

FROM INCREMENTAL TO TRANSFORMATIVE SOLUTIONS

The 21st Century's First Paradigm Shift for Global Sustainability

An Assessment of the Support from Global Leaders

Project description



You : Exploring New Solutions

Approach: Crosscutting

Area(s): Mobility, Nutrition, Buildings
Possible to implement: In a Year
Ideas: 3721
Top-rated: 57
Wild cards: 6



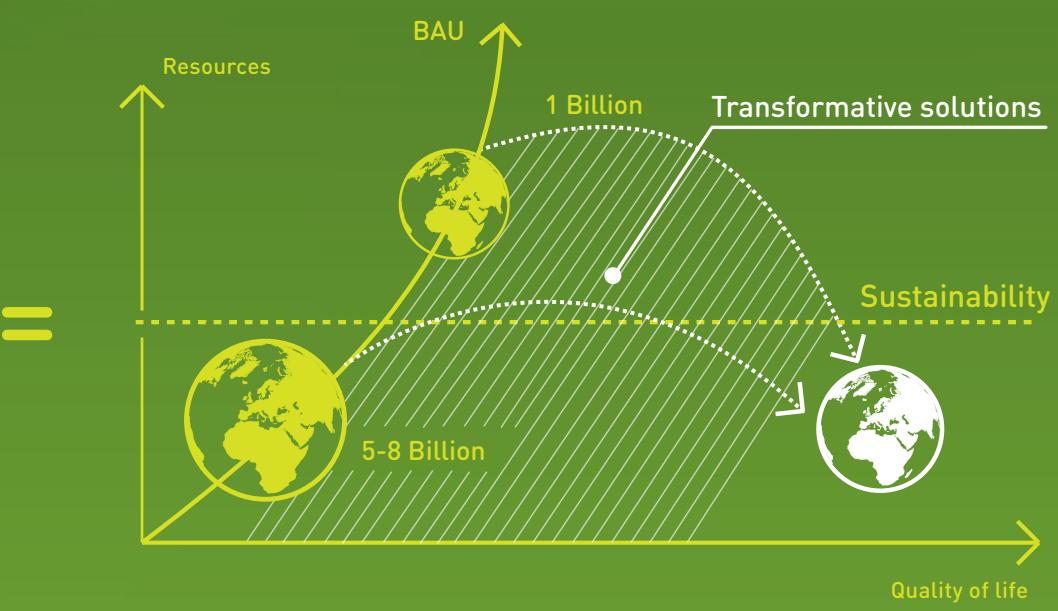
Transformative Solutions



One planet



9 Billion people



Short Background

In order for 9 billion people to live well and within the boundaries of the planet by 2050, incremental improvements of existing systems are not enough – transformative solutions that provide the services we need in totally new ways are required. The reason for this is that a number of trends are converging, from increased use of natural resources and unsustainable consumption patterns to rapid urbanisation and accelerated technological development.

These converging trends will either result in an ecological and social collapse, or they can be used to challenge business as usual. Not only is it possible to avoid conflicts over limited resources, collapse of ecosystems and dangerous climate change, but we can turn these unsustainable trends into drivers of innovation.

There is clearly a growing recognition that a new approach is both needed and possible, as the quotes from leading stakeholders in this document show. We have reached a historically unique situation when we have the understanding, the technological solutions and economic resources, to move out of the old industrial paradigm. With support this realization could be turned into action that delivers the solutions needed in the 21st century.

Objective

The objective of this initiative is to help accelerate the shift in focus – and implementation – from incremental solutions to transformative solutions around the world. This will be done through a two-step process:

Step one: Mapping and analysing current support and strategies among agenda-setting global stakeholders, both traditional and new, for transformative solutions.

Step two: Based on current best practices – as well as “next practices” that are currently being developed – developing a framework that can help stakeholders to identify and implement transformative solutions. This framework will both provide guidance for individual stakeholders as well as ways that current structures must change in order to support transformative solutions.

UNFCCC

“To achieve a sustainable future, requires nothing less than a full transformation of the world economy. It will require more than incremental tweaking of existing systems and technologies. /.../ [We] need a vision that embraces transformation and real change, a vision of a low-carbon climate-safe future.”

- Christiana Figueres, Executive Secretary, UN Framework Convention on Climate Change (UNFCCC), November 2011¹



OECD

“[We] should see transformative zero-emission technologies as opportunities that will deliver a range of environmental benefits and economic opportunities. /.../ These are not just about fuel savings on the energy supply side. The applications of ICT to a world in which consumers can manage their own demand and choose their energy sources – including disengaging entirely from the grid – is likely to be a world reliant on a large number of products and services that currently do not exist.”

- Mr. Angel Gurria, Secretary-General, OECD, October 2013²



“Incremental innovation alone will not achieve a decoupling of economic growth from environmental impacts. Increasing the development and uptake of more radical and systemic eco-innovations, including new business models, is therefore important for the long-term transformation towards a greener economy.”

- OECD report, February 2013³

WBCSD

“We’ve now reached a point where we need urgent and radical transformation. In order to tackle our most pressing challenges, we need to scale up and accelerate solutions - and this requires a truly collaborative process among policy makers, business leaders, governments and citizens.”

- WBCSD homepage, 2013⁴



“As a business leader who has been bitten by the sustainability bug, it’s clear that radical transformation is required. It’s not good enough to do CSR from a philanthropic point of view; it must be really integrated into the core of your business.”

- Peter Bakker, President of WBCSD, 2013⁴

IEA

“Four-fifths of the total energy-related CO2 emissions permitted to 2035 in the 450 Scenario [presented in IEA’s World Energy Outlook] are already locked-in by existing capital stock, including power stations, buildings and factories. Without further action by 2017, the energy-related infrastructure then in place would generate all the CO2 emissions allowed in the 450 Scenario up to 2035.”

- International Energy Agency (IEA), November 2011⁵



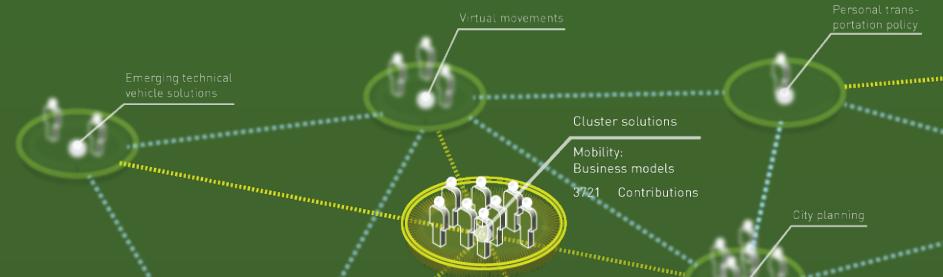
¹ <http://www.youtube.com/watch?v=njtZXZIBHIM>

² <http://www.oecd.org/about/secretary-general/The-climate-challenge-achieving-zero-emissions.htm>

³ <http://goo.gl/2soxZB>

⁴ <http://www.wbcsd.org/annual-review/introduction.aspx>

⁵ http://www.iea.org/newsroomandevents/pressreleases/2011/november/name_20318,en.html



Context

Ever since sustainable development and the negative consequences of industrialization rose to the agenda in the 70's, we have approached the problems mainly with a marginal mind-set. Rather than solving the actual problems, we have often moved them to other places. This has been manifested in end-of-pipe solutions, such as building taller chimneys and longer waste pipes further out into the sea, or in moving dirty industries to other countries. Even the solutions that we today call "sustainable" or "green" are often about incremental improvements in current systems and technologies, such as producing more fuel-efficient cars, slightly less inefficient buildings or better production of meat.

Not only are those measures not enough; they are also likely to further lock us in to an unsustainable high-carbon infrastructure where we undergo high risks of a natural and humanitarian catastrophe. As the scientific community has stated, we have already transgressed several of the planetary boundaries.

If we act now and implement the transformative solutions, it is still possible to achieve a controlled transition to a sustainable world economy and society. We are now in a historically unique situation when the (technological) solutions are there, and we have the understanding of what is needed. The time is now to turn this realization into implementation.

During 2014-2015 we expect to see a major paradigm shift from implementation in marginal improvements to transformative solutions. To accelerate this shift, a global cluster platform for transformative solutions will be created. A pilot with a limited number of participants will run during 2014. An important part of this work is to identify major trends and drivers for transformative solutions. This assessment of the support from global leaders for transformative solutions is made to support the cluster platform and will be presented in October 2014.

Transformative Solutions

Transformative solutions are based on what is sustainable in a world with 9-10 billion people, assuming that no solution should use more than the fair share of the planet's resources. This requires solutions that perform much better than current methods of providing a given service or function, in terms of use of limited resources, often by a factor of five or more (i.e. >80%). The need for such significant improvements typically requires the service or function to be provided in an entirely new way compared with conventional solutions.

Three kinds of transformative solutions exist:

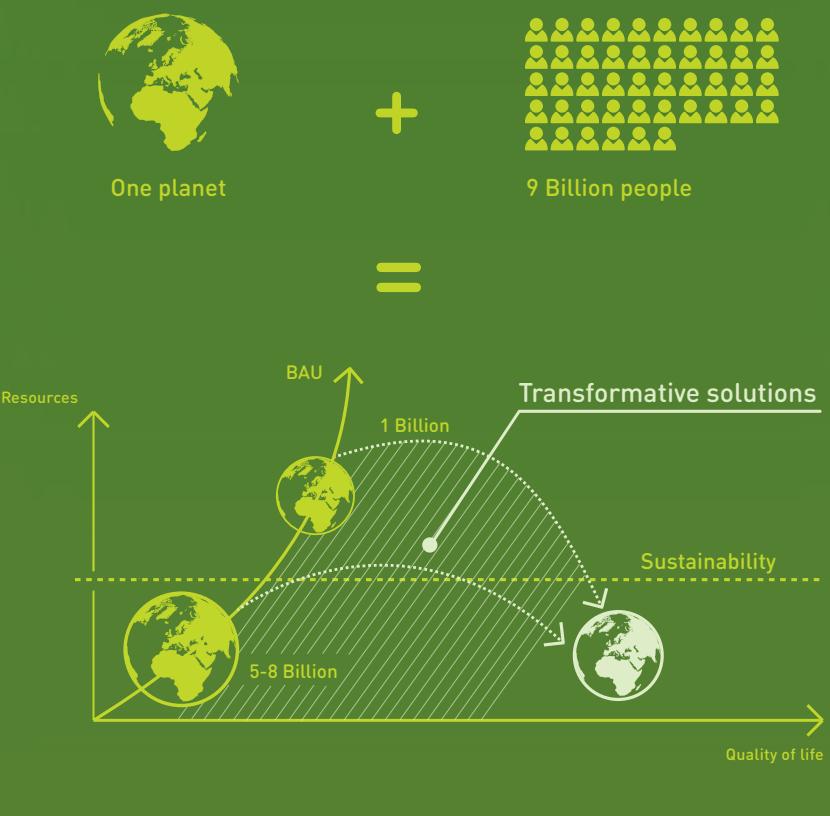
- New technology, such as video conferencing instead of air travelling, telecommuting instead of car commuting, eBooks instead of conventional paper books.
- New integrated solutions, such as eHealth, eSchool, and eManagement.
- New system solutions and lifestyles that help turn problems into solutions, such as buildings that are net energy providers, instead of energy consumers.

All these solutions require us to rethink the way we do things today; in particular they require analysis and assessments that are not limited to improvements in current technologies and systems.

Two kinds of transformative solutions pertain to business models:

- Business models based on function, rather than product. This means that materials and product modules are designed and used so that cradle-to-cradle impacts and costs are optimized and functions are for rent, rather than products being for sale.
- Business models that fundamentally change traditional ways of accessing markets and contribute to new business processes, i.e. disruptive business models.

The initial focus of the platform is natural resource efficiency and reduction of greenhouse gas emissions in the areas of mobility-/meetings, buildings/living and food/nutrition. Future areas under development include health/wellbeing and education/capacity.



IMF

"Stabilizing atmospheric concentrations of greenhouse gases will require a radical transformation of the global energy system over coming decades."

- "Climate, Environment, and the IMF", IMF, September 2013⁶



China Going Green

"The recently unfolding global financial crisis, coupled with climate change, ecological degradation and water shortages, has posed an imminent and unprecedented need for the world to transform its current path of development. Such global challenges arise from various causes, but one thing they can all benefit from is a change in the current imbalance of capital."

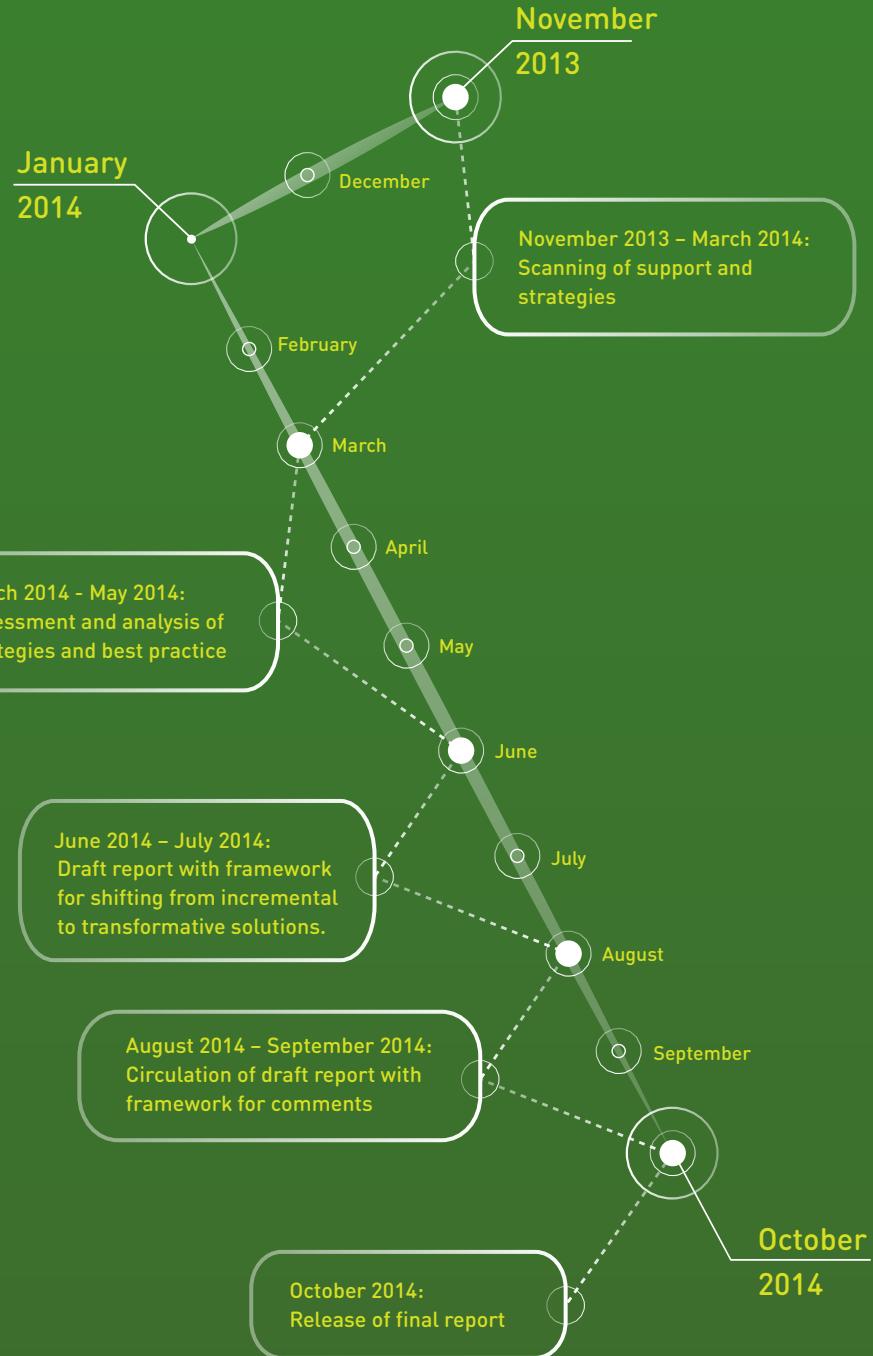
- "Transformative Practices In Greening China", China Going Green Rio+20, June 2012⁷



EU Commission

"Eco-innovation should go beyond incremental environmental improvements and efficiency gains, and aim at 'breaking out of locked-in systems and thinking'."

- Janez Potočnik, EU Environment Commissioner, October 2012⁸



Contact

If you have more examples of statements and initiatives supporting the paradigm shift from incremental to transformative solutions, please let us know:

Email:

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For more information about transformative solutions and the progress of the project please see:

Twitter: @Clusterplatform

Web: www.transformative-clusters.net

⁶ <http://www.imf.org/external/np/exr/facts/pdf/enviro.pdf>

⁷ <http://rio20china.org/en/?p=79>

⁸ <http://goo.gl/8CKgiA>