



A brake or an accelerator? The role of law in sustainability transitions

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ABSTRACT

The role of law is arguably of key importance in rapid sustainability transition. However, neither past nor current transition research explicitly engages with law in relation to transition, and when it engages with law at all, it adopts an instrumental view of it rather than a complex-systemic one. Similarly, there is a lack of broad-ranging legal scholarship on the role of law in transition. We argue that there is a need to bridge the gap between legal and transition research to support the achievement of sustainability goals, and propose a conceptual framework to initiate such a dialogue. The various accelerating, braking and steering roles that the law plays in transition forms the core of our framework in tandem with an argument to the effect that law is a complex system containing legal forces that both support and hinder sustainability transition.

Law's roles in sustainability transition are central, but these roles are poorly understood and integrated into transition research. While transition research has addressed policy and politics in a broad sense, explicit discussion on the role of law in transition is lacking. An implicit – and problematic – assumption remains in transition research that law merely facilitates transition as part of a policy mix, and that law can be changed to support desirable transition if the political will to do so exists. This instrumental understanding of law fails to capture the complexity of legal systems or reflect the full perspective of law's roles in transition. These mismatches do not provide a fruitful starting point for connecting legal and transition research.

To address the challenges pressurising planetary boundaries (United Nations, 2019; Steffen and Others, 2015), many of the sustainable development goals have been translated into legal commitments to secure their implementation. Without such legal support, bottom-up transition are unlikely to emerge quickly enough to meet the deadlines set for sustainability transition. The European Union (EU) is a powerful regional governance organization with globally progressive policies and ambitious legal frameworks to speed up transition and drive transformative societal change toward sustainability. The EU has announced the Green Deal and a legislative package to support it ('Fit for 55') containing, inter alia, a legal commitment to achieve carbon neutrality by 2050 (COM 2020 80 final).

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The EU is also taking steps towards ‘put[ting] Europe’s biodiversity on the path to recovery by 2030’ (COM 2020 380 final) and reaching good ecological status of waters by 2027 (Water Framework Directive 2000/60/EC). Highly ambitious goals such as these will require significant social and technological innovation and transition.

Despite the high level of global and EU ambition for sustainability transition, legal dilemmas persist (Verbong and Loorbach 2012; Kivimaa and Kern 2016; Patterson et al., 2021). Top-down legal instrumentation is needed to drive rapid sustainability transition (IPCC, 2021; IPBES, 2019), and in the past law has been effective in resolving point-source problems (e.g. depletion of the ozone layer). Yet, in the context of sustainability challenges, law as a system requires a radical change – mere substantive changes are not enough. However, such systemic change is unlikely to occur in any feasible timeframe, if at all (Dietz et al., 2003; Garmestani and Others, 2019). Legal systems are complex and emerge over the course of decades and centuries as a result of input by numerous actors and institutions on multiple levels (Ruhl et al., 2017; Cosens et al., 2020; Ruhl et al., 2021). Consequently, while legal systems promote sustainability transition, they also establish institutional, procedural and substantive barriers to them (Patterson et al., 2021).

These dichotomies underscore the importance and need to couple understandings of complex legal systems with cutting edge sustainability transition research (e.g. Martens and Rotmans 2005, Loorbach, 2014). Such connection between research tradition has yet not been forthcoming. State-of-the-art sustainability transition research has mostly focused on institutions other than law (e.g. Loorbach 2010) and on developing grass-roots knowledge co-production processes – such as citizens’ panels and transition arenas – to stimulate social learning and innovation for sustainability (Köhler and others, 2019). Despite the importance of such processes, many of them are unlikely to scale up quickly without significant legal institutional support, which is difficult to muster in view of the legal complexities explained above. Some legal scholars have focused on the role of law in sustainability transition in limited contexts (e.g. Ludwig 2019), but without engaging in a discussion that integrates law and governance systems at large.

We conceptualize and exemplify the different roles of law in (1) steering transition to certain ends, (2) slowing transition down, and (3) accelerating transition Fig. 1.

Legal steering. Legal instruments steer the direction of societal change for sustainability through, e.g., goals, monitoring criteria and timetables at different levels of law from global to local. Law cannot, however, prescribe desired societal ends due to the complexity of the legal system explained above. Nor is law entirely consistent in its goals when seeking to increase economic efficiency in tandem with sustainability. Consequently, the steering wheel is best conceptualized as being somewhat broken, allowing some but not full control of these systems (the car).

Legal brake. Law can function as a brake pedal slowing down transition. The legislature, even when endowed with the political will to drive legal and societal change toward sustainability, is typically faced with various legal boundaries that limit policy choices. These include the separation of powers between the different branches and levels of government, the demands of due process in implementing legal initiatives, and substantive rights linked to legal certainty such as the protection of property and of legitimate

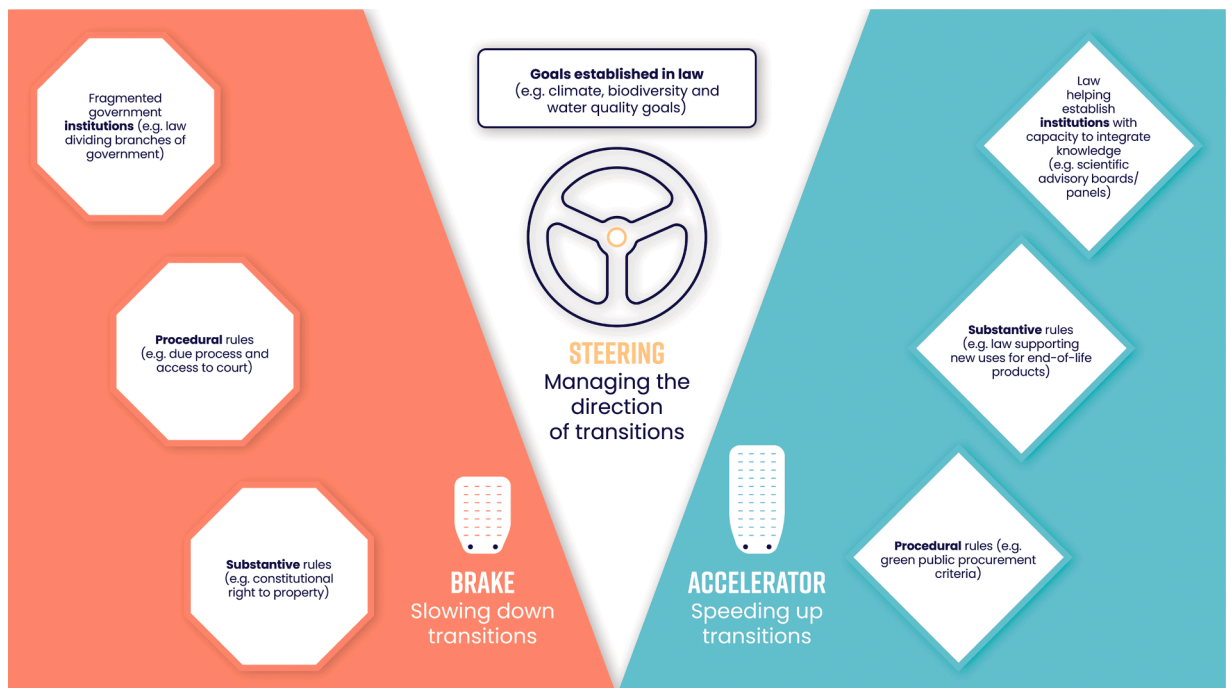


Fig. 1. Conceptualization of the roles of law in governing sustainability transition. These roles can be conceptualized as the controls of a vehicle that represents a social-ecological-technological system being governed. The steering instruments (steering wheel, brake pedal, accelerator) describe the three roles of law in transition and the traffic signs offer examples of the specific legal-institutional, procedural and substantive questions related to transition in different sectors.

expectations to continue using natural resources (Patterson et al., 2021).

Legal accelerator. Law accelerates transition by establishing institutions to connect sectoral government structures and making the best science available to decision-makers. The IPCC and IPBES are the most well-known global examples. The EU is in the process of establishing its own scientific advisory body to integrate climate science and decision-making (Regulation (EC) No 401/2009). Law embraces procedural rules allowing the consideration of sustainability aspects, e.g. by establishing green criteria for public procurement (COM 2008 400 final). Legal instruments also embrace new technological and societal innovations through substantive rules, e.g. by incentivizing new uses of end-of-life products (COM 2015 614 final).

Understanding and conceptualizing the different roles that complex legal systems play in sustainability transition is a key component in interdisciplinary transition research. At present, legal scholars have insufficient understanding of transition, and transition scholars have insufficient grasp of law as a complex system. Analysing the steering, slowing down and accelerating roles of law in specific transition is a first step toward promoting further understanding. In the absence of a shared conceptual framework, members of the separate research tradition will continue to leave the most important questions unasked and unanswered. We have sought to create connections between theoretical understanding in respect of legal and sustainability transition research respectively to initiate a dialogue and bridge the gap between the two.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- COM, 2008. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Public Procurement for a Better Environment, p. 400 final.
- COM, 2015. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Closing the Loop - An EU Action Plan for the Circular Economy, p. 614 final.
- COM, 2020. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. EU Biodiversity Strategy for 2030, Bringing Nature Back Into Our Lives, p. 380 final.
- Cosens, B., Ruhl, J.B., Soininen, N., Gunderson, L., 2020. Designing law to enable adaptive governance of modern wicked problems. *Vanderbilt Law Rev.* 73 (6), 1687–1732.
- Dietz, T., Ostrom, E., Stern, P.C., 2003. The struggle to govern the commons. *Sci.* 302, 1907–1912.
- Garmestani, A., Others, 2019. Untapped capacity for resilience in environmental law. In: *Proceedings of the National Academy of Sciences of the United States of America*, 116.
- Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondízio, H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany. 56 pages. <https://doi.org/10.5281/zenodo.3553579>.
- IPCC (2021) Summary for policymakers. In: *Climate Change 2021. The Physical Science Basis*: https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf.
- Kivimaa, P., Kern, F., 2016. Creative destruction or mere niche support? Innovation policy mixes for sustainability transitions. *Res. Policy* 45 (1), 205–217.
- Köhler, J. and Others (2019) ‘An agenda for sustainability transitions research: state of the art and future directions’ 31 *Environ. Innov. Soc. Transit.*
- Loorbach, D., 2010. Transition management for sustainable development: a prescriptive, complexity-based governance framework. In: *Gov.*, 23, pp. 161–183.
- Ludwig, G., 2019. The role of law in transformative environmental policies – a case study of “Timber in Buildings Construction in Germany. *Sustainability* 11 (3), 842.
- Martens, P., Rotmans, J., 2005. Transitions in a globalizing world. *Futures* 37, 1133–1144.
- Loorbach D. (2014) ‘To transition! Governance panarchy in the new transformation. Presented to Faculty Soc. Sci. on behalf of Vereniging Trustfonds, EUR (31 October 2014) <https://drift.eur.nl/publications/transition-governance-panarchy-new-transformation/>.
- Patterson, J., Soininen, N., Collier, M., Raymond, C.M., 2021. Finding feasible action towards urban transformations. *NPJ Urban Sustain.* 1, 28 <https://www.nature.com/articles/s42949-021-00029-7.pdf>.
- with Ruhl, J.B., Cosens, B., Soininen, N., Ungar, M., 2021. Resilience of legal systems – towards adaptive governance. *Multisystemic Resilience: Adaptation and Transformation in Contexts of Change*, ed. Oxford University Press. <https://doi.org/10.1093/oso/9780190095888.001.0001>. OUP.
- Ruhl, J.B., Katz, D.M., Bommarito, M.J., 2017. Harnessing legal complexity. *Science* 355 (6332), 1377–1378.
- Steffen, W., Others, 2015. Planetary boundaries: guiding human development on a changing planet. *Science* 347 (6223), 736.
- United Nations, 2019. *The Future is Now, Science for Achieving Sustainable Development*. Global sustainable development report 2019, United Nations, New York.
- Verbong, G., Loorbach, D., 2012. Introduction’ in Geert Verbong and Derk Loorbach. *Governing the Energy Transition: Reality, Illusion or Necessity?* Taylor & Francis Group.
- COM, 2020. Proposal for a Regulation of the European Parliament and of the Council Establishing the Framework for Achieving Carbon Neutrality and Amending Regulation (EU) 2018 /1999 (European Climate Law) p. 80 final.