



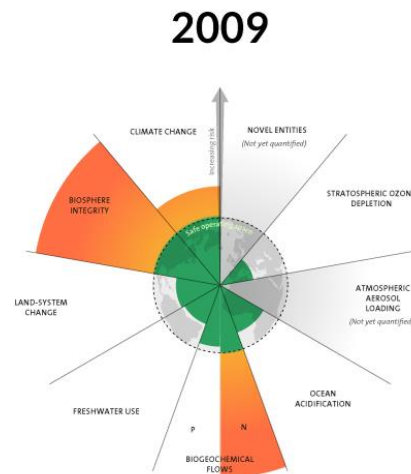
The failure of Integrated Assessment Models as a response to 'climate emergency' and ecological breakdown: the Emperor has no clothes

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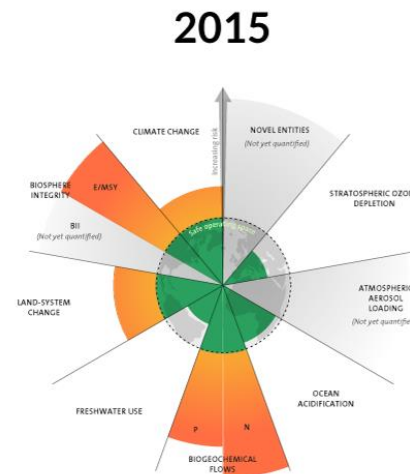
Designing an outline for a new climate mitigation modeling framework Hybrid workshop

November 2023

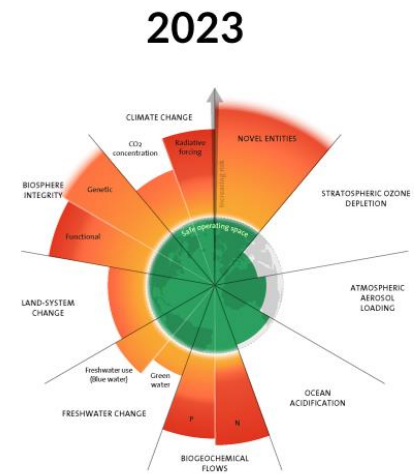
- While climate change demands urgent attention, it is merely a fraction of the broader environmental crisis confronting our planet.
- This crisis stems from an underlying socioeconomic system that depends on endless economic growth, perpetuating social and environmental injustices while exploiting global south countries by those in the global north.
- Pursuing boundless economic expansion implies disregarding the Earth's boundaries, & balance. To preserve this delicate balance, we must operate within the confines of planetary boundaries.



3 boundaries crossed



4 boundaries crossed



6 boundaries crossed

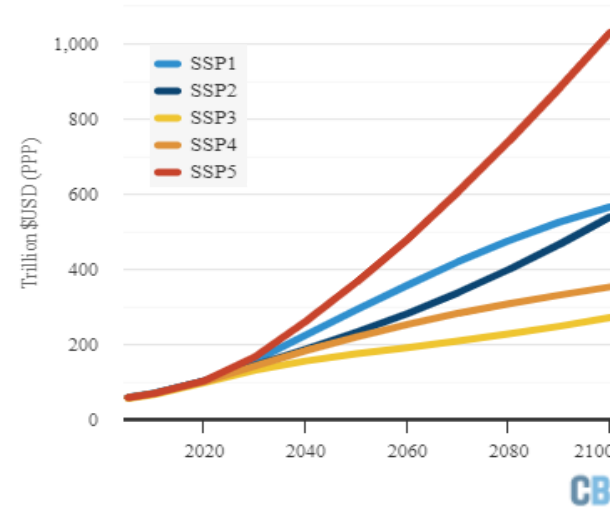
Richardson, J., et.al. 2023. Earth beyond six of nine Planetary Boundaries. Science Advances

Six of nine planetary boundaries are being crossed, while simultaneously pressure in all boundary processes is increasing

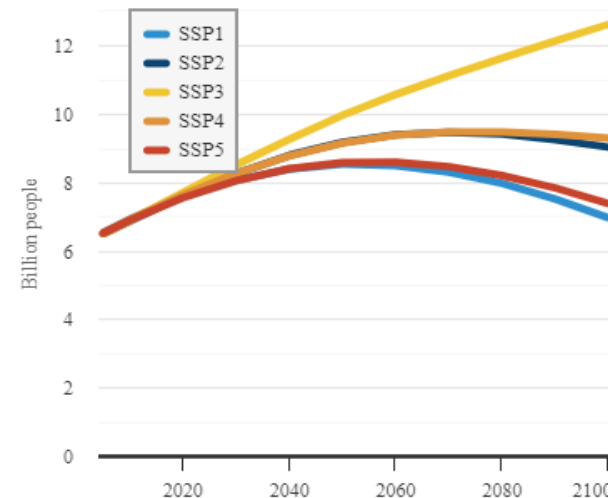
Shortcoming of the current SSP scenarios

- Based on the current assumptions behind the Socioeconomic Pathway Scenarios (SSPs), there is little feedback between the Earth system and the socioeconomic system. Consequently, all five SSP scenarios project continuous GDP growth until 2100, implying that the economy is unaffected by climate and ecological breakdowns.
- Insufficient feedback between Earth System Models and socioeconomic models results in underestimating climate change impacts, including extreme events and variability. Accurate estimation is crucial for effective adaptation planning.

Global GDP



Global population



- Continuous economic growth entails the ongoing expansion of production activities leading to further emissions of carbon making the achievement of Net Zero emissions targets challenging.
- Consequently, as carbon emissions continue to increase, there is a growing reliance on carbon removal technologies. However, these technologies currently appear to be more like a concept rather than a readily available solutions.
- Transitioning to renewable energies in a scaling-up economy necessitates the production of substantial and expanding amounts of renewable energy infrastructure. This would inevitably require vast quantities of materials, potentially leading to further exploitation of countries in the global south (e.g., for minerals essential in battery production).
- Another aspect would be the increased focus on scaling up nature-based solutions, which often results in the appropriation of land from countries in the global south. This, commonly known as land grabbing, raises concerns about the potential exploitation and displacement of local communities in those regions.

Therefore, it is crucial for SSP scenarios to include pathways that consider the potential of a "degrowth" trajectory.

- Realigning the global economy with planetary boundaries
- Promoting equitable resource distribution, which may involve scaling down the economy in global north countries while enabling growth in global south countries until basic needs are fulfilled.
- Promoting universal basic services.
- Shortening weekly workdays and redistributing labor.
- Rethinking the measurement of progress beyond GDP.
- Fostering local self-reliance and resilient communities particularly in the global south countries to encourage building independency from global north.
- Prioritizing well-being and quality of life over endless economic growth.
- Promoting cultural shifts towards simpler lifestyle

How Did We Get Here?

- Preceding cultures viewed Earth as a sacred, living entity, fostering a reciprocal relationship and recognizing the unique sacred essence in every aspect of nature.
- Land was perceived as a gift, not owned, with a responsibility to respect our host planet and minimize our impact, reflecting a profound reverence for all life.
- When settlers arrived, driven by profit, commodified the living planet, dismantling our ability to see it as a vibrant, interconnected, sacred entity.
- They not only committed mass killings but eradicated indigenous cultures that honored the Earth as a living being.
- Our disconnection from nature has led to a dissatisfaction, marked by an insatiable pursuit of material possessions.
- To transition away from perpetual materialism and unrestrained economic expansion, we must replace our addiction with a nurturing relationship, reclaiming the sacred bond with Earth and each other.