equity driven approaches, such as the C&C™ proposition suggest a way to meet these needs.

To summarize, the CONVERGE project focus on equity and equality based approaches to managing resources derives partly from the carbon reduction framework called ‘Contraction and Convergence’ (C&C™), as described above. Our most important objective (as shown in Figure 2) is to link the scientifically-validated need to reduce (i.e. to contract) resource use with a justice-based approach to apportioning the responsibility for doing so (to converge).

This focus is further strengthened by the need identified in the literature³ – especially in the run up preparations for the Rio+20 UN Conference on Sustainable Development – to re-couple environmental goals with the goals of proponents of human development, or, in other words, to move towards a more equitable world in which humanity observes planetary limits. Although the need for this to happen was outlined in the report of the Brundtland Commission in 1987:

“Environment and development are not separate challenges; they are inexorably linked. Development cannot subsist upon a deteriorating environmental resource base; the environment cannot be protected when growth leaves out of account the costs of environmental destruction. These problems cannot be treated separately by fragmented institutions and policies. They are linked in a complex system of cause and effect.”⁴

1 http://unfccc.int/meetings/copenhagen_dec_2009/meeting/6295.php (last accessed June 6th 2012)
2 See, for example, Bührs 2008, Kitzes et al. 2008, Jackson 2009, 2011, AtKisson 2012, Melamed et al. 2012, UNDP 2012.
3 *ibid*
4 <http://www.un-documents.net/ocf-01.htm> (last accessed July 25th 2012)

the theory and practice of these two very important approaches have largely developed separately.

The CONVERGE project explores whether, and if so, in what form equity-based resource allocation regimes – or more broadly, human rights-based approaches to sustainability – exist in literature, policy and practice.

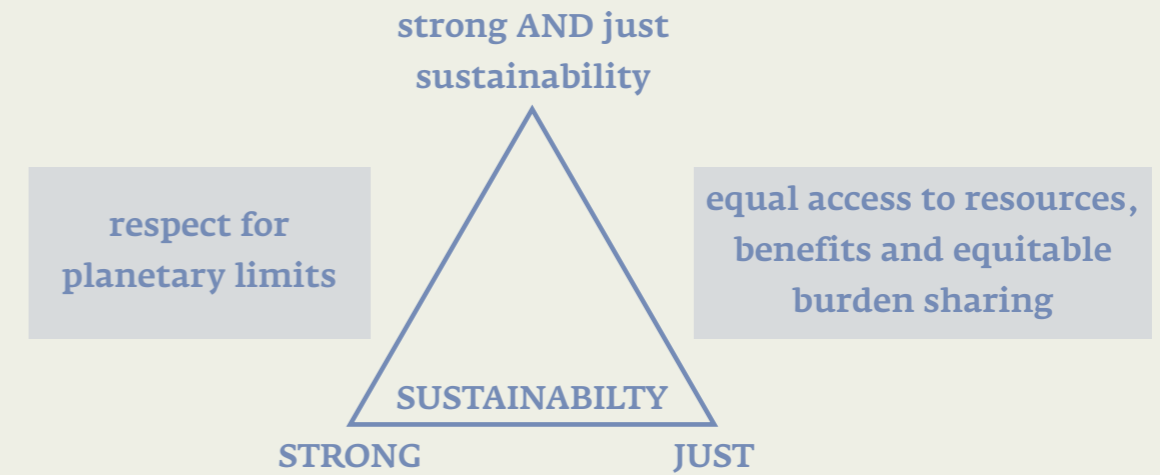


Figure 2: Framework and rationale for CONVERGE project research

chapter 2. Planetary Limits and the Need for Contraction

Beginning in the 1970s, scientists from various fields started calling attention to the importance of planetary limits. One of the first pieces of research to draw attention to the environmental and social impacts of growing levels of material consumption was the 'Limits to Growth' report of the Club of Rome (Meadows et al. 1972). It observed that rising levels of affluence could have significant impacts in terms of increasing resource scarcity and causing environmental degradation. Several other authors articulated the same opinion (see e.g. Vitousek et al. 1986, Charkiewicz 1998) and were either of the opinion that levels of consumption and production should be decreased or that consumption processes be made more efficient (Weizsäcker et al. 1998).

2.1. Efficiency, the rebound effect and ecological overshoot

As, according to mainstream thinking, rising levels of consumption (and thus production) contribute to a better quality of life as well as to a healthy economy, for a long time the focus of efforts to reduce resource use were largely placed on increasing the efficiency of both production and consumption. Although this is still a rather strong trend in both research and policy making (see, e.g. Sachs et al. 2010, or Knight and Rosa 2011, Victor 2012 for a review) an increasing body of research points out that focusing primarily on efficiency and 'green consumption' are not sufficient for a variety of reasons. First of all, as a result of more efficient production, consumers are liable to consume even more, or use specific products more often. This phenomenon is called the 'rebound effect'; examples of which are numerous. For instance, more efficient production processes allow companies to manufacture more products, the use of which requires more energy. More efficient cars allow people to drive more miles, and so on (Weizsäcker et al. 1998). Furthermore, the amount of money or resources saved due to efficiency gains in one consumption category, in the end, is often invested into another, thus any environmental gains are lost (Ropke 1999).

Secondly, there are researchers who argue that improvements in efficiency will prove sufficient and by increasing incomes and implementing appropriate market and policy measures the state of the environment will eventually improve (see e.g. Vincent and Panayotou 1997). Studies which support this view claim that, as societies become richer, the state of the environment improves - as suggested by the environmental Kuznets curve (Archibald et al. 2004). In contrast to this view, other researchers who have examined growth in incomes, the state of the environment and the validity of the predictions made by using the Kuznets curve conclude that environmental deterioration cannot be de-coupled from growth in consumption (Perrings and Ansuategi 2000, Knight and Rosa 2011). Instead, it can be said that more affluent countries can afford to create cleaner immediate environments but that, partly due to their trading relationships, they produce long-lasting negative

environmental impacts at the global level and less affluent regions (exporting countries) suffer from worsening local environmental impacts.

Finally, various indicators show that the way the human economy is now operating is causing 'ecological overshoot' - meaning that the human population uses more of Earth's biocapacity than is currently sustainable. Despite all the emphasis on and discussion about sustainable production and consumption, both the growing global ecological footprint and the declining living planet index suggest that real progress in these areas since 1972 has been negligible at best. Both indicators clearly indicate that humanity is consuming more resources than are sustainably available and that we are a species living in a state of ever-increasing ecological overshoot (Millennium Ecosystem Assessment 2005, EEA 2012, WWF et al. 2012). Multiple sources of evidence suggest¹ that if not corrected, this trajectory will eventually lead to a system-wide breakdown.

2.2. Planetary boundaries

Due to the concerns mentioned above, along with the current focus on the phenomenon of peak fossil fuels and the impacts of global climate change² which is now being experienced by people at large in their everyday lives (for example, through rising fuel prices as well as extreme weather events), interest and research into the concepts of ecological limits and planetary boundaries as well as the availability of specific non-renewable resources has intensified.

In a seminal paper, Rockström and his colleagues (2009a and 2009b) identified nine important planetary boundaries (biodiversity, climate change, nitrogen and phosphorus inputs to the biosphere and oceans, stratospheric ozone layer, ocean acidification, chemicals dispersion, freshwater consumption and the global hydrological cycle, land system change, and atmospheric aerosol loading)³. They argue that the first three boundaries listed above may have already been transgressed. The work of Rockström et al. (2009b) has inspired a great deal of further research and discussion about the nature and existence of planetary boundaries. Two of the most important conclusions arising from these are that, on the one hand, it is likely that more boundaries have already been crossed (e.g. freshwater consumption (Molina 2009) and phosphorus inputs (Sverdrup and Ragnarsdottir 2011a, Carpenter and Bennett 2011) and, on the other, that global boundaries, although very important, are not sufficiently well-defined and thus need to be broken down into sub-boundaries and/or supplemented by local boundaries to allow for more precise analysis (Molina 2009, Bass 2009). Also, it is important to bear in mind that waiting to act until limits are reached may further complicate and worsen the situation (Schlesinger 2009).

¹ See, for example: Helmer and Hilhorst 2006, Stiglitz et al. 2009, TEEB 2010, FAO 2012.

² See, for example: IPCC 2007, Hopkins 2008, Heinberg and Lerch 2010.

³ See also <http://www.stockholmresilience.org/research/researchnews/tippingtowardstheunknown/> for details (last accessed July 2012).

Earth-system process and parameter	Proposed boundary	Current value
Climate change Atmospheric carbon dioxide concentration (ppm by volume)	350	393.84 ¹
Biodiversity loss Extinction rate (number of species per million per year)	10	> 100
Biochemical Anthropogenic nitrogen removed from the atmosphere (millions of tonnes per year)	35	121
Phosphorus flowing into the oceans (millions of tonnes per year)	11	8.5 – 9.5 ²
Fresh water Global human consumption of water (km ³ /yr)	4000	2600 ³
Land use Land surface converted to cropland (percent)	15	11.7
Ozone layer Stratospheric ozone concentration (Dobson units)	276	283
Ocean acidification Global mean saturation state of aragonite in surface sea water	2.75	2.90
Atmospheric aerosol loading Overall particulate concentration in the atmosphere, on a regional basis	to be determined	
Chemical pollution Emission of persistent toxic compounds such as heavy metals, synthetic organic pollutants and radioactive materials	to be determined	

Table 1: Environmental boundaries – those with a darker green background are already above proposed boundary levels (based on Rockström et al. 2009a, Raworth 2012, and Leppänen et al. 2012)

Considerable research has been carried out in order to assess the long-term availability of non-renewable materials such as fossil fuels and metals as well⁴. The details are complex and to introduce them all would reach beyond the scope of this paper but the common conclusion is that, as with critical Earth system processes, humanity is reaching – or has already reached – many non-renewable material resource limits. In order for humanity to stay within planetary boundaries, increasing resource efficiency must be supplemented with alternative models and levels of production and consumption. In other words, a **contraction** in overall resource use is necessary.

Diverse types of Initiatives which address these concerns at various levels already exist

¹ Based on <http://co2now.org/> (data for 2012).

² Sverdrup and Ragnarsdottir 2011a and Carpenter and Bennett 2011 argue that the boundary for phosphorus has already been transgressed, thus the light green shading.

³ Molina 2009 argues that the boundary for fresh water consumption has already been transgressed, thus the light green shading.

⁴ For a summary of literature see Ragnarsdottir et al. 2012; metals: Ragnarsdottir 2008; fossil fuels: summary in Hopkins 2008, details, for example, in reports by the Energy Watch Group at: <http://www.energywatchgroup.org/Homepage.14+M5d637b1e38d.o.html>; peak everything: Sverdrup and Ragnarsdottir 2011b.

(e.g. the Planetary Boundaries Initiative¹, the Resource Cap Coalition², several countries use the ecological footprint to guide their strategic policy making³ and there are several more related initiatives introduced in Deliverable 33 of the CONVERGE project (Vadovics and Milton 2012)⁴. However, as of today (January 2013) there are no internationally-agreed on legislative or policy instruments which require countries to observe planetary boundaries and/or resource limits.

2.3. Well-being, happiness and life satisfaction

Even though humanity's ecological and carbon footprint has been growing continuously (see e.g. Vitousek et al. 1986, WWF et al. 2006, 2012), contrary to mainstream expectations this growth has not been coupled with growth in well-being (Jackson and Marks 1999, Constanza et al. 2004, NEF 2004, Venetoulis and Cobb 2004, Worldwatch Institute 2004, Marks et al. 2006, Abdallah et al. 2012). At the same time, one of the greatest and most widespread fears in relation to contracting footprints, resource use and living within planetary limits has been that it will lead to decreases in well-being (Norwegian Ministry of Environment 1995). This is one of the reasons why there has been so much focus placed on increasing efficiency (see Chapter 2.1. above) and not on the need to 'contract'. Thus, the imperative expressed already in Agenda 21 that: "consideration should also be given to the present concepts of economic growth and the need for new concepts of wealth and prosperity which allow higher standards of living through changed lifestyles and are less dependent on the Earth's finite resources and more in harmony with the Earth's carrying capacity."⁵ has largely been ignored. As a result of the ecological modernization of production, the efficiency of resource use has improved and its environmental impacts have decreased. However, as the consumption side has not been appropriately considered (apart from moves to increase efficiency and make it more environmentally-friendly) despite growing research evidence for this need, greener production methods have not led to a decrease in the overall environmental impact of humanity. (See e.g. Weizsäcker et al. 1998, Hofstetter and Madjar 2003, EEA 2006, Mont and Plepys 2008).

Thus despite all the available research evidence that suggests that the approach used so far:

- has not led to a decrease in environmental impact;
- has not increased general well-being, despite increasing economic growth (at least, not linearly),
- has not led to the meeting of important development-related targets (e.g. reducing the proportion of the population that are undernourished or are without access to clean drinking water and/or to essential medicine and/or access to electricity) (Raworth 2012),

reductions in consumption of resources are still associated with lower levels of well-being

¹ <http://planetaryboundariesinitiative.org/>

² <http://www.ceeweb.org/rcc/>

³ See details in WWF et al. 2012

⁴ See, for example, the Future Generations Ombudsman in Hungary, the Fownhope CRAG, Transition Town Totnes or The Converging World in the UK. Available from: <http://www.convergeproject.org> and from <http://intezet.greendependent.org>

⁵ Paragraph 4.11, but see also Fuchs and Lorek 2004, Sachs and Santarius 2007, and Jackson 2009 for more recent analysis.

by the majority of both decision-makers and citizens (see e.g. Victor 2008, Sacks et al. 2010). Thus, there is need for a re-conceptualization of what is meant by well-being and for alternative indicators to be introduced; something that is now recognized by the EU, the OECD and the UN as well¹. Research is now being carried out to rectify this situation.

The need to re-conceptualize well-being and critique material consumption are not new ideas; they have been expressed by various authors before. Their roots can be found in new economics (see e.g. Ekins and Max-Neef 1992, NEF 2004, Boyle and Simms 2009), humanistic economics (Lutz and Lux 1988) as well as in work related to the measurement of well-being (Frey and Stutzer 2002 and 2007, Marks et al. 2006). Today, however, the need for re-conceptualization is further emphasized by the fact that the ecological foundation for human well-being is increasingly threatened.

Connecting human and ecosystem well-being

There have been several types of effort to this end, examples of which include the following:

- (1) New indicators and cross-national analysis:
 - Happy Planet Index (HPI)²
 - Environmental Efficiency of Well-Being (EWEB)³
- (2) New indicator and initiative/organization/policy level analysis: Convergence Mapping System.⁴
- (3) Country level indicator systems: the Kingdom of Bhutan is a pioneer in introducing a gross national happiness indicator instead of relying on GDP as a measure of the country's progress.^{5, 6}
- (4) Beyond GDP Initiative: an initiative of the EU Commission and Parliament, the Club of Rome, the OECD and WWF to develop new indicators, share knowledge and draw up a roadmap for improving indicators of progress.⁷
- (5) Global Transition 2012: an international network of organizations and thinkers aiming to build up a global civil community to bring about "an alternative global green economy that maximises well-being, operates within environmental limits and is capable of coping and adapting to global environmental change".⁸

Furthermore, when studying the link between well-being and material consumption, various authors have arrived at the conclusion that much of modern society – particularly developed Western societies and the new consumer class in developing countries – is fundamentally on the wrong path in its efforts to create and increase well-being as it attempts to satisfy non-material needs through the consumption of material resources (Ekins and

¹ See <http://www.beyond-gdp.eu/> and <http://world-happiness.org/> for more details.

² See more at <http://www.happyplanetindex.org>

³ See Knight and Rosa 2011.

⁴ The Convergence Mapping System was developed and tested in the framework of the CONVERGE project. Its objective is to show how various types of initiatives manage to address the double imperative of living within the limits of the planet and sharing its resources equitably. See more details in CONVERGE Deliverable 33 (Vadovics and Milton. 2012).

⁵ See more at <http://www.grossnationalhappiness.com/> and <http://www.stwr.org/economic-sharing-alternatives/happiness-and-well-being-defining-a-new-economic-paradigm.html#furtherresource>

⁶ In relation to the Kingdom of Bhutan, which is not a democracy, it is interesting to note that Knight and Rosa (2011) tested various factors as to their influence on the environmental efficiency of well-being (EWEB). One of their findings was that while inequality was found to have a significant effect on EWEB, the type of regime authority was not.

⁷ See more at <http://www.beyond-gdp.eu/index.html>.

⁸ See more at <http://globaltransition2012.org/>

Max-Neef 1992, Easterlin 1995, Jackson and Marks 1999, Marks et al. 2006, Wilkinson and Pickett 2009, Abdallah et al. 2012).

A similar conclusion is reached even when well-being is not divided into material and non-material components but when the role of different types of capital in providing and increasing well-being is examined¹. Mulder and his colleagues (2006) compared intentional and unintentional communities in terms of the extent to which built, human, social and natural contributes to the well-being of their inhabitants. Their conclusion was that in intentional communities the four different types of capital contributed more evenly to people's well-being (and as a result they reported higher quality of life) when compared to others living in the unintentional community of Burlington, Vermont in the US. Furthermore, in the case of the intentional communities it was found that social capital substituted, to a certain degree, for built capital and thus people living in these types of communities have lower material and resource needs. Based on this research, as well as the conclusions of the Millennium Ecosystem Assessment report (2005), for the creation and increase in human well-being it is vital that built, human, social and natural capital (including ecosystem services) are all protected, maintained and improved.

This statement and findings are further supported by research from the field of psychology which has looked at the relationship between values and prosperity (Kasser 2008), as well as personal well-being (satisfaction of needs) and ecological sustainability (Kasser 2009). Based on empirical as well as theoretical evidence Kasser finds that living in an ecologically sustainable way can promote personal well-being². He concludes that:

"the same set of values that might act as a counterweight to the materialistic values so dominant in our profit driven, consumer society are the same set of values that are associated with high levels of personal well-being, the same set of values that conduce towards civil social behaviour, and the same set of values that promote ecological sustainability" (2008, p. 4).

Based on his and others' work, Kasser also cautions that living in an ecologically sustainable way should not be presented as a choice between human happiness and planetary welfare but these two can be presented as compatible aims through referring to intrinsic human values such as generosity, community contribution, family and personal growth (Brown and Kasser 2005, Sheldon et al. 2011).

In summary, it can be concluded that there is a growing body of research-based evidence that strongly suggests, on the one hand, that contracting resource use and living within planetary boundaries will not inevitably result in a decrease in the level of human well-being, and on the other, that preserving and restoring natural capital are required to sustain human (and planetary) well-being.

¹ Following the work of Mulder et al. (2006) that was later supported by Vemuri and Constanza (2006) as well as Sachs and Santarius (2007).

² Kasser mentions voluntary simplicity as a particularly relevant lifestyle choice for living happily as well as in an environmentally sustainable way (Brown and Kasser 2005, Kasser 2009). See our description and evaluation of the Voluntary Simplicity Movement in more detail in Deliverable 33 (Vadovics and Milton 2012).

Furthermore, it is important to note the **link and co-dependence between environmental sustainability and equality**. In their research Knight and Rosa (2011) tested the influence of various factors (e.g. inequality, type of regime authority, climate) on the environmental efficiency of well-being. In agreement with earlier studies, they concluded that *“policies designed to alleviate economic inequality may help to move countries toward sustainability because more egalitarian countries are able to achieve higher levels of well-being with lower levels of environmental consumption.”* (2011, p. 945.)

Their conclusion is supported by research carried out by Kasser (2011) who studied the link between cultural values and the well-being of future generations. In a cross-national study he found that the more a nation prioritized Egalitarianism and Harmony the higher the well-being of children and the less CO₂ the nation emitted.

chapter 3. Equity and Justice and the Need for Convergence

“Our inability to promote the common interest in sustainable development is often a product of the relative neglect of economic and social justice within and amongst nations”

Having established in the chapters above the need for contraction in resource use according to boundaries which are currently being identified, we now turn to addressing the question of the social dimension of sustainable development – specifically equity and justice. A short overview is given of the rationale behind and challenges of pairing contraction with convergence.

Despite the simplicity of the idea of the need to link human rights/social development (essentially defined as being equity, poverty reduction and inclusivity) with environmental sustainability (a strong message from the seminal Brundtland Report, *Our Common Future*², which recognised the interconnectedness of human development and environmental sustainability in 1987), normative concerns about human development have not always been harmonised with approaches to managing resources and sustainability (Hayward 2006, Melamed et al. 2012, Raworth 2012, UNRISD 2012). As described in [Chapter 2.1.](#) of this document, since the Brundtland Report was written great effort has been put into creating market-based solutions to environmental problems – such as increasing the efficiency of resource use – rather than addressing consumption, resource limits, or defining rights-driven approaches to resources, although this situation appears slowly to be changing³. Research indicates that the efficiency battle is being won in most areas (the efficiency of resource use is generally improving), while the sustainability war is being lost (overall environmental impact is steadily increasing) and social development is in many areas stagnating at best. There is an increasing call for the technocratic global pro-growth paradigm to be refocused into a normative approach to development and sustainability, an approach that Meadows et al. (1992, p. 10) call *“the last and most daunting step toward sustainability”*; one which *“requires solutions to the pressing problems that underlie much of the psychological and cultural commitment to growth: the problems of poverty, unemployment, and unmet nonmaterial needs”*.

Noting the above challenges, promoting a more explicitly human development-focused perspective for sustainability is a focus of the CONVERGE project – one in which *“every global citizen has the right to a fair share of the Earth’s biocapacity and social resources, to enable him or her to live a fulfilling life”*⁴, or one in which Sustainable Development is truly understood as being

¹ World Commission on the Environment and Development, *Our Common Future*, 1987, p. 49.

² <http://www.un-documents.net/ocf-01.htm> (last accessed July 2012)

³ http://www.mdpi.com/journal/sustainability/special_issues/consumption/ (last accessed July 2012)

⁴ <http://www.convergeproject.org/research> (last accessed January 2013)

“development that meets the needs of the present without compromising the ability of future generations to meet their own needs”¹.

The rationale for a more equitable approach towards development is clear. For example, although efforts are being made towards meeting the eight Millennium Development Goals for 2015 (one of the goals of which specifically refers to environmental sustainability), progress is mixed² and “tends to bypass those who are lowest on the economic ladder or are otherwise disadvantaged because of their sex, age, disability or ethnicity”³. In 2009, nearly a quarter of children in the developing world were underweight, with the poorest children most affected. Children from the poorest households in the developing world have more than twice the risk of dying before their fifth birthday as children in the richest households⁴. A recent report by OXFAM (2013, p. 2.) states that “an explosion in extreme wealth and income is exacerbating inequality and hindering the world’s ability to tackle poverty” and that “the \$240 billion net income in 2012 of the richest 100 billionaires would be enough to make extreme poverty history four times over”. Similarly to recent findings (Wilkinson and Pickett 2009) the report contends that the development of the last 30 years has led to a situation of wealth and income extremes which is economically inefficient, politically corrosive, socially divisive, environmentally destructive and unethical.

There are thus both **normative** and **instrumental** arguments for a more explicitly rights-based approach towards development. The following arguments have been advanced to support the proposition that increasing equity and a focus on the social dimension must be behind efforts to improve environmental quality, and development in general:

1. that countries with a) more equal income distribution b) greater civil liberties and political rights c) higher literacy levels and/or d) a more equal distribution of land tend to have higher environmental quality⁵;
2. that environmental problems have disproportionately high effects on the poor (compounded by the fact that globally and nationally the poor are not the biggest polluters) – a question of environmental justice;
3. that regions with low levels of socio-economic development and environmental quality have a higher probability of turning into conflict zones which can cause associated, sometimes significant, costs outside of their immediate zone of impact;
4. that emerging sustainability policy (such as that which emerged from the United Nations Conference on Environment and Development in 2002 and the Rio+20 Conference on Sustainable Development of 2012) stress the need for a) precautionary and b) ethically driven approaches

(Agyeman et al. 2003, Homer-Dixon 1994, OXFAM 2013)

A human rights-based approach to sustainability need not entail a trade off between

¹ WCED 1987, p. 43, *ibid.*

² http://www.un.org/millenniumgoals/pdf/%282011E%29_MDRReport2011_ProgressChart.pdf (last accessed June 2012)

³ <http://www.undp.org.tr/Gozlem2.aspx?WebSayfaNo=239> (last accessed June 2012)

⁴ http://www.un.org/millenniumgoals/MDC2011_PRA_EN.pdf (last accessed June 2012)

⁵ Evidence for this is mixed and disputed - partly due to production offshoring and ‘exporting of pollution’; see, for example, <http://www.carbontrust.co.uk/policy-legislation/international-carbon-flows/pages/default.aspx> (last accessed July 2012).

environmental sustainability and social justice. Sustainability should not involve extending the consumption patterns/lifestyles/business models of richer Northern countries to poorer nations, which is in any case unlikely to be possible given increasing resource scarcity. Additionally, as recognised in [Chapter 2.3.](#) above) the by-now well-recognised fact is that material wealth does not directly correlate with well-being above a certain income threshold (known also as the ‘Easterlin Paradox’ (Easterlin 1974, 1995, Layard 2005, Knight and Rosa 2011, Victor 2012)¹. The need is for ‘joined up thinking’ which holistically couples sustainable environmental goals with core social policy objectives such as maximising well-being.

3.1. Equitable development – theoretical approaches

The **CONVERGE** project has investigated the issues surrounding the need to create a rights-based framework to resource management based on the understanding that every global citizen should have the right to a fair share of the Earth’s biocapacity and access to fundamental human rights. This necessitates promoting socio-ecological justice and calls for wealth, well-being and consumption to converge across and within nations to a level that the biosphere can support, and requires the enshrining of intra-generational equity into the sustainability discourse at regional, national and local levels². As well as equity in terms of ‘fair shares’ (or in terms of ‘rights to well-being’ – e.g. the right to have an ecological footprint which is broadly equivalent to the sustainable global, national or local average, or the rights to social benefits derived from the consumption of resources), a just approach requires that environment-related responsibilities are equitably **shared** (by equitably reducing individual or national shares of production-based carbon emissions, and equal responsibility for maintaining biocapacity, for example). Hayward (2006, p. 1.) calls for an environmental justice approach to be enshrined into resource management regimes more generally: he states that “a just allocation of responsibilities for emissions reductions must take due account of the human rights of the worst off, but this does not entail granting them emissions rights; rather it entails a recognition of the wider ranging redistributive responsibilities of those who have already benefited from an excess of emissions for which the poor have not been responsible”³.

The integration of the social component of the famous triple bottom line which was popularized at the UN Earth Summit in 1992 refers to the need for a re-balancing of priorities and a re-think of how the equity component of human relationships is integrated into development. However, significant challenges are involved in the practical integration of any system of **rights** to and **responsibilities** for environmental resources, such as the methodology which could be used to: 1) **quantify** available resources/resource costs and the present distribution of resource use; and, 2) **apportion** and secure human rights to the costs and benefits of those resources.

While progress has been made in quantifying resource availability, planetary limits and

¹ See more on these topics in Chapter 2.3.

² See Fortnam et al. 2010.

³ Other authors, however, have warned of likely incompatibilities between the goals of environmental justice and sustainable development (Ruhl 2009).

distribution (see Chapter 2.2. above for details), apportioning rights and responsibilities to resources through applying an ethical framework is more problematic for many reasons, some of which relate to the domination of a relatively select group of market actors and the influence of vested interests on policymaking. The concepts of Environmental Justice (Ikeme 2003), Environmental Debt (Paredis et al. 2006), Environmental Space/Resource Budgeting (Bührs 2008, Kitzes et al. 2008, Spangenberg 2002) and the Global Commons (Debarbieux and Price 2008, Ostrom 2008) have been employed to address this issue but a large part of these substantial contributions remain at the theoretical level and are beyond the scope of this review.

Not only would most rights/redistribution-based approaches to development and resource management, if implemented, significantly impact economies and require a major transformation in knowledge and values, social structures and institutions and public policies (UNRISD 2012), but it is far from clear which ecosystems and ecosystem goods and services could or should be included in any equity-based resource management regime, and which principle should be used to apportion them. Taking carbon emissions as an example, a per capita ('strong equity') emissions allocation scheme such as that proposed by Contraction and Convergence™ would likely result in substantial resource transfers through any distributional mechanism employed (such as international emissions/resource trading or quota systems) or the relocation of emission/resources-intensive economic activity (Aldy 2005). Nonetheless, a number of specific but tentative proposals for 'strong equity' resource management regimes have already been put forward. They include, for example, the suggestion by Spangenberg (1995, in Goeminne and Paredis 2010) that energy and non-renewable raw materials could be viewed as being global 'commodities' (with globally accessible resources, global sinks and global environmental pollution on a global scale) so could be divided up on a per capita basis at a global scale. Wood and agricultural products would be regarded as continental resources "so that each continent should have a balanced production and consumption, not occupying fertile land in foreign countries on a permanent basis" while water could be considered a regional resource "so the availability and the permitted use will be calculated on a regional basis". Other authors have also recently stated their support for the establishment of cap and share systems for specific resources – e.g. for the extraction of scarce non-renewable resources, the emission of wastes, 'fossil' groundwater or for the rate of harvesting of renewable resources (see e.g. Jackson 2011, McLaren 2003).

No strongly equitable (per capita) distribution mechanism would be suitable for all resources – resources of information and knowledge held by traditional farmers or indigenous peoples about plants, for example. Additionally, strong equity approaches may meet the requirements of Pareto efficiency² but do not necessarily result in the most socially desirable distribution of resources.

¹ Both quotes are from Goeminne and Paredis 2010, p.700.
² For definition see: <http://stats.oecd.org/glossary/detail.asp?ID=3275> (last accessed January 2013)

An examination of how different equity principles may be adopted for the managing of resources and services is presented in Table 2.

Resource or service	Equity principle	Possible Interpretation
Climate regulation	Egalitarianism	Per capita (strong equity) approach
	Adjusted Egalitarianism	Per capita can serve as a moral guiding principle but may be modified by other considerations, e.g. historical responsibility, capacity to act or different geographical circumstances
Raw materials	Sovereignty	Nations own the resources on their territory
	Egalitarian/Commons	Every inhabitant on earth has an equal right to resources anywhere
Genetic resources	Sovereignty	Nations have rights to the resources on their territory
	Group rights	Groups such as traditional farmers and indigenous peoples who have the knowledge of the genetic resources own the knowledge
Food/water supply	Subsistence rights	Everybody has a right to clean air and drinkable water, elementary health provision, adequate nourishment and clothing and a roof over one's head

Table 2: Overview of how different resources and services may be combined with different equity principles¹

3.2. Equitable development – rights and needs

Concrete proposals for 'capping and sharing' the use of certain planetary resources on the basis of various equity-based principles is one approach to fostering more equitable development. A more typical (complementary?) approach is to clearly identify and implement a basic set of non-negotiable rights which are sufficient to provide a decent human existence and implement transformative policies and programmes that support the meeting of these needs. This approach is taken by Sachs (2003) who writes that equity can be envisioned as meaning 'equal subsistence rights', which encompasses what individuals need to develop as living beings: clean air and drinkable water, elementary health provision, adequate nourishment and clothing and a roof over one's head.

Spangenberg (2002) distinguishes a triptych of minimum human rights; a **physical** minimum (necessary preconditions for mere survival), a **basic need** minimum (which would cover crucial needs for an active and healthy life including basic social standards and a **social participation** minimum (the minimum needed to lead a dignified life). Similar needs-based rights are enshrined in the Universal Declaration of Human Rights² (see Article 25). These proposals are compatible with Rawl's (1972) theory of justice which posits that each person should have an equal right to the most extensive basic liberty compatible with a similar

¹ Modified from Goeminne and Paredis 2010.
² <http://www.un.org/en/documents/udhr/> (last accessed July 2012)

liberty for others, and that social and economic inequalities are to be arranged so that “*they are to be of the greatest benefit to the least-advantaged members of society*” (the difference principle) and that “*offices and positions must be open to everyone under conditions of fair equality of opportunity*” (Rawls ‘Theory of Justice’, 1972, p. 303).

A recent paper from OXFAM (Raworth 2012) suggests that it may be useful to examine the concept of not only planetary boundaries but a planetary social foundation in terms of the proportion of the population who have access to 11 basic developmental indicators (food security, adequate income, improved water and sanitation, health care, education, decent work, modern energy services, resilience to shocks, gender equality, social equity, and political voice). It is these dimensions of social development (only some of which are directly based on the availability of natural resources), many of which are referred to in the Millennium Development goals, for which policy-based support is needed. For these basic human rights to be upheld and promoted a holistic perspective supported by an understanding of the coupled nature of environmental and social challenges is required as even well-intentioned development-focused interventions can have unintended, negative outcomes on one or the other of these areas¹.

3.3. Equitable development – participation, policy and promotion

The ability to create a transition to a more equitable mode of development depends on the agency of social actors who are currently disadvantaged by current modes of modernization. A strongly egalitarian approach to participation and accountability in specifying how resources are managed has been identified as one of the design principles for governing sustainable resources (Ostrom 2008)². This right-to-participate approach is identifiable in the 1999 Aarhus Convention on ‘Access to Information, Public Participation in Environmental Decision-Making and Access to Justice in Environmental Matters’³ where environmental rights are recognised from a procedural as well as a substantive – right to a cleaner environment – perspective which reflects the overlap between human rights law and environmental law.

A review by UNRISD (2012) identifies three forms of participation or organized efforts that are likely to be effective change-making processes. These are: 1) effective mobilization of local or community level resources (i.e. examining and promoting community-based livelihood and natural resource management systems in terms of their co-benefits to social development and environmental preservation); 2) ensuring citizens’ access to and influence in decision-making processes or governance (which go well beyond stakeholder consultations, which are identified as being problematic); and, 3) forms of resistance and advocacy (such as social movements and civil society networks) that “*aim to (re-)frame public policy and debate regarding priority concerns and development pathways*” UNRISD (2012, p. 15).

¹ One recent example is the displacement of people or food crops in Brazil, India and Indonesia to make way for biofuels. Such schemes often involve trade-offs with smallholder agriculture, biodiversity, livelihoods and food security (this example is taken verbatim from UNRISD 2012).

² ‘Participation in decision making’ does not necessarily refer to participation in a liberal democracy or traditional representative democracy.

³ <http://www.unece.org/env/pp/treatytext.html> (last accessed July 2012)

There are claims that there is deep fear that real equity would result in their not being enough for everyone, and that “*sharing*” is a forbidden word in political discourse” (Meadows 1993, p. 10.) (additionally, many associate the term equity with Marxist political rhetoric). Study of the field of human psychology can help with generating alternative terms and approaches (e.g. such as ‘sufficiency’ and ‘solidarity’) and to help structure new approaches to dealing with human rights issues. Alternative approaches to communication may also be brought into play - several authors (see Chapter 2.3.) and many case studies¹ have indicated that equity, environmental sustainability and well-being are mutually dependent and act synergistically to provide co-benefits. The deep transformation of behaviours, institutions and policies that needs to be effected in order for immediate and future social and environmental challenges to be overcome indicates the need for socially transformative (‘eco-social’) policy-making which can rejuvenate the development project and overcome the silo effect which has developed.

¹ For example, UNRISD 2012, p. 10., CONVERGE initiatives in Vadovics and Milton 2012, or case studies from Gunter Pauli’s ‘Blue Economy’ project: <http://www.theblueeconomy.org/blue/Home.html> (last accessed Jan 2013)

Conclusions

Evidence, as detailed above, indicates that equitable social development and well-being can be and need to be decoupled from resource consumption, although for this to become reality requires major changes to policy, businesses, institutions and individual behaviours. This focus on the social side of development – increasing individual, national or global well-being or happiness rather than growing the economy (consumption-based GDP) – may still allow for ‘green growth’ in developing nations while allowing for a well-being focused transformation of socio-economic structures in richer nations¹.

The concept of ‘Just Sustainability’ has been proposed (Agyeman 2005) to address what has been called the ‘equity deficit’ of (pro-environmental) sustainability. This conception of sustainable development specifies the synergetic promotion of four focal areas:

1. improving the quality of life and well-being;
2. meeting the needs of both present and future generations (intra- and intergenerational equity);
3. fostering justice and equity in terms of recognition, process, procedure and outcome; and,
4. recognising and acting on the need for society to live within ecosystem limits (‘one planet living’).

‘Sustainability’ is ultimately an anthropocentric concept. It is maintaining the opportunities for human development that is the ultimate goal of the majority of proponents of environmental sustainability. This short introduction to the literature and some of the ideas behind Work Package 6 of the CONVERGE project puts forward the argument that integrating and implementing a more explicit ‘rights and responsibilities’-based perspective into the sustainability debate is worthwhile for instrumental reasons, as well as simply being the right thing to do.

“Any vision of sustainable development fit for the 21st century must recognise that eradicating poverty and achieving social justice is inextricably linked to ensuring ecological stability and renewal.”

(Raworth 2012, p. 6.)

¹ For ideas and practical examples of how such changes could be implemented see for example:
 • The Great Transition, <http://www.neweconomics.org/publications/great-transition>;
 • The Global Transition to a New Economy, <http://gtne.org/>
 • Daly 1996, Simms and Smith 2008, Jackson 2009
 • References in the central circle of Figure 3.

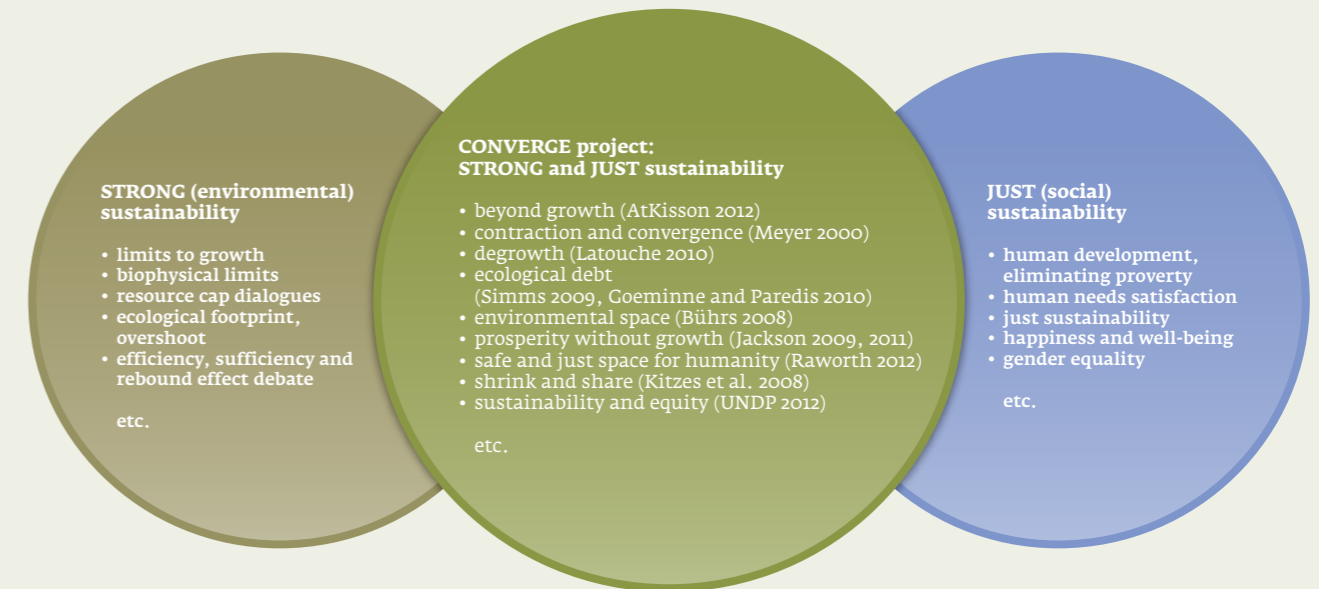


Figure 3: The CONVERGE project aims to connect strong environmental sustainability with just sustainability –just like the work of a great number of other authors

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GreenDependent Institute (GDI, Hungary)



GDI is a not-for-profit research organization that was founded in 2011 as a spin-off of GreenDependent Sustainable Solutions Association (established in 2005). Its mission is to research and promote sustainable production and consumption patterns (SCP), with special focus on sustainable lifestyles. In order to fulfil its mission, GDI carries out educational, research and consulting activities, primarily at the local and national levels in Hungary, but also internationally. Its primary target groups are households, communities, the executives of local governments and policy-makers.

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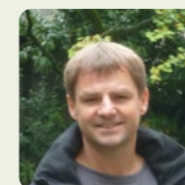
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