

# Pathways to Sustainability: Virtual Workshop for African Early Career Researchers

9 - 10 September 2020





# **Pathways for Sustainability**

**Maria Uhle**

**Co-Chair, Belmont Forum**

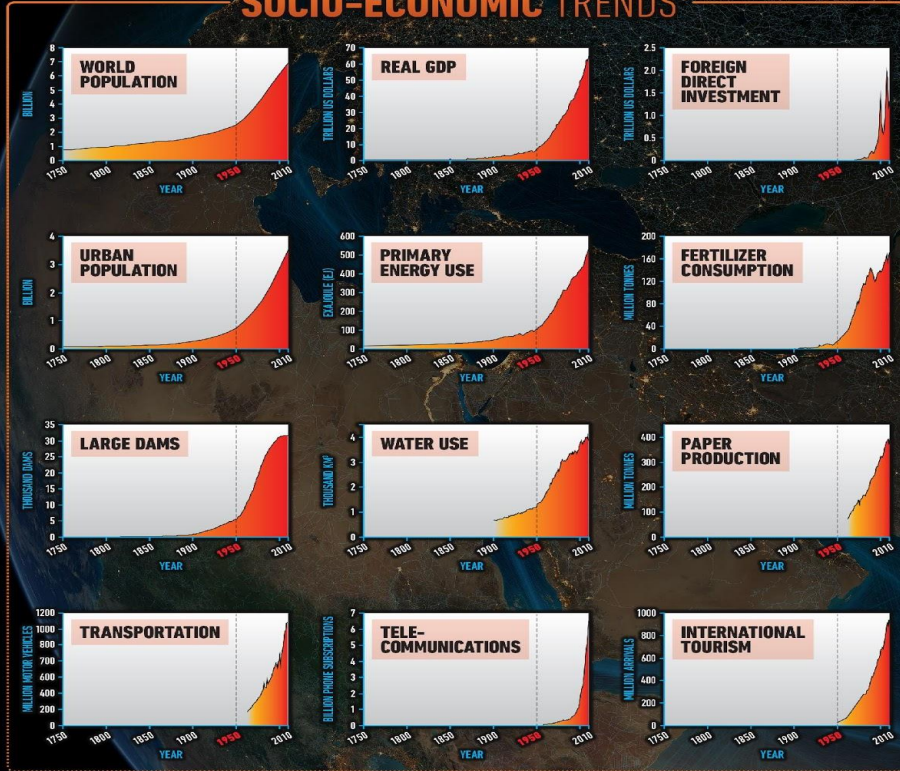
**Program Director for International Activities**

**Directorate for Geosciences**

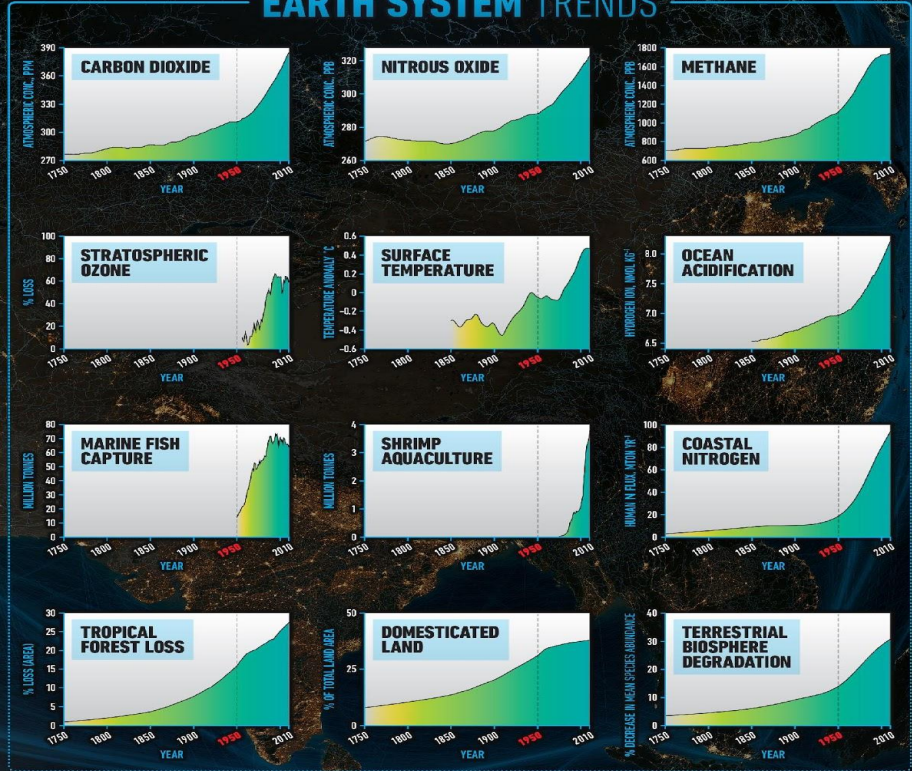
**National Science Foundation**

# THE GREAT ACCELERATION

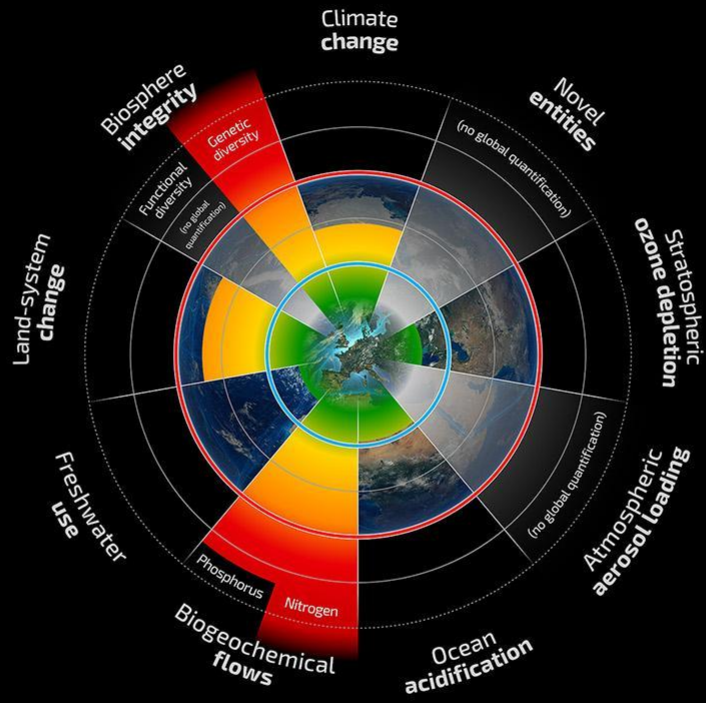
## SOCIO-ECONOMIC TRENDS



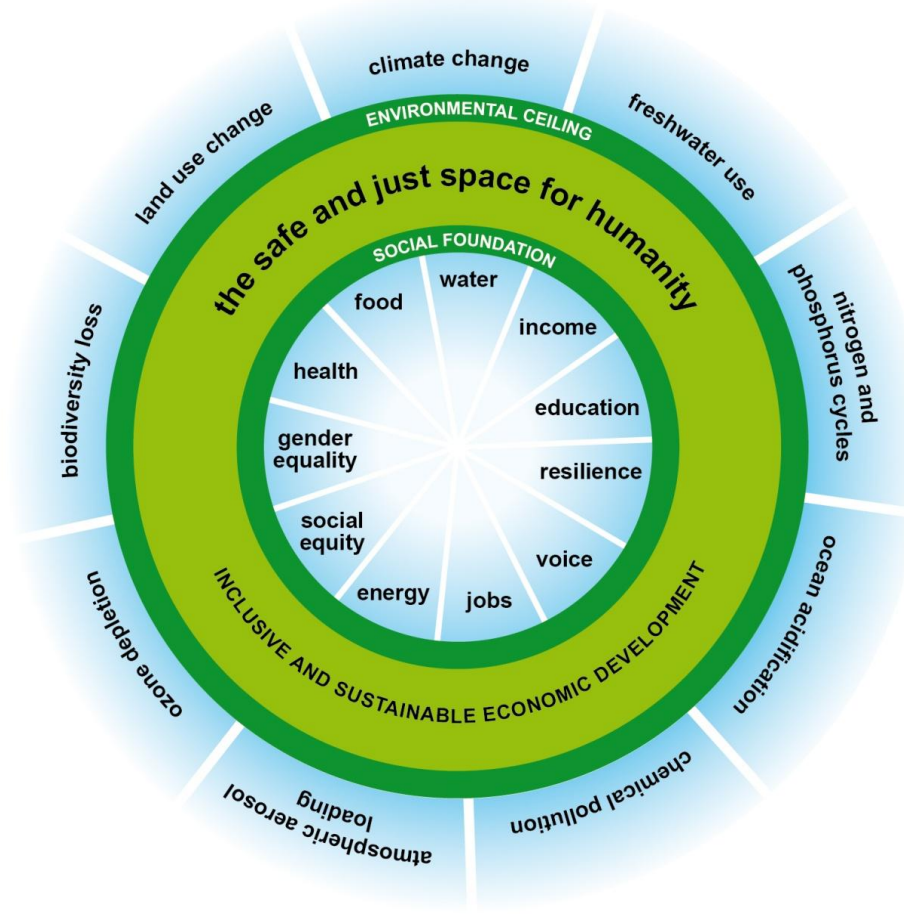
## EARTH SYSTEM TRENDS

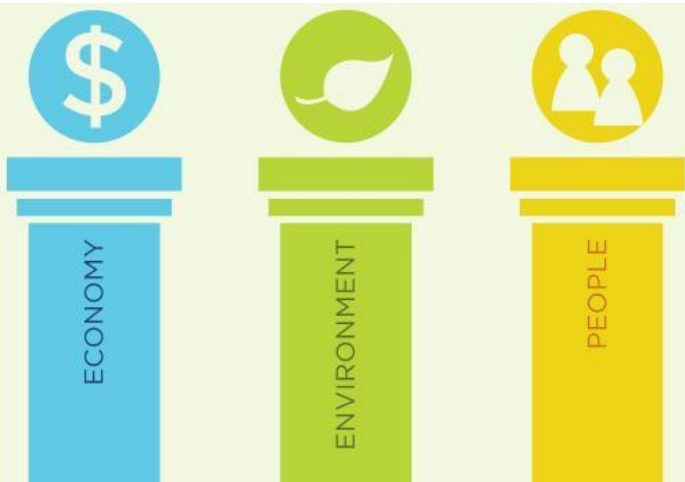


REFERENCE: Steffen, W., Broadgate, L., Deutsch, O. Gaffney and C. Ludwig, The Trajectory of the Anthropocene: the Great Acceleration, *The Anthropocene Review*, 16 January 2015.  
 MAP & DESIGN: Félix Pharand-Deschênes / Globaïa



- Beyond zone of uncertainty (high risk)
- In zone of uncertainty (increasing risk)
- Below boundary (safe)
- Boundary not yet quantified





# EXTREME ~~POVERTY~~ POSSIBILITIES





# SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD





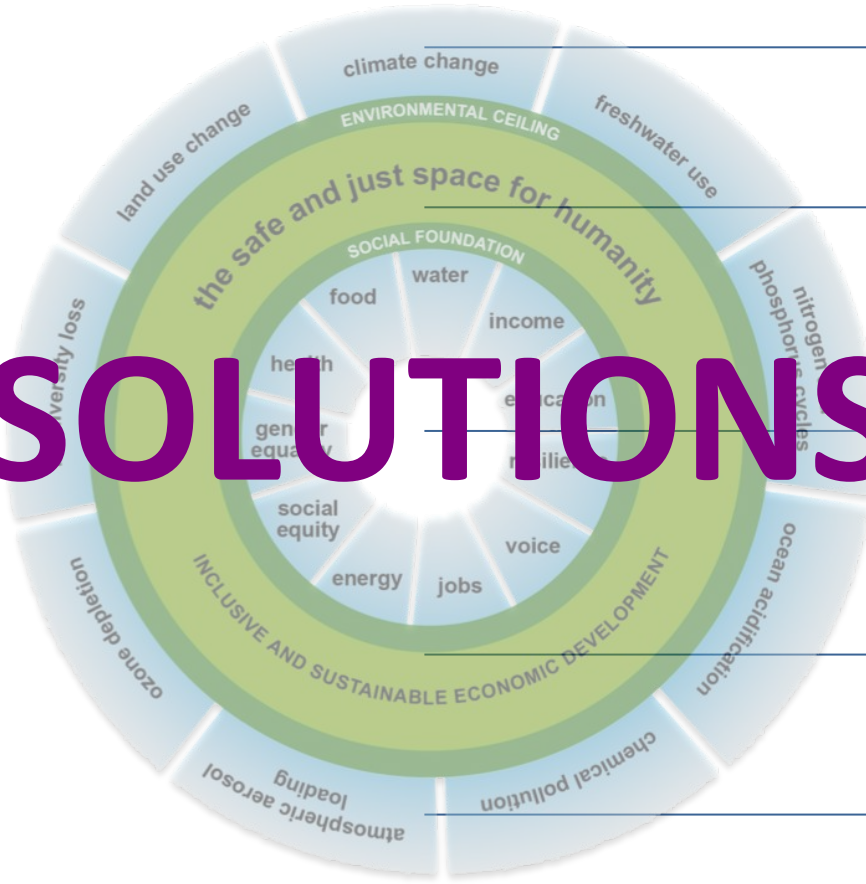
# SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD



**COMPLEX  
INTERRELATED  
CHALLENGES**

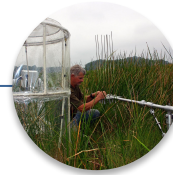
# SOLUTIONS



Financial Resources



Technology Development and Transfer



Solutions-Oriented Research and Knowledge Development



Capacity Building



Innovative Partnerships



# Business Processes Automation



Photo: Fishing at sunset on the Mekong river, Vientiane, Laos; Michèle Dépraz / WWF-Canon

Participatory  
Business  
Development  
Approach



Photo: Fishing at sunset on the Mekong river, Vientiane, Laos; Michèle Dépraz / WWF-Canon

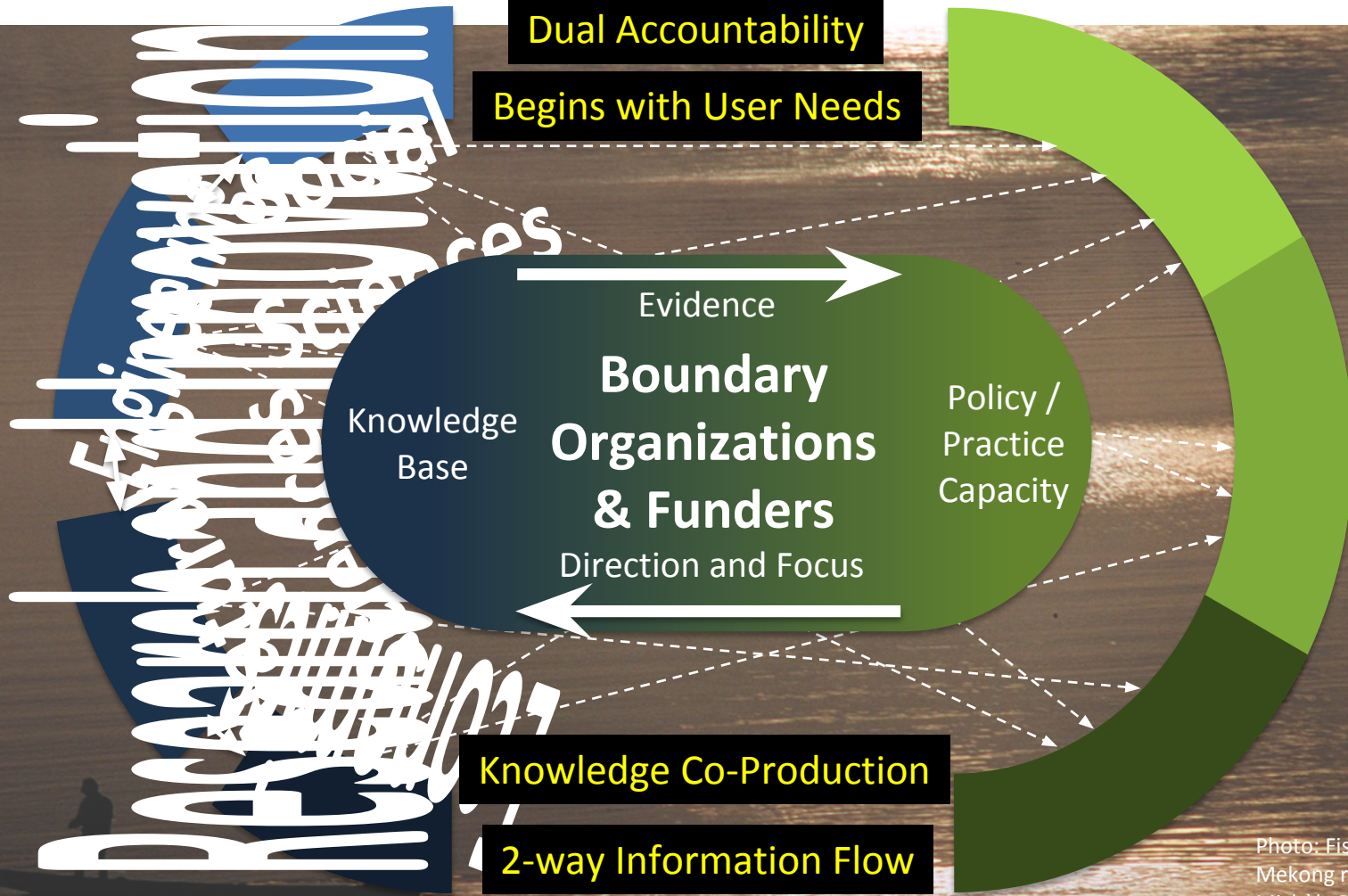


Photo: Fishing at sunset on the Mekong river, Vientiane, Laos; Michèle Dépraz / WWF-Canon

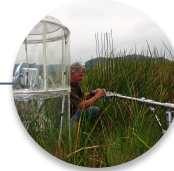
# Innovative Partnerships



Leverage Financial Resources



Coordinate Technology Development and Transfer



Impact Solutions-Oriented Research and Knowledge



Effective Capacity Building Across Regions



Innovative Partnerships for Common Priorities

# Overarching Goal of CRA

Develop a network of cutting edge transdisciplinary scientific capacity addressing multiple Sustainable Development Goals at once that:

1. provides information useful to decision-makers
2. improves understanding and addresses risks and vulnerabilities across multiple time scales
3. develops robust modeling and prediction at useful temporal and spatial scales
4. stimulates innovative solutions and the use of new technologies
5. facilitates sustained partnerships that develop, deliver and communicate useful science

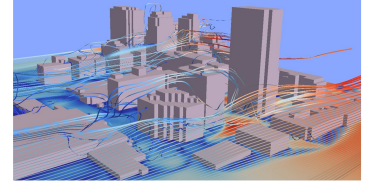


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F O R U M

# Example Questions

Sustainable development pathways address complex questions encompassing several SDGs, at local, national, regional and global scales.

1. How do we meet multiple SDGs (e.g., hunger, poverty, energy, growth) while meeting global environmental goals?
2. We need to identify essential targets and indicators, clearly define target spaces and proceed to quantify these target and indicators.
3. What are the synergies and trade-offs between the proposed pathways and different SDGs?
4. What are the costs of pursuing social goals without meeting sustainability goals and vice versa?



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