

FALLING WALLS CIRCLE

ROUND TABLE “PLANETARY BOUNDARY SCIENCE: ADVANCING SCIENCE TO SAVE THE PLANET”

Recent research has shown that the interdependence of Earth system stability and resilience, along with human well-being, is paramount for establishing safe and just Earth system boundaries. In this Falling Walls Circle, leading experts in planetary boundary science talk about innovative and interdisciplinary approaches needed to better understand and address the challenges our planet is facing.

Panelists: [Paul Behrens](#) (Leiden University, NL), [Wendy Broadgate](#) (Future Earth, SE), [Maria Nilsson](#) (Umeå University, SE), [Johan Rockström](#) (Potsdam Institute for Climate Impact Research, DE), and moderator [Jean-Claude Burgelman](#) (Frontiers Planet Prize, CH).

KEY TAKEAWAYS

- 1. Planetary solutions require interconnected science.** Understanding the Earth's interconnected cycles and tipping points requires interdisciplinary approaches. "Since 2009 there have been papers warning about the destabilisation of the planet and potential tipping points", says Johan Rockström. Yet, science still has not come up with a transformation framework that is broadly agreed on. It is long overdue to "think about planetary solutions, not micro solutions", as moderator Jean-Claude Burgelman puts it. This involves integrating various scientific disciplines so that we can grasp the complexity of human impact on the planet and develop systemic solutions without unintended consequences.
- 2. Increase engagement and advocacy.** Creating public awareness is essential for change. On the search for planetary solutions, there is a need to act quickly and jointly. The panelists thus stress that it is important for scientists to work closer with policy makers, with the public, and with keystone actors, to communicate risks, economic effects, and the urgency itself. This multi-stakeholder approach involves lobbying for Earth system protection, engaging in public discourse, and collaborating with forward-thinking businesses to influence policy change. "We as scientists need to be out there in the public and share our knowledge", says Wendy Broadgate. Initiatives such as the 'Earth Commission' are leading the way.
- 3. The world needs to adapt the planetary boundary framework.** Instead of the old system thinking versus sectoral thinking, the experts support the idea of the planetary boundary framework. By quantifying the safe boundaries for life on Earth, and translating them to policy and governance, it might be possible to deal with the climate challenges that endanger life on Earth. It all starts with an alliance of the willing.

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