

Call for Abstracts

4th Workshop of the Thematic Group on 'Multi-system Dynamics' in Sustainability Transitions

21st–22nd of April 2026 | University of Tartu, Estonia

Organizers: Laur Kanger¹, Philip Johnstone^{1,2} & Sophie-Marie Ertelt^{1,3}

¹ University of Tartu, Institute of Social Studies

² Utrecht University

³ Örebro University, School of Business

In recent years there has been increasing recognition in the sustainability transitions field that tackling current social and environmental crises needs interconnected transitions across different socio-technical systems such as energy, mobility, food, water and waste management. As such, initial and fragmented studies of multi-system dynamics (MSD) (Geels, 2007; Konrad et al., 2008) have grown into a steady stream of research. The topics covered include interactions across regimes and technologies (Andersen and Markard, 2020), the formation of cross-sectoral complementarities (Andersen et al., 2020; Andersen and Geels, 2023), the role of actors such as system entanglers operating at system interfaces (van der Vleuten, 2019; Käsbohrer et al., 2024; Löhr and Chlebna, 2023), asymmetries and sequentiality in multi-system transitions (Andersen et al, 2023, Magnusson et al, 2025), the emergence of new governance arrangements spanning multiple sectors (Ateş et al., 2024, Löhr et al, 2024), and long-term multi-system co-evolution (Schot & Kanger, 2018; Kanger & Schot, 2019; Davies & Schot, 2025). Empirical studies have examined multi-system dynamics in areas such as electrification, hydrogen development, circular economy initiatives, and sector coupling across transport, energy, industry, and construction (Ertelt and Kask, 2024; Markard, 2018; Nykamp et al., 2023; Ohlendorf et al., 2023). The growing interest in the topic is also reflected in the organization of a special issue on MSD by *Environmental Innovation and Societal Transitions*.

Yet a range of theoretical, conceptual, and empirical gaps remain: there is a continued need to refine conceptual vocabularies, strengthen causal explanations, develop methodological approaches that better capture dynamic interdependencies between systems, and deepen empirical coverage across sectors, geographies, and political contexts. Furthermore, many more fundamental challenges warrant further analysis and discussion, e.g. the drawing of boundaries for studying MSD, the implications for broadening the unit of analyses for methodological strategies used, or the balance between extending existing frameworks to a new topic vs. developing new frameworks. To address these issues, scholars working on multi-system dynamics have been meeting regularly through workshops and conference sessions. Following earlier workshops in Oslo (2023), Gothenburg (2024), and Winterthur (2025), this fourth workshop continues this tradition with a two-day event in Tartu.

We invite contributions that engage with multi-system dynamics in sustainability transitions, including but not limited to:

- Conceptual frameworks and theoretical advances related to MSD
- Causal mechanisms of cross-system interaction, alignment, conflict, and co-evolution
- Roles and strategies of actors operating across systems and value chains
- Governance, policy, and political dynamics at multi-system interfaces
- Methodological approaches for studying multi-system phenomena
- Comparative or geographically diverse empirical studies
- Studies that zoom out to explore links between MSD and Deep Transitions

Submissions at an early or intermediate stage are particularly welcome. The workshop is intended as a forum for developing papers for journal submission and for contributions to the upcoming IST conference in Zurich, as well as for collectively reflecting on a future research agenda for the MSD thematic group.

Important dates

- **9th of February 2026:** Deadline for abstract submission
- **23rd of February 2026:** Notification of acceptance
- **7th of April 2026:** Deadline for sharing work-in-progress papers
- **21st–22nd of April 2026:** Workshop in Tartu, Estonia

To apply, please submit an **extended abstract of up to 1,000 words** (including references) outlining your intended contribution to the workshop. Abstracts should be sent to Merlyn Randla (merlyn.randla@ut.ee).

The workshop assumes the participation of around 20 people. The organizers will arrange and cover the costs for all meals during the workshop. The participants are generally expected to cover their own travel and accommodation costs. Further information on the programme, opportunities for additional funding support, and practical arrangements will be shared with accepted contributors at a later stage.

References

- Andersen, A.D., Geels, F.W., 2023. Multi-system dynamics and the speed of net-zero transitions: Identifying causal processes related to technologies, actors, and institutions. *Energy Res. Soc. Sci.* 102, 103178. <https://doi.org/10.1016/j.erss.2023.103178>
- Andersen, A.D., Geels, F.W., Steen, M. and Bugge, M.M., 2023. Building multi-system nexuses in low-carbon transitions: conflicts and asymmetric adjustments in Norwegian ferry electrification. *Proceedings of the National Academy of Sciences*, 120(47), p.e2207746120.
- Andersen, A.D., Markard, J., 2020. Multi-technology interaction in socio-technical transitions: How recent dynamics in HVDC technology can inform transition theories. *Technol. Forecast. Soc. Change* 151, 119802. <https://doi.org/10.1016/j.techfore.2019.119802>
- Andersen, A.D., Steen, M., Mäkitie, T., Hanson, J., Thune, T.M., Soppe, B., 2020. The role of inter-sectoral dynamics in sustainability transitions: A comment on the transitions

- research agenda. *Environ. Innov. Soc. Transit.* 34, 348–351.
<https://doi.org/10.1016/j.eist.2019.11.009>
- Ateş, A., Rogge, K.S., Lovell, K., 2024. Governance in multi-system transitions: A new methodological approach for actor involvement in policy making processes. *Energy Policy* 195, 114313. <https://doi.org/10.1016/j.enpol.2024.114313>
- Davies, J., & Schot, J. (2025). Deep Transitions. *Cambridge Open Engage*.
doi:10.33774/coe-2025-sxjrk This content is a preprint and has not been peer-reviewed.
- Ertelt, S.-M., Kask, J., 2024. Home field advantage: examining incumbency reorientation dynamics in low-carbon transitions. *Environ. Innov. Soc. Transit.* 50, 100802.
<https://doi.org/10.1016/j.eist.2023.100802>
- Geels, F.W., 2007. Analysing the breakthrough of rock ‘n’ roll (1930–1970) Multi-regime interaction and reconfiguration in the multi-level perspective. *Technol. Forecast. Soc. Change* 74, 1411–1431. <https://doi.org/10.1016/j.techfore.2006.07.008>
- Kanger, L., & Schot, J. (2019). Deep Transitions: Theorizing the long-term patterns of socio-technical change. *Environmental Innovation and Societal Transitions*, 32: 7-21.
- Käsbohrer, A., Hansen, T., Zademach, H.-M., 2024. Multi-system interactions and institutional work: Actor interactions at the interface of residential storage systems and electric vehicles in Germany. *Environ. Innov. Soc. Transit.* 51, 100844.
<https://doi.org/10.1016/j.eist.2024.100844>
- Konrad, K., Truffer, B., Voß, J.-P., 2008. Multi-regime dynamics in the analysis of sectoral transformation potentials: evidence from German utility sectors. *J. Clean. Prod.* 16, 1190–1202. <https://doi.org/10.1016/j.jclepro.2007.08.014>
- Löhr, M., Chlebna, C., 2023. Multi-system interactions in hydrogen-based sector coupling projects: System entanglers as key actors. *Energy Res. Soc. Sci.* 105, 103282.
<https://doi.org/10.1016/j.erss.2023.103282>
- Löhr, M., Markard, J., & Ohlendorf, N. (2024). (Un) usual advocacy coalitions in a multi-system setting: the case of hydrogen in Germany. *Policy Sciences*, 1-31
- Magnusson, T., Onufrey, K., Werner, V. and Gillström, H., 2025. Inter-system linkage formation in multi-system transitions: Incumbents, asymmetries and learning cycles. *Research Policy*, 54(8), p.105293.
- Markard, J., 2018. The next phase of the energy transition and its implications for research and policy. *Nat. Energy* 3, 628–633. <https://doi.org/10.1038/s41560-018-0171-7>
- Nykamp, H., Andersen, A.D., Geels, F.W., 2023. Low-carbon electrification as a multi-system transition: a socio-technical analysis of Norwegian maritime transport, construction, and chemical sectors. *Environ. Res. Lett.* 18, 094059.
<https://doi.org/10.1088/1748-9326/acf67a>
- Ohlendorf, N., Löhr, M., Markard, J., 2023. Actors in multi-sector transitions - discourse analysis on hydrogen in Germany. *Environ. Innov. Soc. Transit.* 47, 100692.
<https://doi.org/10.1016/j.eist.2023.100692>
- Schot, J., & Kanger, L. (2018). Deep Transitions: Emergence, Acceleration, Stabilization and Directionality. *Research Policy*, 47(6): 1045-1059.
- Van der Vleuten, E. (2019). Radical change and deep transitions: Lessons from Europe’s infrastructure transition 1815–2015. *Environmental Innovation and Societal Transitions*, 32, 22-32.