Implementing SDGs Through Universities

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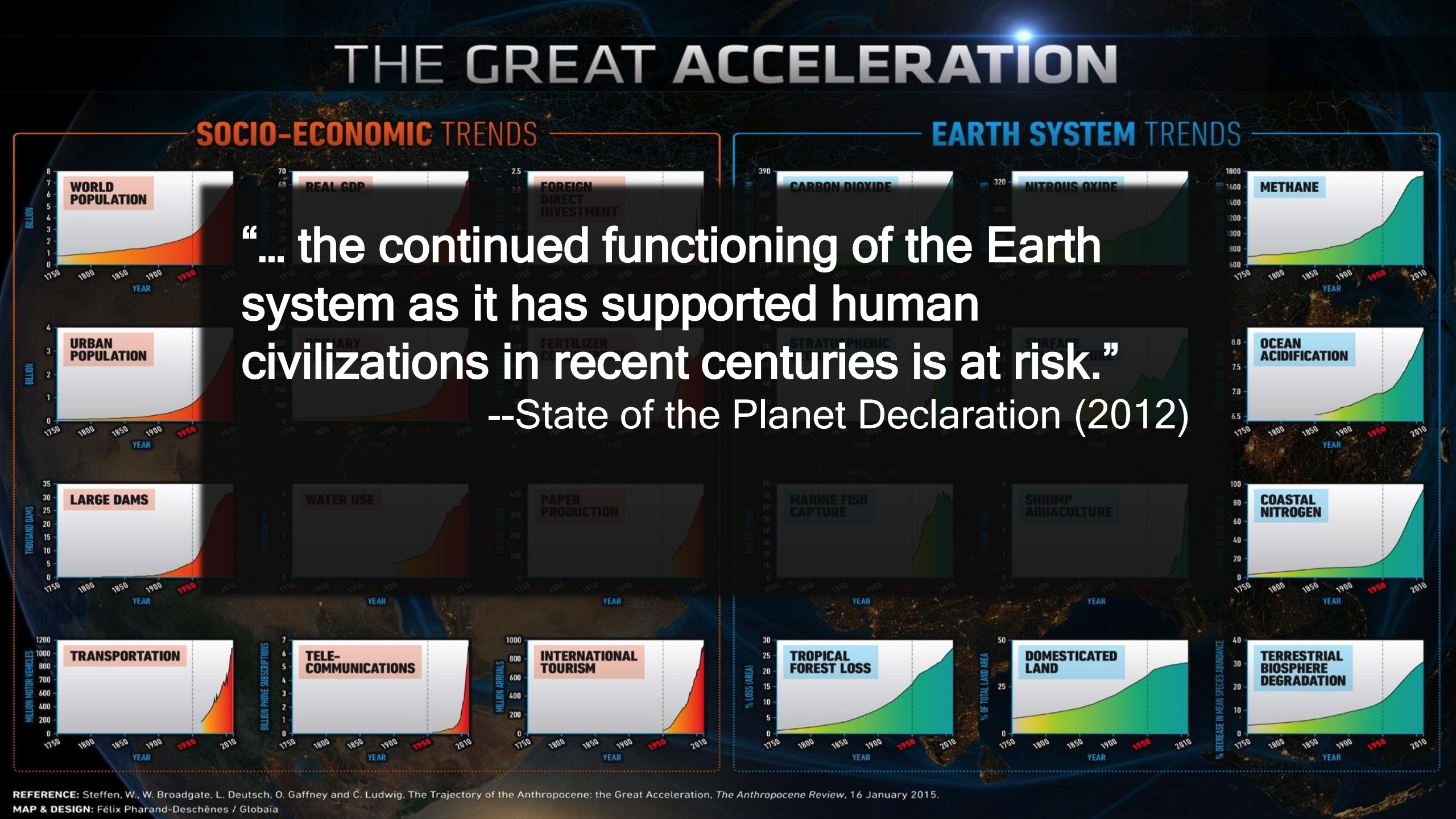
Why Sustainability, Why Now?

- The Great Acceleration, Planetary Boundaries, Anthropocene
- Sustainability as a Solution, SDGs/GGs
- How PSU is doing Sustainability
- Role of Universities in Implementing Global Goals



"... the continued functioning of the Earth system as it has supported human civilizations in recent centuries is at risk."

--State of the Planet Declaration (2012)

REFERENCE: Steffen, W., W. Broadgate, L. Deutsch, O. Gaffney and C. Ludwig, The Trajectory of the Anthropocene: the Great Acceleration, *The Anthropocene Review*, 16 January 2015.
MAP & DESIGN: Félix Pharand-Deschênes / Globaïa

Planetary Boundaries

- Biosphere Integrity (Genetic Diversity)
- Biogeochemical Flows (Phos, Nitrogen)

- Climate Change
- Land-system change

- Freshwater Use
- Novel Entities (NGQ?)
- Stratospheric Ozone depletion
- Atmospheric Aerosol loading (NGQ?)
- Ocean Acidification

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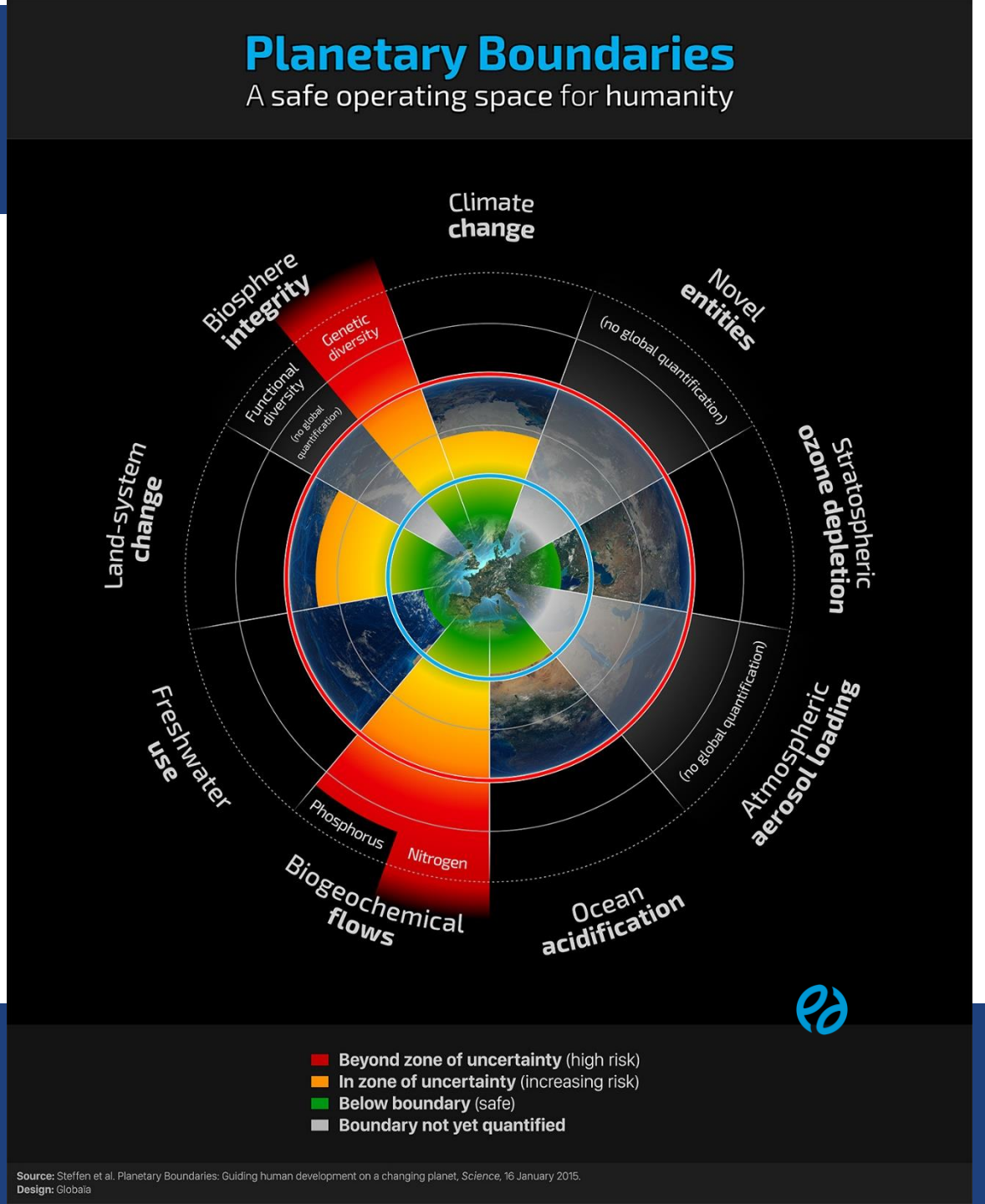
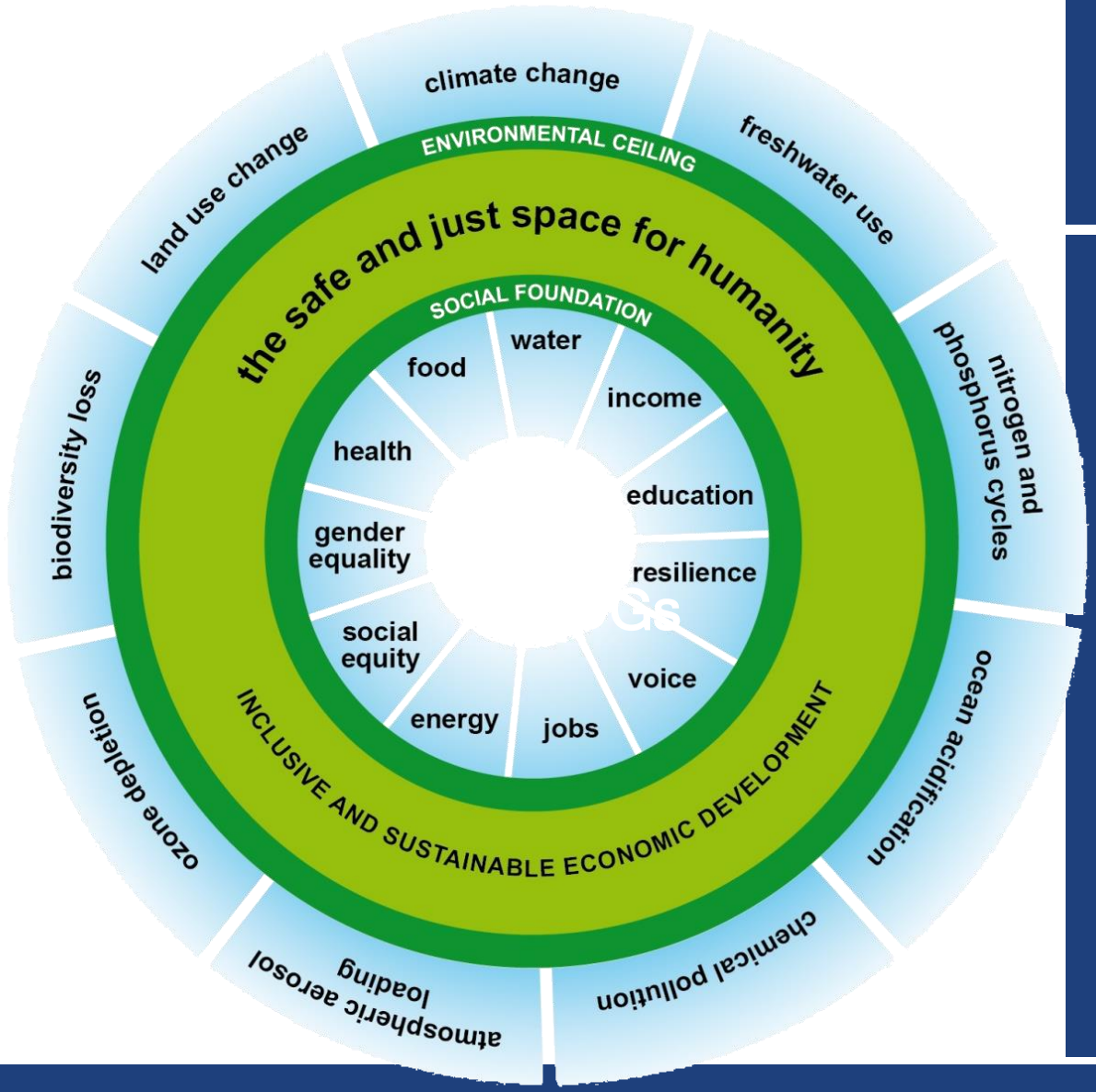


The Anthropocene



7B-> 10B Humans
DEBT to Future Generations
- Global Debt 233 Tril, GDP 80 Tril
- USA is 108% of GDP

INEQUALITY - 0.7% owns 46% wealth
- Richest 8 people = poor 50%
- 1.6 Bil in Multidimensional poverty

Aspirations – Fair & Safe Limits

ANTHROPOCENE – Humans Driving Nature

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The 'doughnut', Kate Raworth, 2012

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Solution = Sustainable Development Goals or Global Goals

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Universities Implementing Global Goals in the Anthropocene

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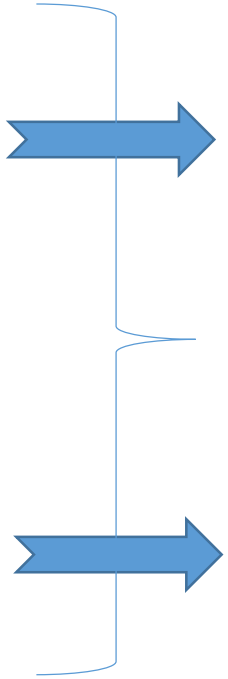
Universities in the Anthropocene

- Research
- Teaching
- Service
- Student Life
- Operations



- Engaging Community
- Operations as Livings Lab
- Enlivening Teaching
- Empassioning Student Life
- Sustainability Research

Transdisciplinary Research

- SDGs - a holistic framework for systemic actions
- But Academic Science Research is fragmented
  - 1231 - 4 Disciplines - Theo, Med, Law, Arts
  - 1850s - 54 disciplines
  - 1975 - 1845 disciplines
  - Today - 8300++ disciplines
- 1960s – Attempts to Remedy fragmentation – Inter & Multi-disciplinarity
- 2000s – Transdisciplinarity - for solving real world sustainability problems, for the public, at planetary scale
- 2012 Rio + 2014 Future Earth Conf – Role of Science in Society

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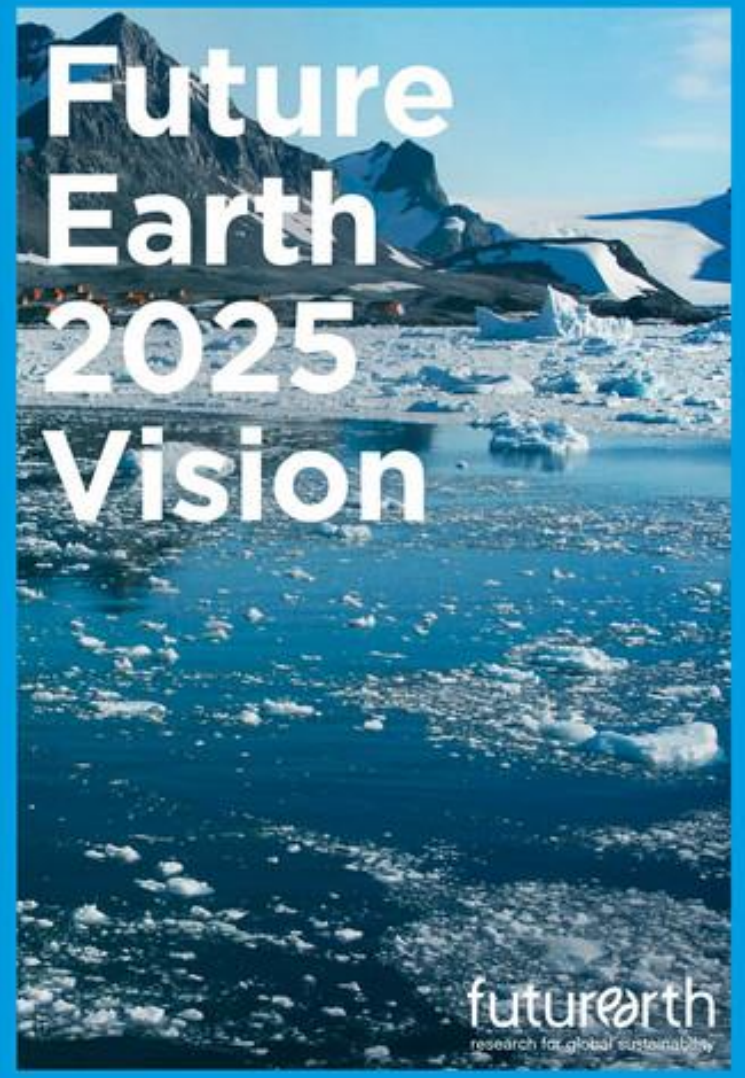
Global Sustainability Research Challenges

1. Deliver water, energy, and food for all, and manage the synergies and trade-offs among them, by understanding how these interactions are shaped by environmental, economic, social and political changes.

2. Decarbonise socio-economic systems to stabilise the climate by promoting the technological, economic, social, political and behavioural changes enabling transformations, while building knowledge about the impacts of climate change and adaptation responses for people and ecosystems.

3. Safeguard the terrestrial, freshwater and marine natural assets underpinning human well-being by understanding relationships between biodiversity, ecosystem functioning and services, and developing effective valuation and governance approaches.

4. Build healthy, resilient and productive cities by identifying and shaping innovations that combine better urban environments and lives with declining resource footprints, and provide efficient services and infrastructures that are robust to disasters.



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research for global sustainability

5. Promote sustainable rural futures to feed rising and more affluent populations amidst changes in biodiversity, resources and climate by analysing alternative land uses, food systems and ecosystem options, and identifying institutional and governance needs.

6. Improve human health by elucidating, and finding responses to, the complex interactions amongst environmental change, pollution, pathogens, disease vectors, ecosystem services, and people's livelihoods, nutrition and well-being.

7. Encourage sustainable consumption and production patterns that are equitable by understanding the social and environmental impacts of consumption of all resources, opportunities for decoupling resource use from growth in well-being, and options for sustainable development pathways and related changes in human behaviour.

8. Increase social resilience to future threats by building adaptive governance systems, developing early warning of global and connected thresholds and risks, and testing effective, accountable and transparent institutions that promote transformations to sustainability.

Conclusion

- The Anthropocene marks a radical discontinuity
- Global Goals offer an inclusive solution framework
- Universities can help their communities adapt by implementing GGs
- Transdisciplinary stakeholder engaged research, ESP in Social Sciences, Humanities and Arts