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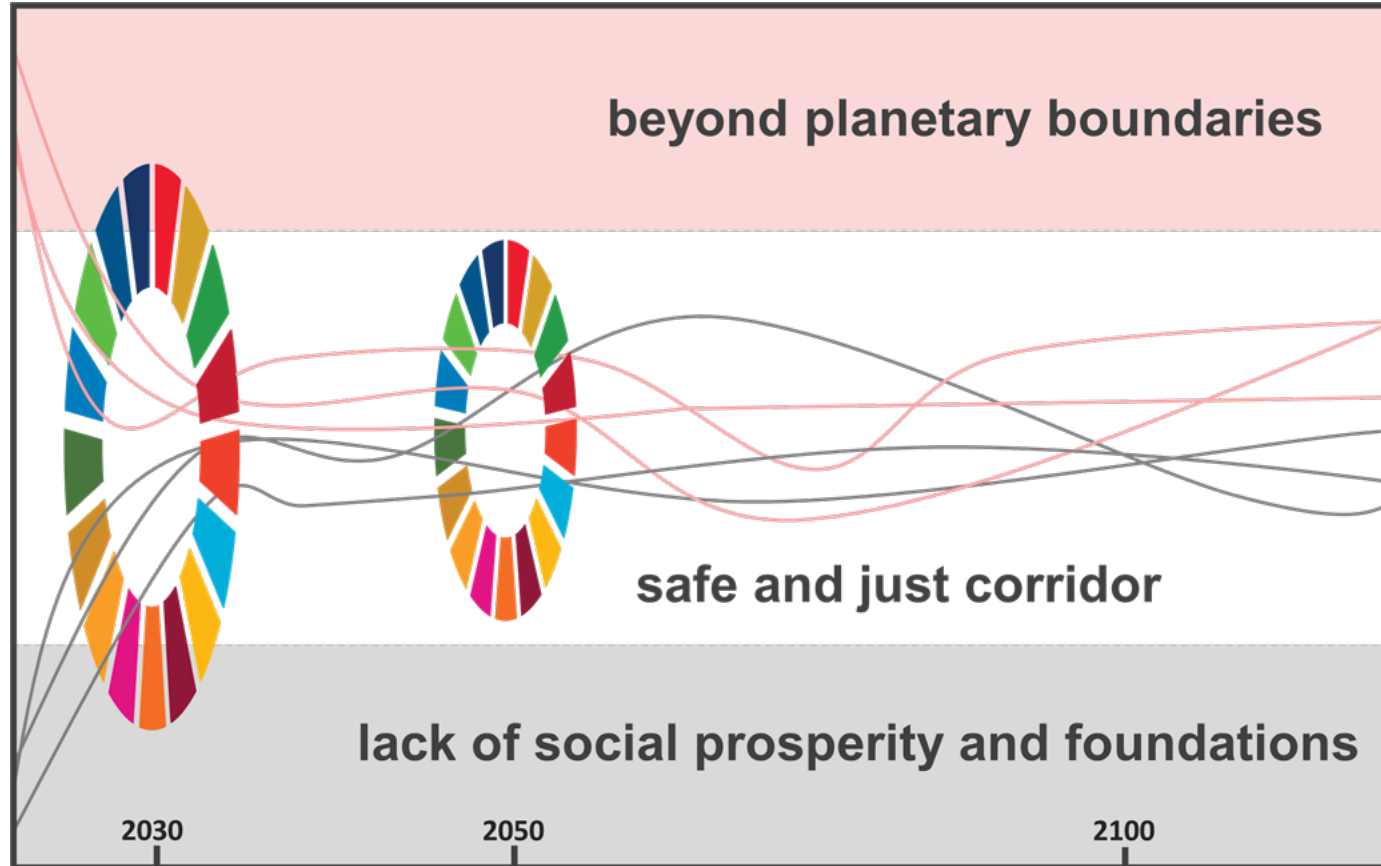
Understanding Sustainable Development Goal (SDG) interactions for policy coherence and long-term sustainability

Anne Warchold & Prajal Pradhan



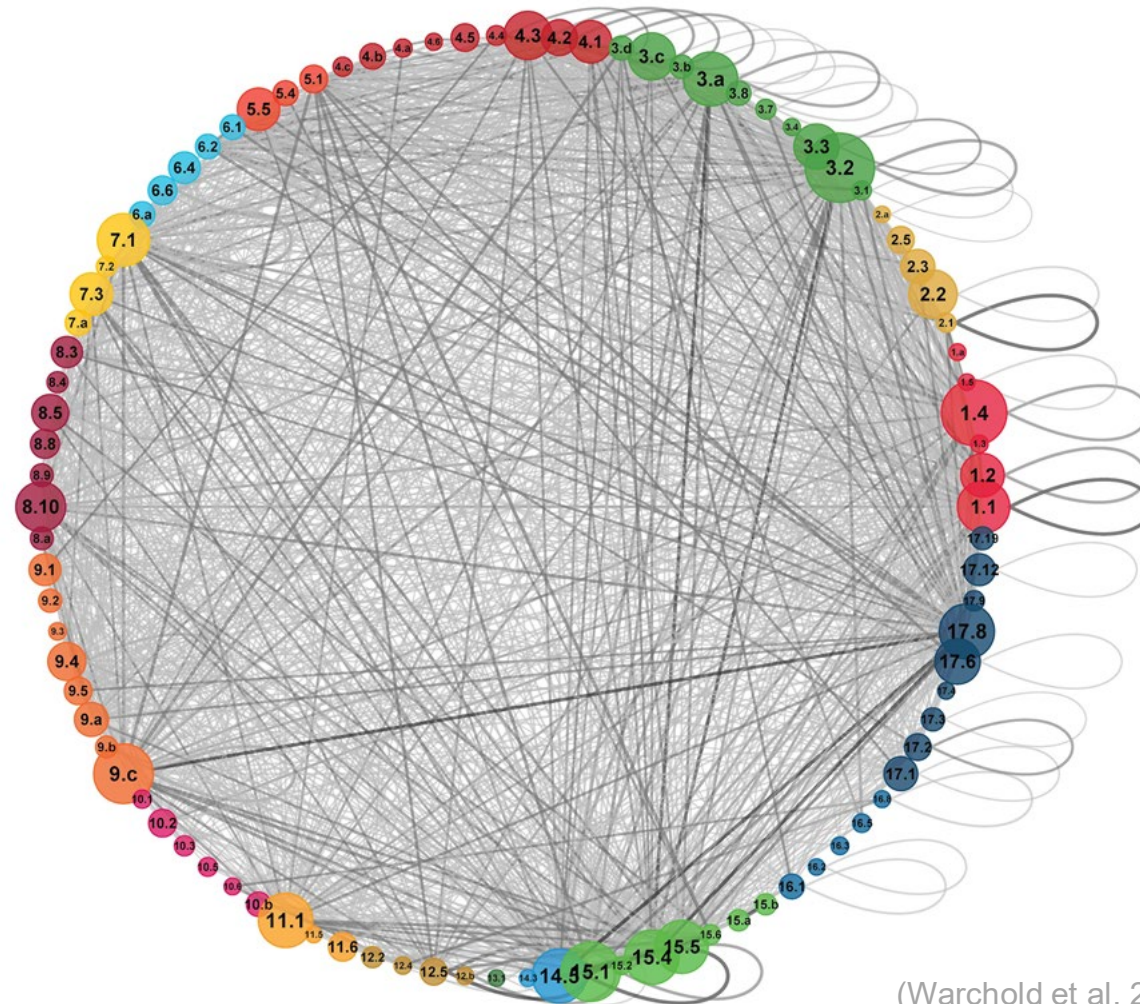
What is our definition of sustainability?

Social foundation within planetary boundaries



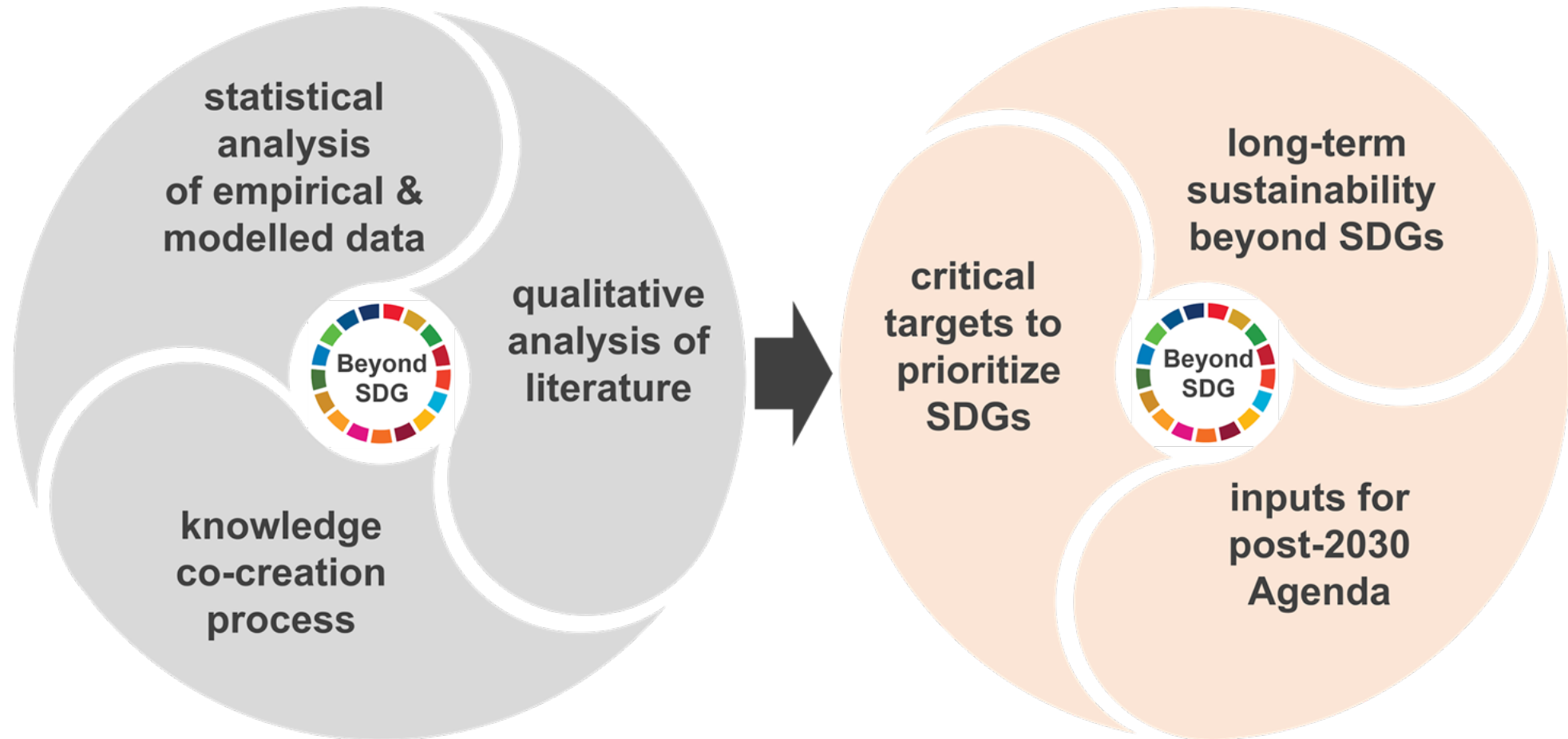
Interactions – synergies and trade-offs

SDGs and their targets do not act in silos

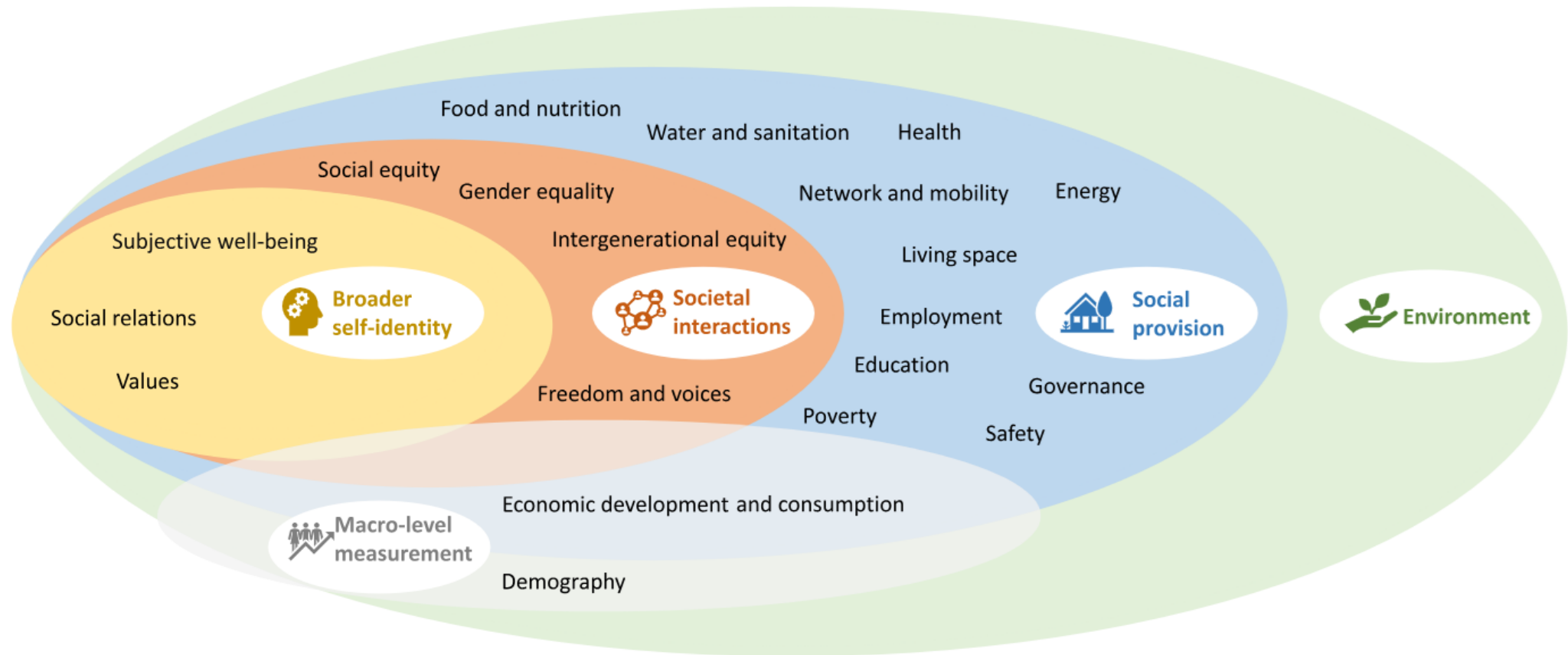


(Warchold et al. 2022,
Sustainable Development)

BeyondSDG`s threefold approach

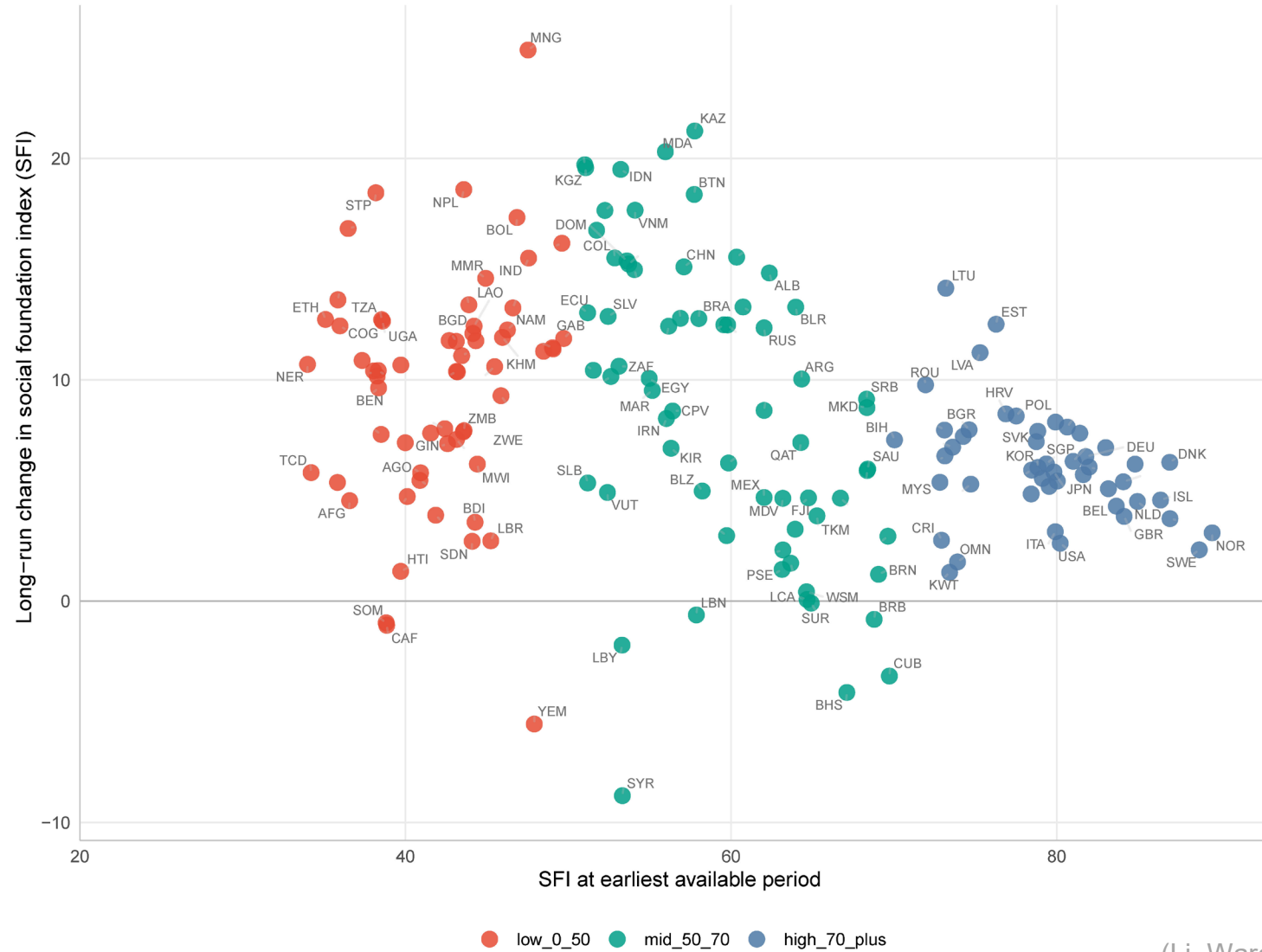


Revisiting social foundations and well-being indicators



(Li, Warchold & Pradhan, 2025, Ecol Indic)

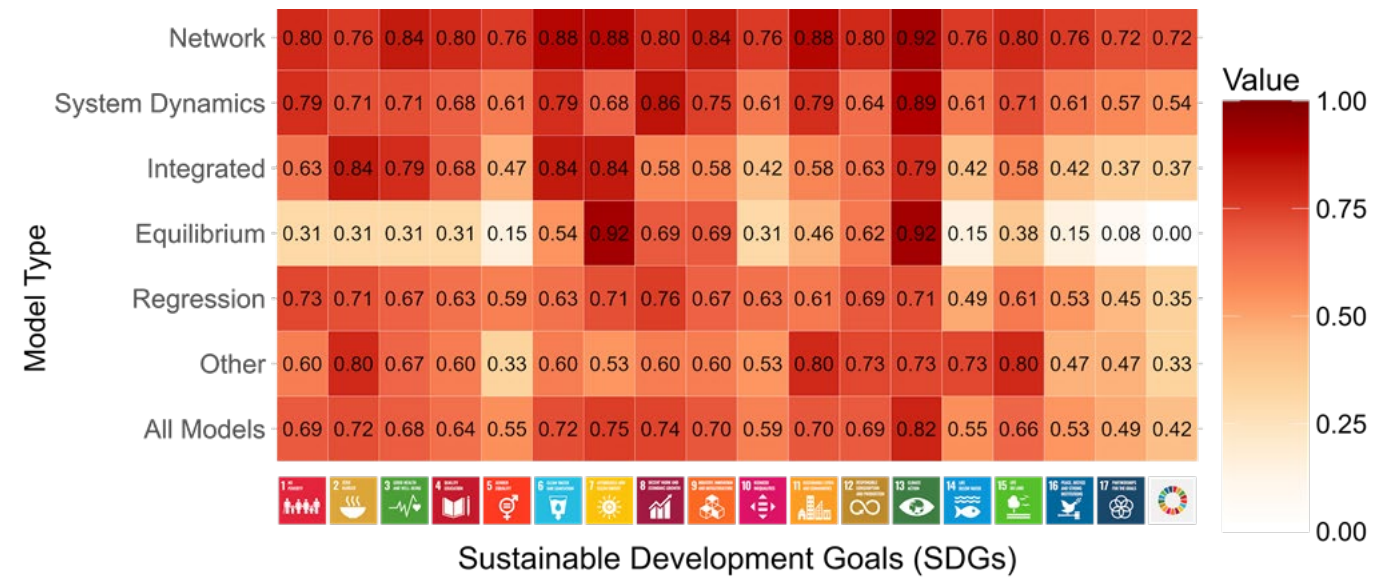
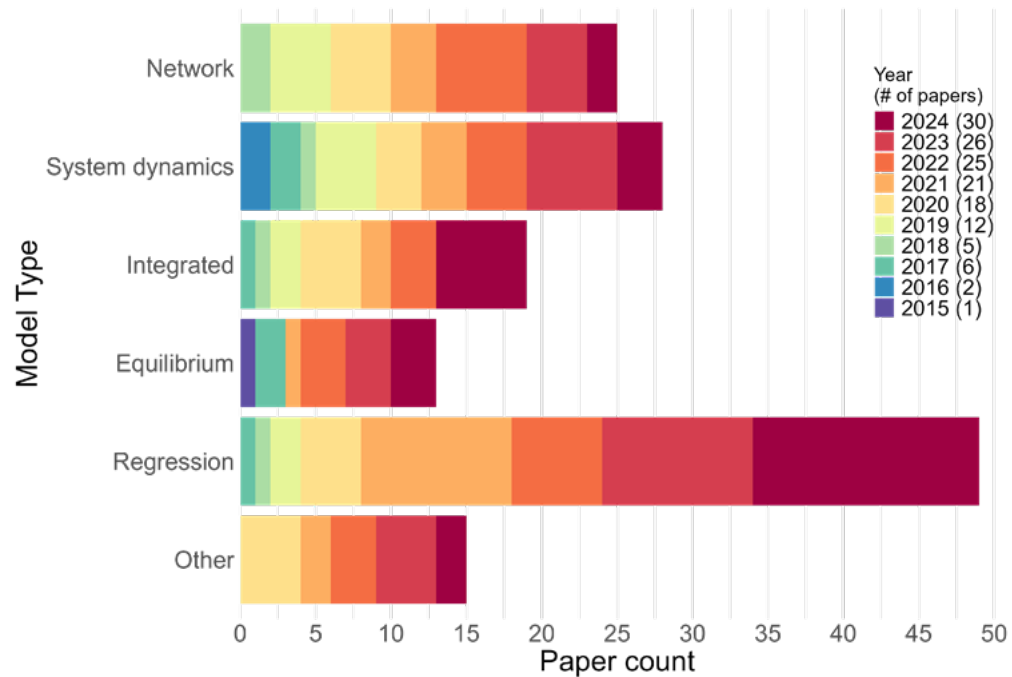
Social foundations index (SFI)



(Li, Warchold & Pradhan, in progress)

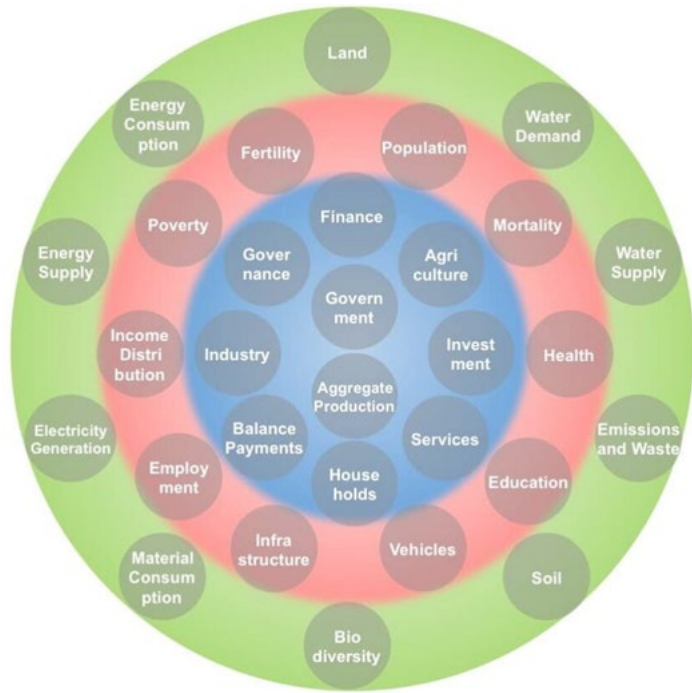
Types of models used for the SDG research

Coverage of the SDGs for the different model types



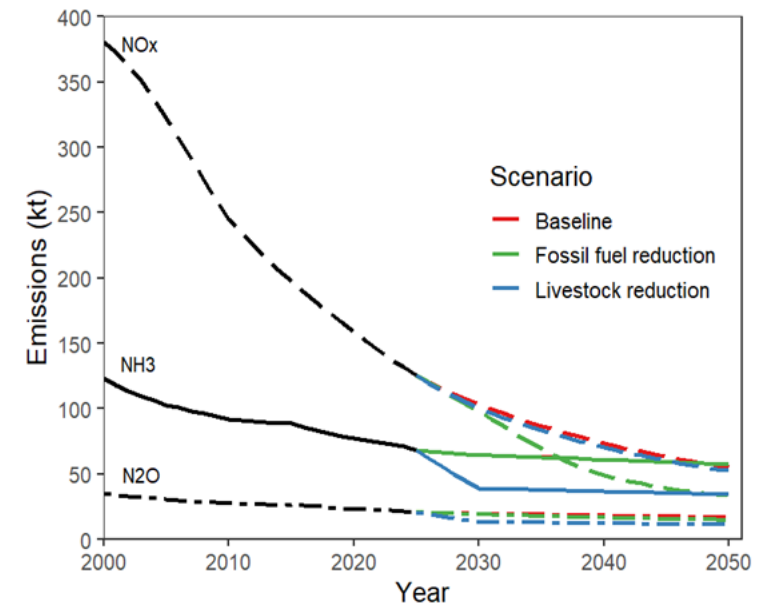
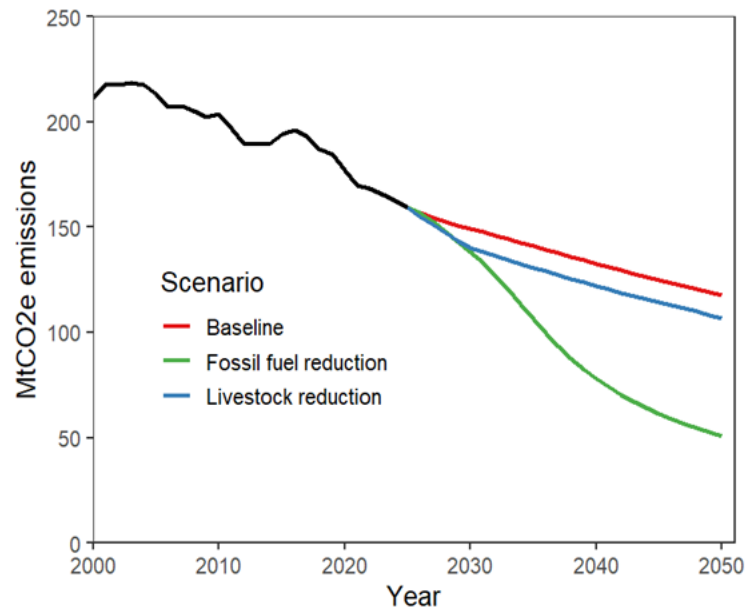
(Kluck, Li., & Pradhan, 2025, Sustainable Development)

Adapting the iSDG model to assess sustainable development for the Netherlands



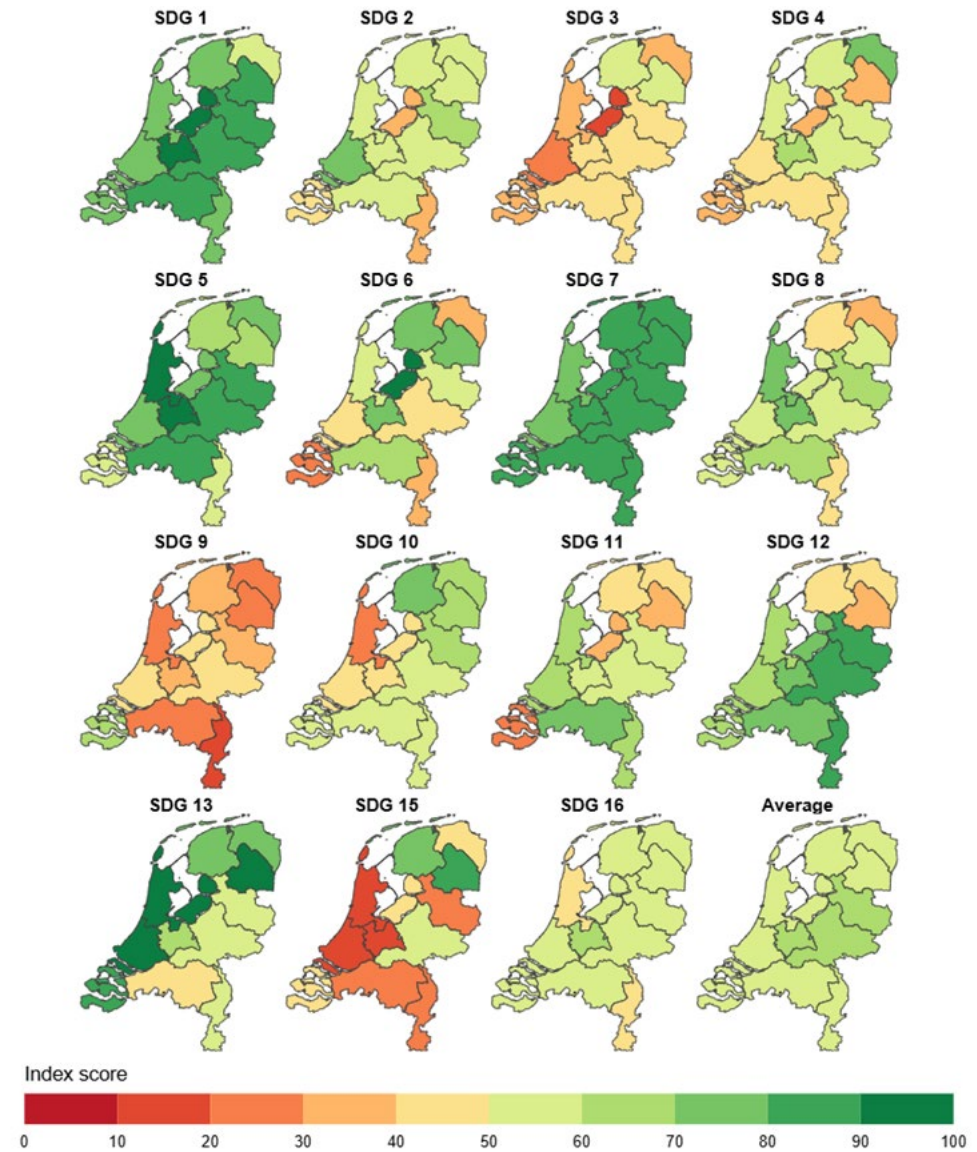
iSDG model

Integrated system dynamics modeling



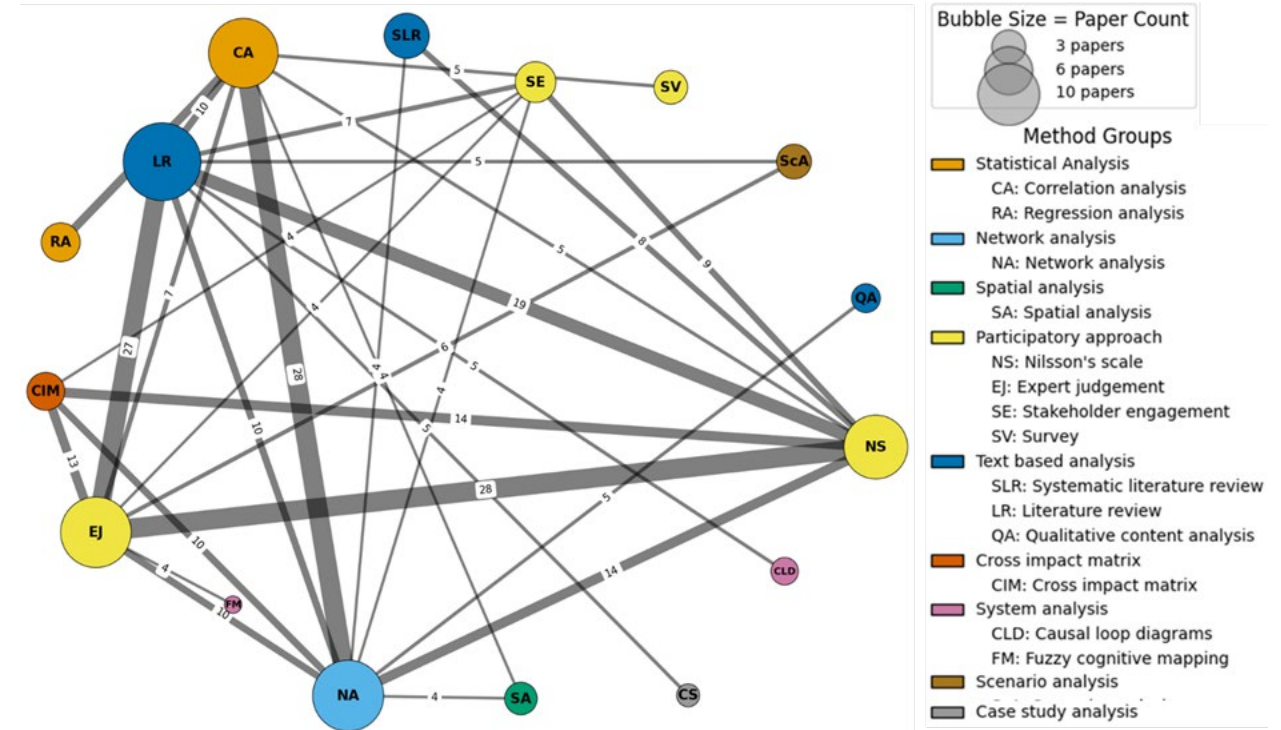
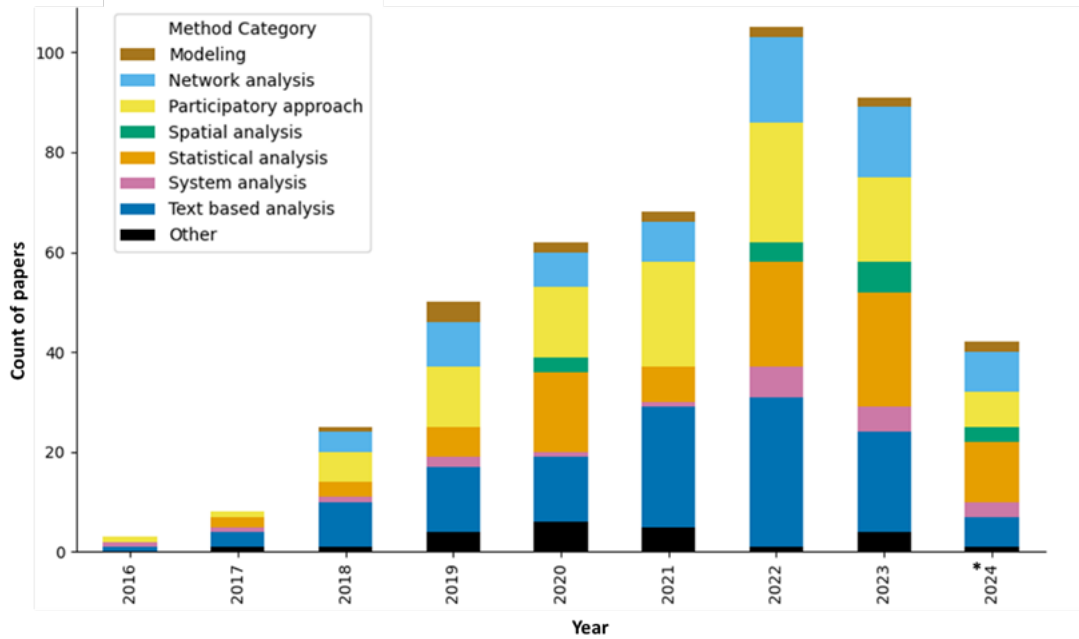
(Kluck, Pedercini & Pradhan, in progress)

SDG index at the provincial level for the Netherlands



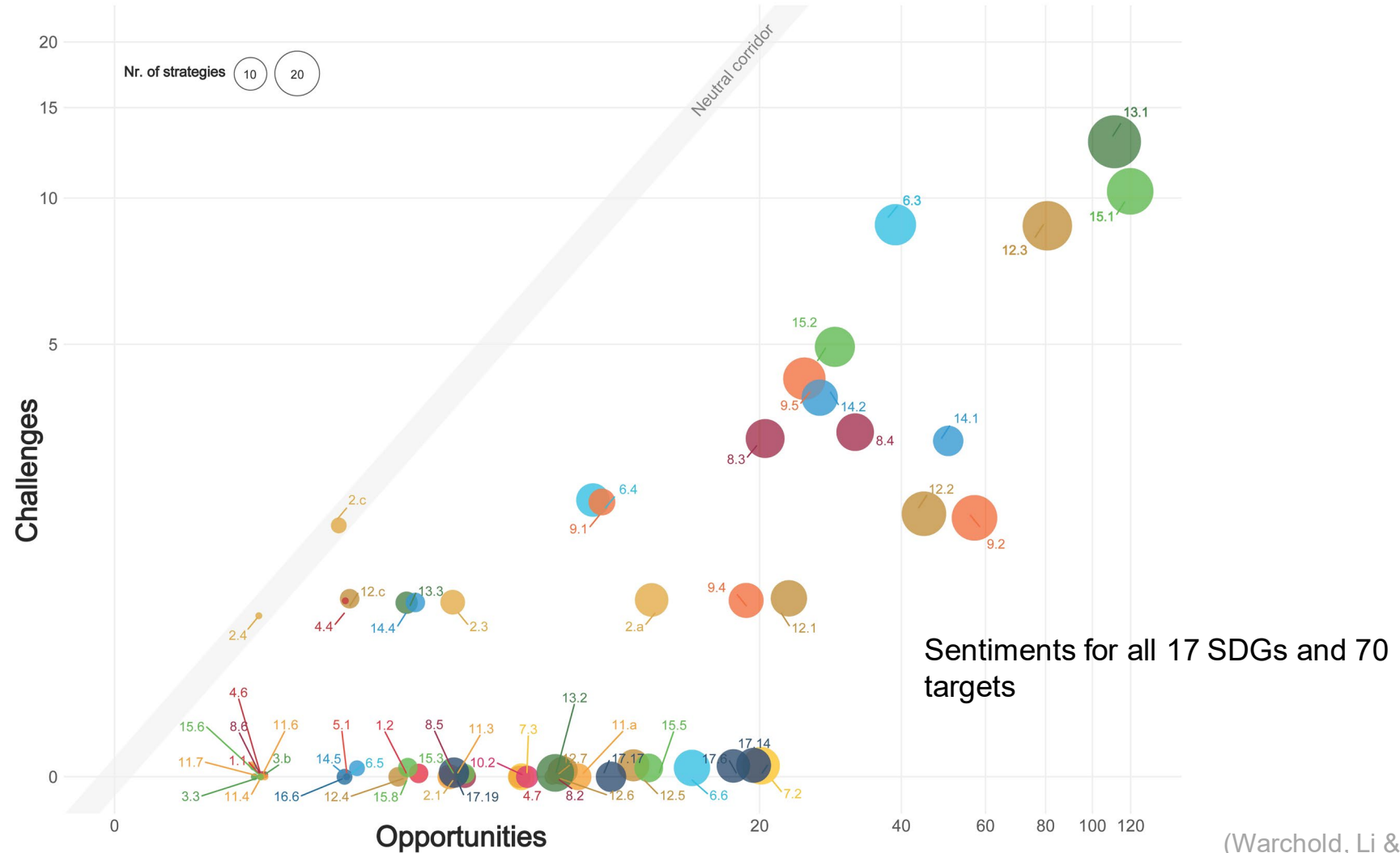
(Warchold, de Witt & Pradhan, in progress)

Evolving methods for studying SDGs interactions



(Khot, Warchold & Pradhan, 2026, Environ Impact Assess Rev)

Bioeconomy strategies fail to consider potential trade-offs for sustainability



(Warchold, Li & Pradhan, 2025, Sustainability Science)

Sequence of workshops and research dialogues



Groningen Workshop, April 2024



GLOBALGOALS Conference, Utrecht, Aug 2024



Workshop in Groningen, Oct 2025

- › Integrate systems thinking by drawing on three foci -- **SDG interaction**, **modeling**, and decision-support **tools**

(Pradhan, Warchold, et al., 2024, Nature Communications)

- › Reforming global sustainability governance by integrating **SDG differentiation**, **institutionalization**, **dynamization**, and **legalization**

(Biermann, Pradhan, et al., 2023, Science)

- › Strengthen multi-actor and multi-level collaboration by bridging **science**, **policy**, **governance**, **private sector**, and **civil society**

Thanks!

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