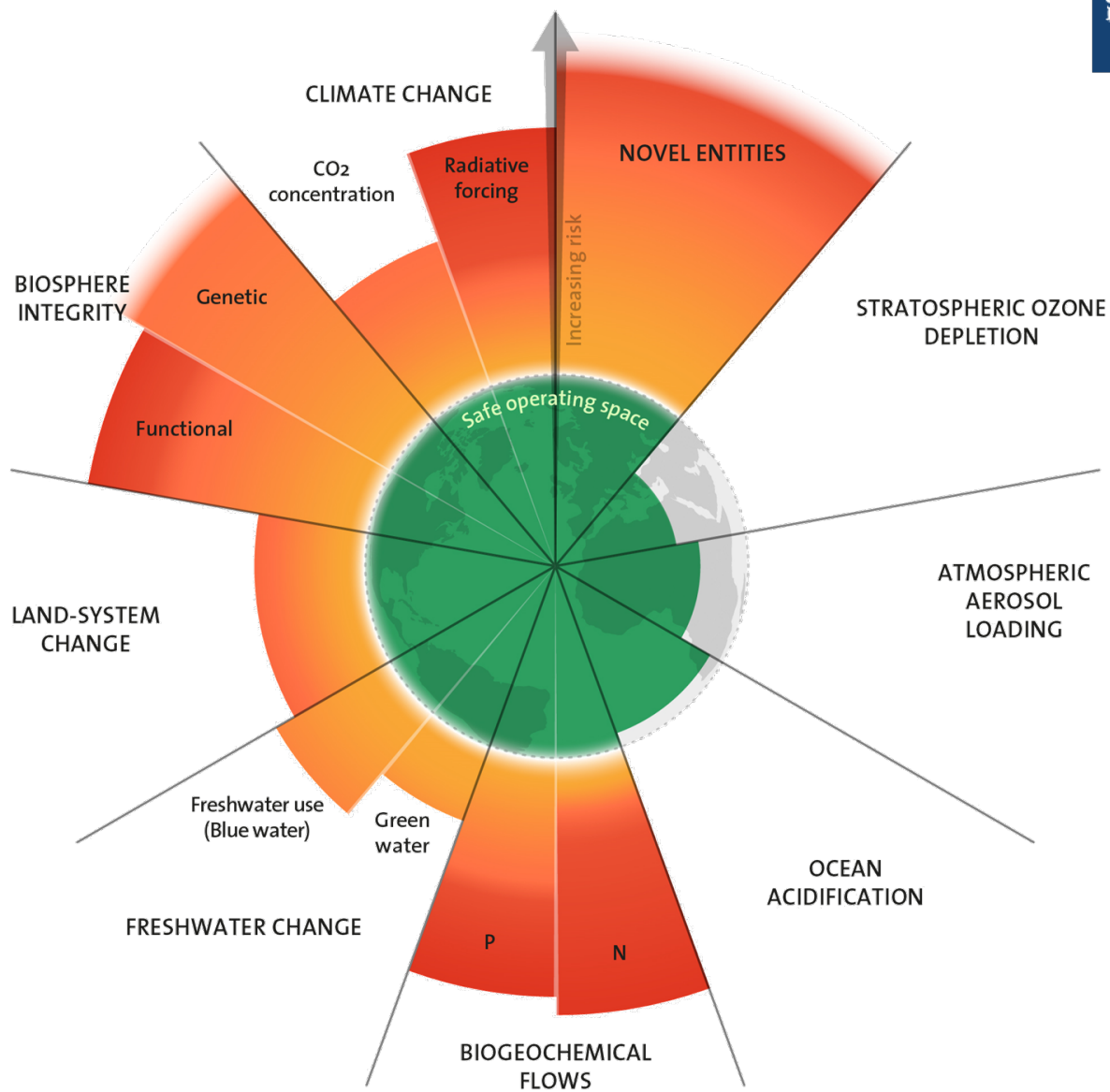




PBL Netherlands Environmental
Assessment Agency



Getting within planetary boundaries

The overarching mission
across the globe to escape
from the lock-in that is 'the
treadmill of production'?

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PROGRESS IN ECONOMIC GEOGRAPHY

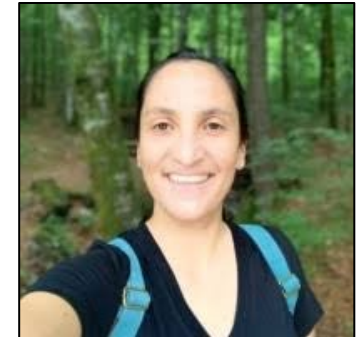


- > **“Economic Geography and Planetary Boundaries: Embracing the planet's uncompromising call to action”**

- > Co-authored with:



Camilla Chlebna



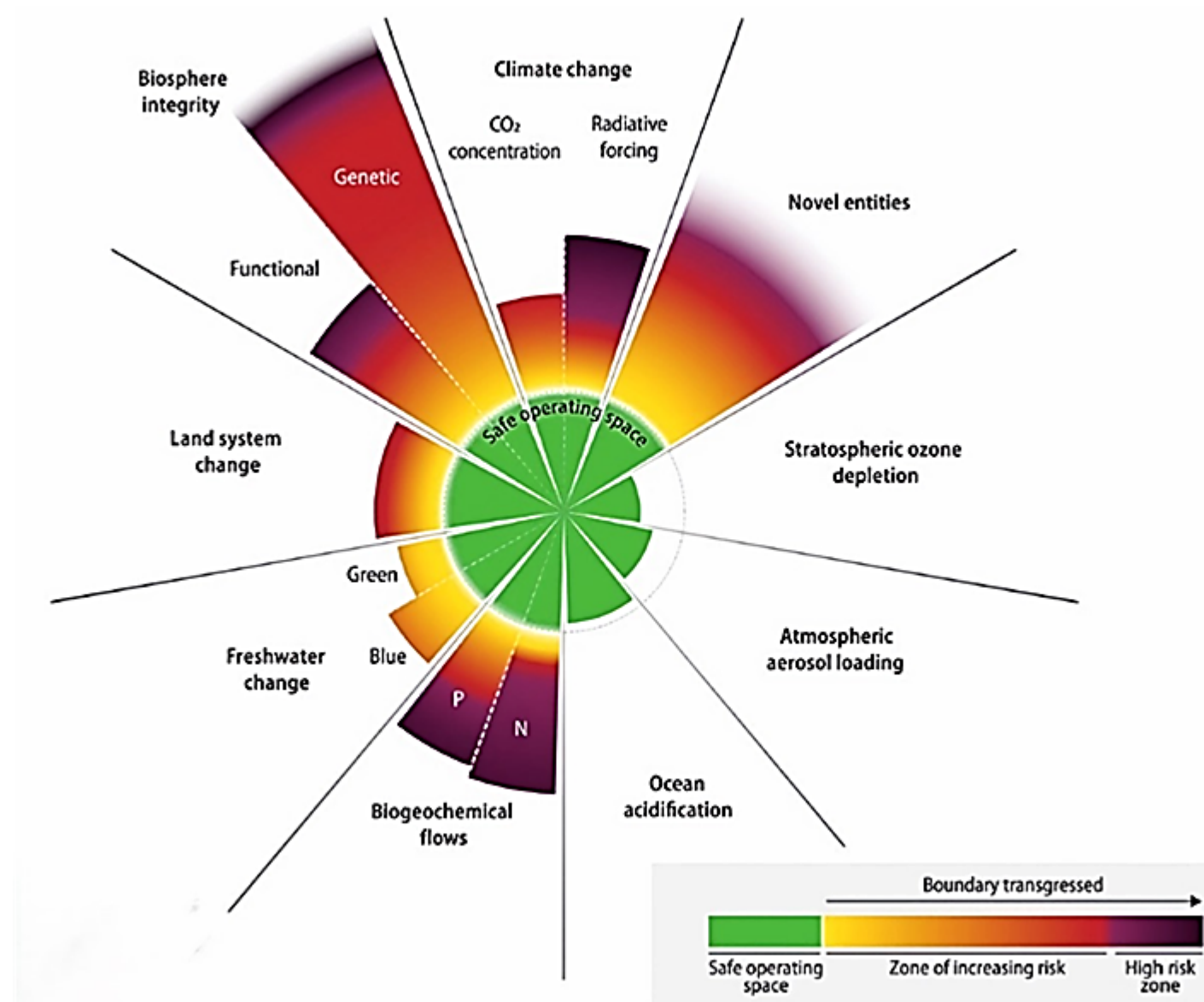
Diana Morales

- > In response to call “Progress in Economic Geography?”
- > Core idea: Rethinking the research agenda in economic geography, taking planetary boundaries as the point of reference

Planetary boundaries

- › Define a safe operating space with respect to nine critical biophysical and biochemical systems and processes maintaining the stability and functions of the overall environment on the planet
- › Delineated based on environmental conditions that existed since end of Ice Age (11,700 years ago)
- › These conditions have been favourable for human flourishing
- › When boundaries are exceeded, Earth system will shift into a new state, with potentially disastrous consequences for human development
- › Compelling evidence that these systems and processes are being affected by anthropogenic activities
- › Framework provides an assessment, estimating how much margin there is for further deterioration as a result of human activities

Situation with respect to planetary boundaries

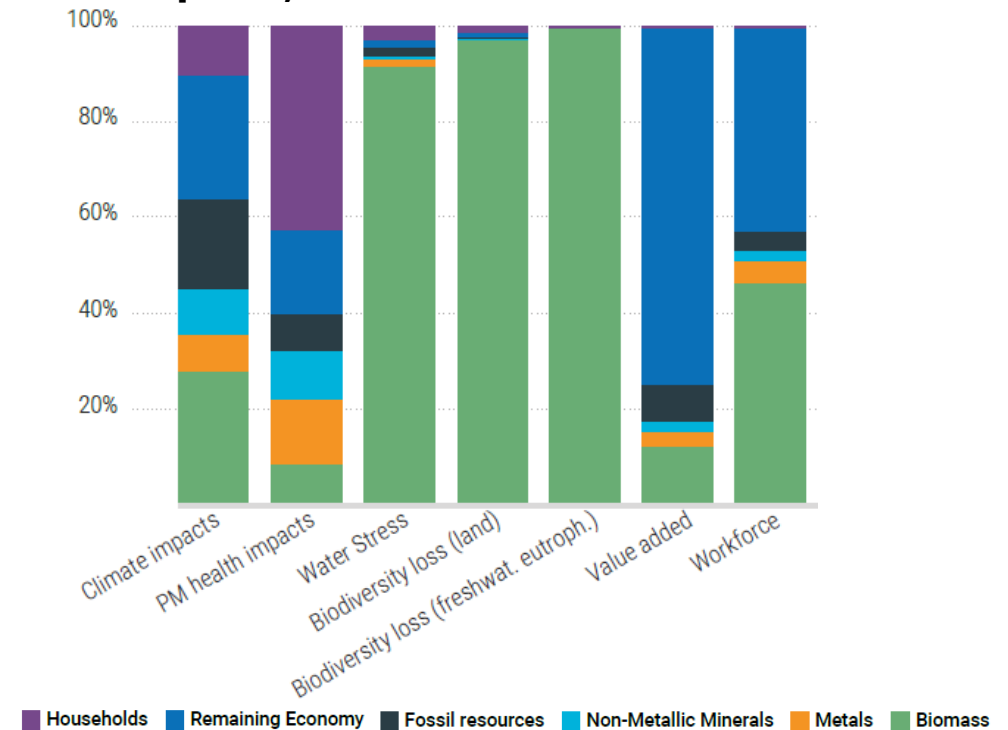


Source:
Richardson et al.
(2023), p. 4

Overarching mission: getting within planetary boundaries!

- > Would mean radical transformation of the current economic system
- > As economic activities are by far the biggest contributors
- > Emissions:
 - Of greenhouse gases
 - Also of novel antropogenic substances, atmospheric aerosols, CFCs, etc.
- > Handling of resources:
 - Affecting biosphere
 - Loss of forest cover
 - Disturbing water cycle
 - Causing perturbations of biochemical cycles
 - Contributing to greenhouse gas emissions

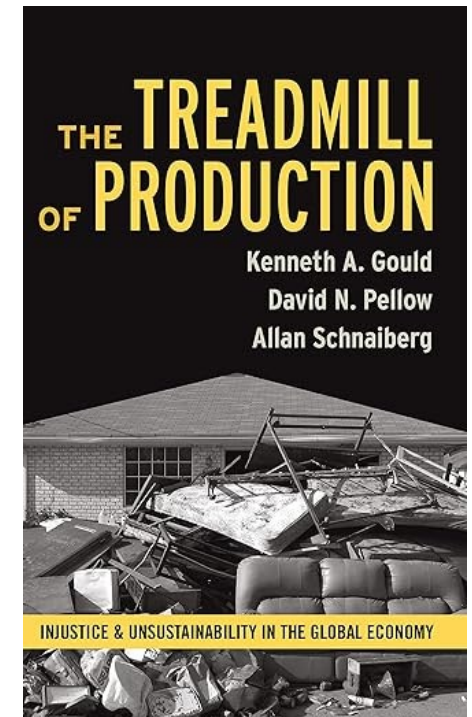
Contribution to global environmental impacts of resource extraction, processing, use and consumption, 2022



Source: International Resource Panel (2024), p. 51

Overcoming the lock-in of 'global treadmill of production'

- › Current mode of production as key factor in putting (enormous) strain on the Earth system
- › Production becomes ever more capital-intensive and energy-intensive
- › With this environmental degradation increases
- › Treadmill in terms of Neo-Marxist logic:
 - Increasing accumulation of capital at top of the social pyramid
 - Competitive struggle to accumulate more wealth drives innovations
 - Sequence of 'spatial fixes'
 - Shaping of society and global order around these 'realities' in material base:
 - Manufacturing of consumer wants to create insatiable hunger for more
 - Implication of governments in promoting this type of 'economic development'
 - Reinforced by implication of also other domains




Research priorities #1: Combining political economy with political ecology

- › How do various economic activities in certain places impact biophysical and biochemical processes and systems at different levels of scale?
- › How are economic activities and the livelihoods of people in different places affected by changing environmental conditions? How will this develop over time?
- › What are options to mitigate the negative impacts of economic activities on the environment in different regions, and to incorporate regenerative practices within the economic system at different scales?
- › What adaptation measures are implemented in different locations, and how are these conditioned by structures, processes, and relations at multiple spatial levels?




Research priorities #1: Combining political economy with political ecology


- › Seeing economy and society as embedded in wider set of relations with natural environment, not yet deeply ingrained
 - › Existing and emerging work on extractivism, commodification, bioeconomy, circular economy, etc.
 - › Much to be gained from incorporating methods and insights from ecological and environmental economics
- 

Research priorities #2: Understanding transitions to sustainable provisioning systems

- > What developments and innovations are taking place in different regions and in different networks to move to more sustainable provisioning systems, and why there?
- > How are these developments and innovations conditioned by the wider spatial economy and political economy; and how does the wider spatial economy and political economy shape their nature, direction, and success?
- > How are developments and innovations to move to a more sustainable provisioning systems spreading across space, and how do they get integrated in processes and structures at higher levels of scale (or why do they fail to do so)?
- > To what new economic geographies are these developments and innovations giving rise?
- > What would be an optimal spatial organization of provisioning systems, from the point of view of diminishing negative impacts on the environment (as well as considerations of justice and efficiency)?



Research priorities #2: Understanding transitions to sustainable provisioning systems

- › Geography of sustainability transitions already an important topic for research
 - › Many studies focus on the 'greening' of existing sectors and activities, in light of how this leads to new growth opportunities in certain regions
 - › Potential to look at more radical alternatives in how needs may be catered for through provisioning systems, and geography around this
 - › Important to adopt a more systemic perspective, and move beyond single case studies
- 

Research priorities #3: Assessing and developing alternative models of development

- > What would alternative economic systems that operate within planetary boundaries look like? What would it mean for different places and for the dynamics, structures, processes, and relations across places?
- > Specifically, what could an 'economic geography of sufficiency' entail? What activities and practices would have to expand, shrink, or be terminated; what other transfigurations must take place; and what are the socio-spatial ramifications?
- > What existing examples of alternative practices and models do we see in some places, and what can we learn from those?
- > How can these alternative economic models not only be fully environmentally sustainable, but also just? What are the spatial aspects of justice to consider, both within the functioning of these alternative models as well as in transition towards these? What voices and whose imaginations are to be involved and foregrounded, and in what ways?

Research priorities #3: Assessing and developing alternative models of development

- › Notion that development should centre on improving 'the well-being of many' seems widely accepted
 - Advancing new models of development such as the Foundational Economy, New Municipalism, Community Wealth Building
- › Problematising the demand-side as part of the unsustainability of the current economic system, rather limited
- › Role for forward-looking and design-oriented techniques, through which alternative futures can be imagined:
 - Scenario-building, research-by-design, story-telling, etc.

Conclusions

- › 'Getting within planetary boundaries' key challenge of our time
- › Means overcoming meta-level 'lock-in':
 - Addressing self-reinforcing mechanisms within functioning of global economic system that lead to excessive resource use and emissions
- › Shift in research priorities in economic geography / regional studies / spatial economics:
 - Combining political economy with political ecology
 - Understanding transitions to sustainable provisioning systems
 - Assessing and developing alternative models of development
- › Building on existing concern for (spatial dimensions of) inequalities and unevenness
 - Making economic system environmentally sustainable inherently tied up with making it more just and geared towards the needs of all