
Transformation der Agrarsysteme und die Rolle von Politik

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Überblick

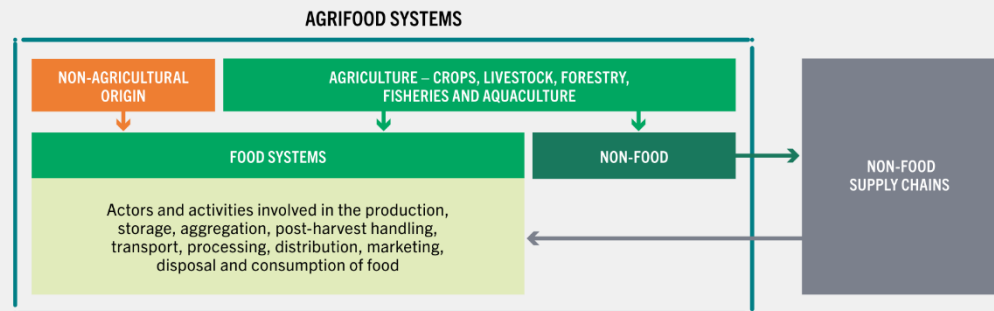
- Agro-Food-Systeme und Transformationsbedarf
- Krisen- und Lock-In-Perspektive
- Die ambivalente Rolle von Politik in der Transformation sozio-technischer Systeme
- Das „magische Dreieck“ transformativer Politik
- Eine reflexive Kritik des Konzepts transformativer Governance
- Herausforderungen für eine transformative Politik in pfadabhängigen politischen Systemen
- Fazit



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Agro-food systems

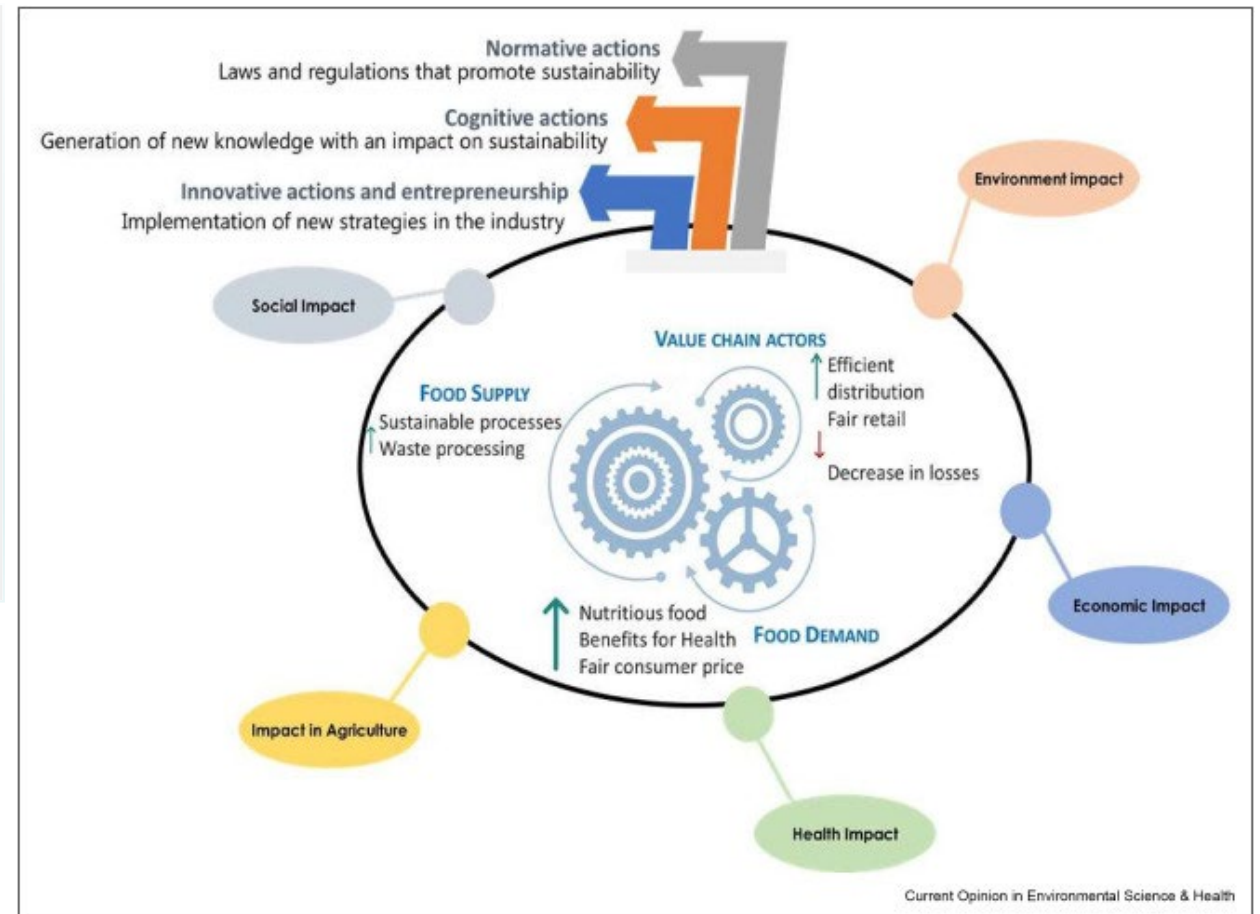
A CONCEPTUAL FRAMEWORK FOR AGRIFOOD SYSTEMS



NOTES: Food of non-agricultural origin includes meat analogues produced through synthetic biology.

SOURCE: FAO elaboration for the report.

FAO. 2021. *In Brief to The State of Food and Agriculture 2021. Making agrifood systems more resilient to shocks and stresses*. Rome.

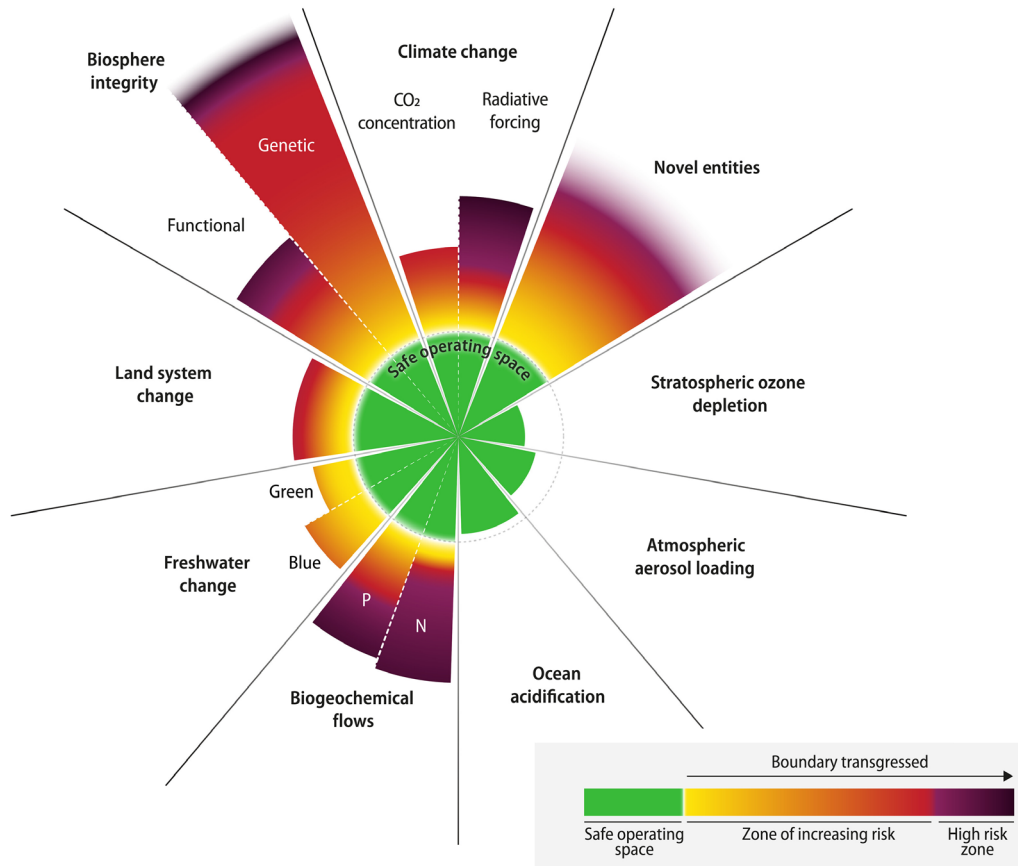


Current Opinion in Environmental Science & Health

R. G. Araújo, R. A. Chavez-Santoscoy, R. Parra-Saldívar, E. M. Melchor-Martínez and H. M. N. Iqbal (2023): Agro-food systems and environment: Sustaining the unsustainable, *Current Opinion in Environmental Science & Health* 2023 Vol. 31 Pages 100413, DOI:

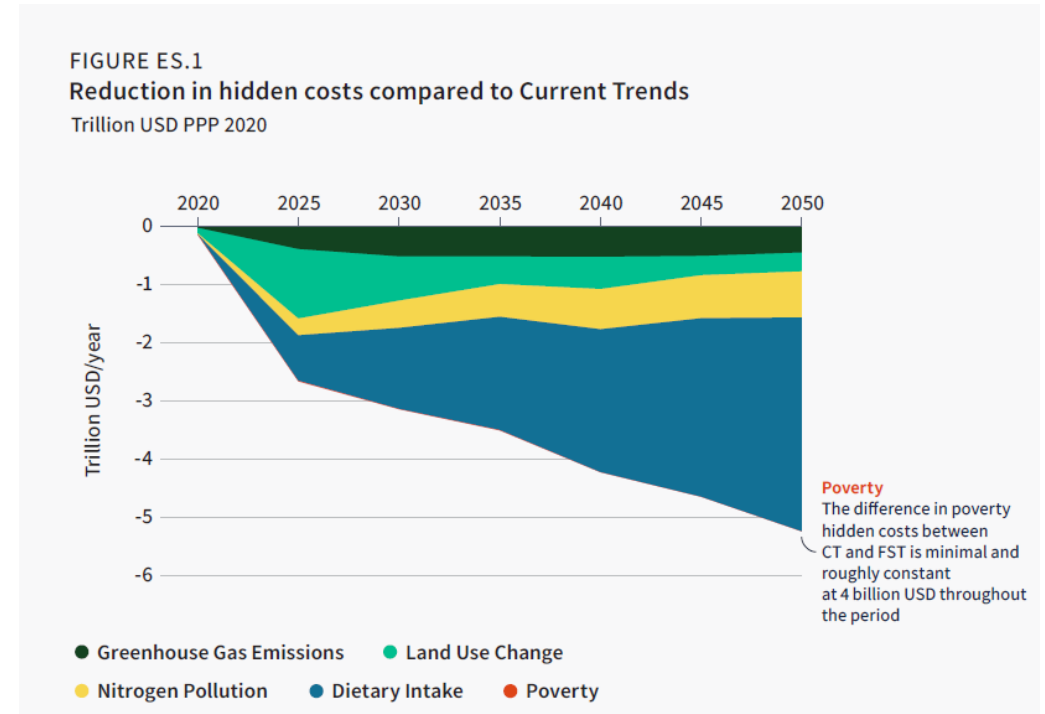
<https://doi.org/10.1016/j.coesh.2022.100413>

The need for transformation



Richardson *et al.* (2023), Earth beyond six of nine planetary boundaries. *Sci. Adv.* 9, eadh2458(2023). DOI: [10.1126/sciadv.adh2458](https://doi.org/10.1126/sciadv.adh2458)

- Agriculture contributes to transgression of planetary boundaries



Laderchi *et al.* (2024): (2024). The Economics of the Food System Transformation. Food System Economics Commission (FSEC), Global Policy Report.

- External costs of agro-food systems are as high as value added

Komplementäre Perspektiven: Krisen und Lock-Ins

Krisen-Perspektive

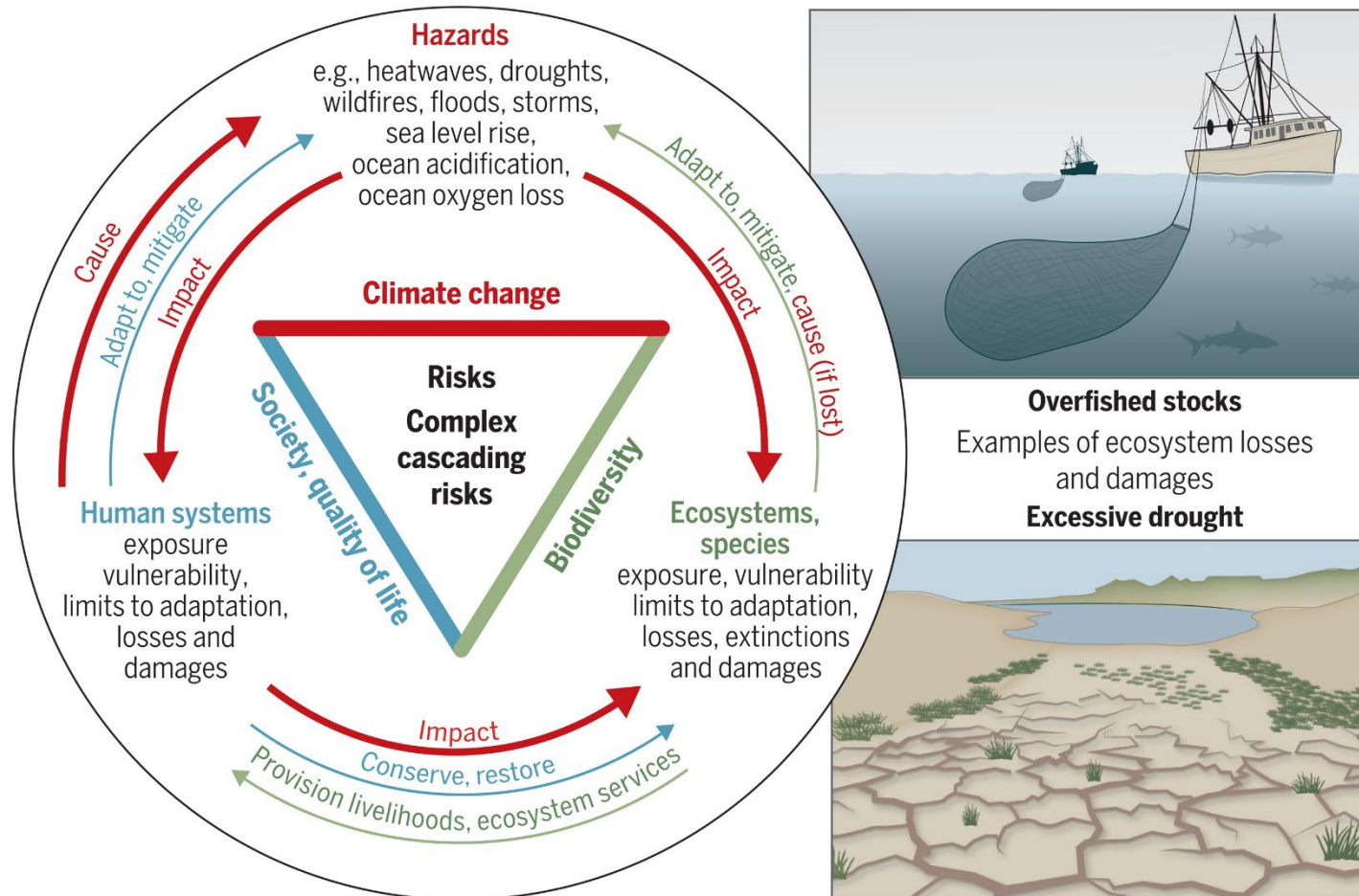
- Agro-Food-Systeme als Treiber von Krisen
- Gefährdung der Funktionalität der Agro-Food-Systeme durch Krisen
- Kumulation von Schocks und Stress
- Critical thresholds und tipping points
- Kaskadeneffekte über Skalen hinweg
- Inkompatibilität interner und externer Zeitskalen

Lock-In-Perspektive

- Fokus auf materielle, finanzielle und informationelle Ströme
- Selbstverstärkende und selbstreferentielle Feedback-Mechanismen
- Pfadabhängigkeiten
- Blinde Flecken
 - Sachlich: Externe Effekte und inkommensurable Güter
 - Zeitlich: Dominanz der Eigenzeit
 - Sozial: Dominanz von Binnen- über Außenperspektiven

Pfadabhängigkeiten und Lock-Ins erschweren die Transformation zu nachhaltigen, biodiversitätsfreundlichen usw. Agro-Food-Systemen. Die sich dadurch verschärfenden Krisen gefährden dann langfristig auch die Resilienz der Agro-Food-Systeme.

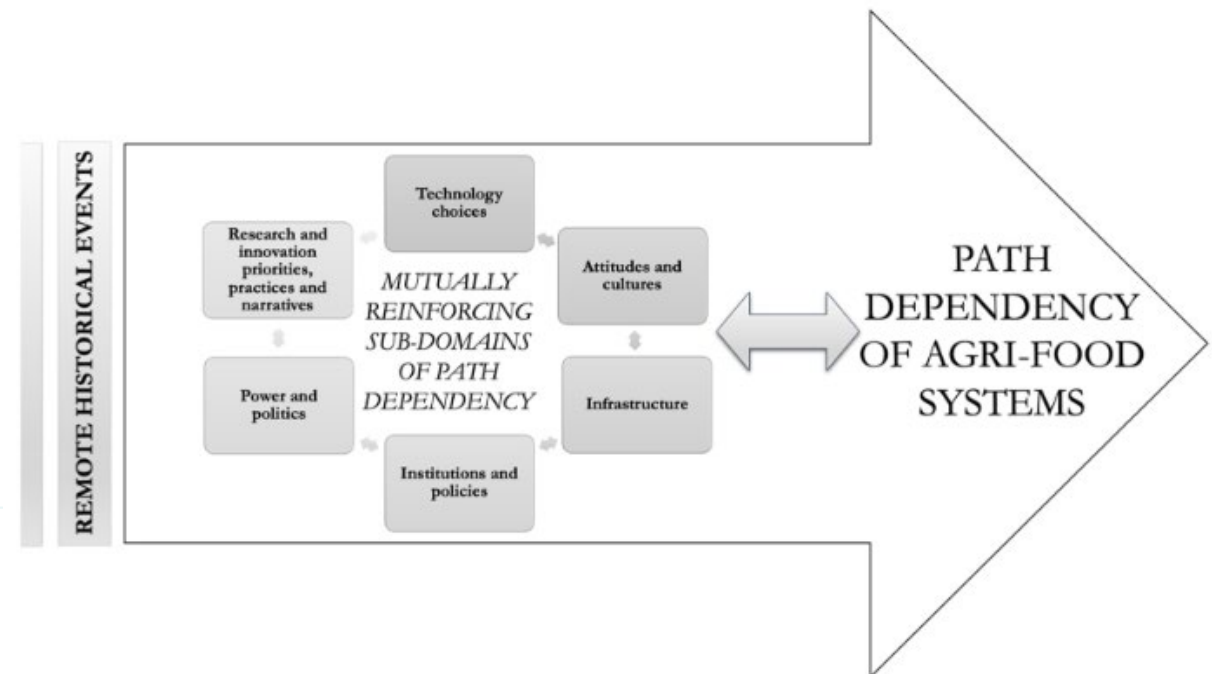
Krisenperspektive: Coupled Crises



Source: Pörtner et al. 2023, p. 1

Lock-In-Perspektive: Systemische Ursachen für Widerständigkeit von Agro-Food-Systemen gegen Wandel

- Dominant technologies persist at the expense of better alternatives because they are socially embedded.
- Institutions and policies create incentives misaligned to new change directions
- Attitudes and cultures that cause aversion to change
- Political economy: market power, corporate control
- Infrastructure rigidities (cross-sectoral)
- Agricultural research priorities: Productivist and technology-centered



Source: Conti, C., G. Zanello and A. Hall (2021): Why are agri-food systems resistant to new directions of change? A systematic review, *Global Food Security* 2021 Vol. 31, pp. 100576, DOI: <https://doi.org/10.1016/j.gfs.2021.100576>

Transformation von sozio-technologischen Systemen

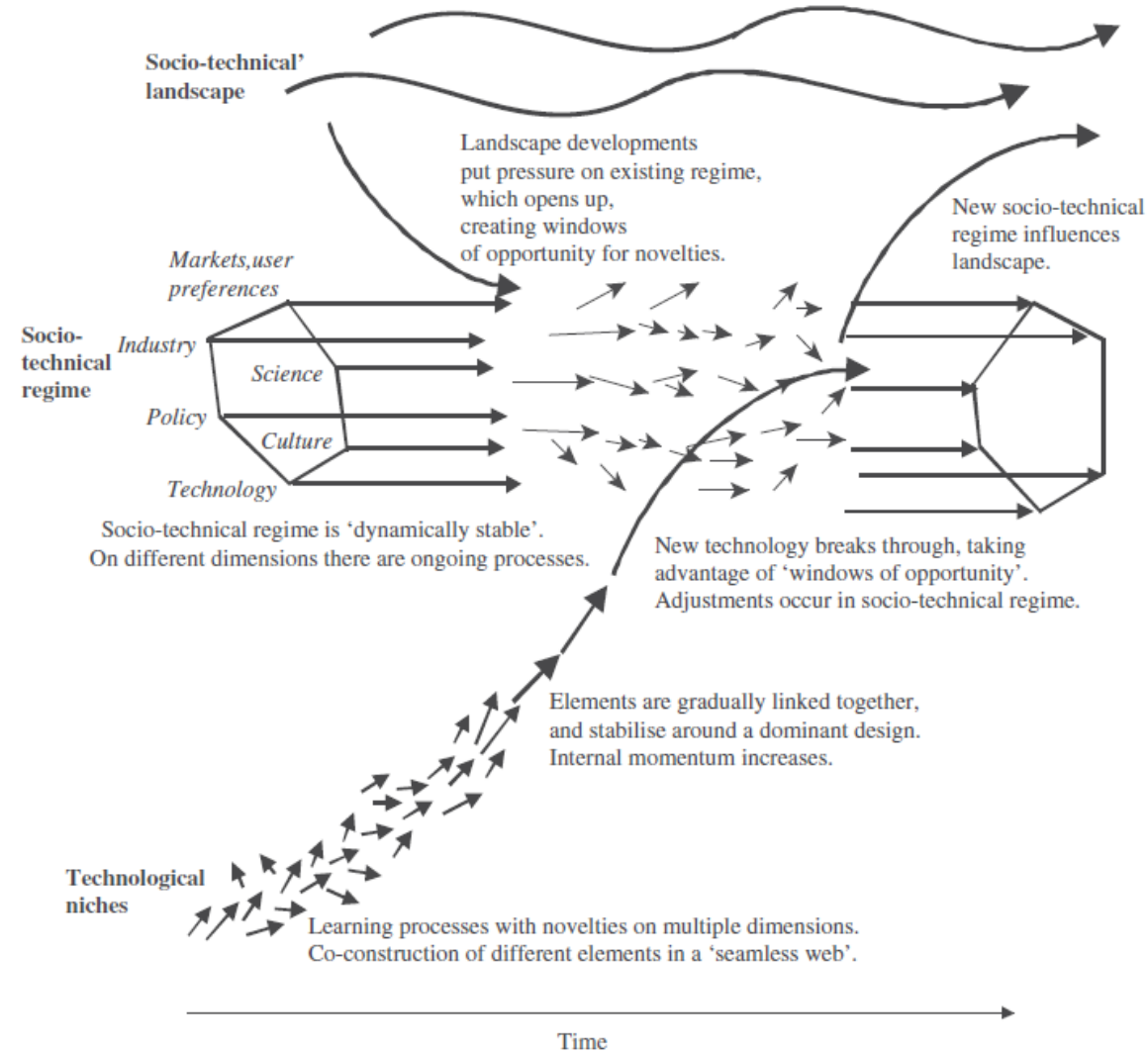
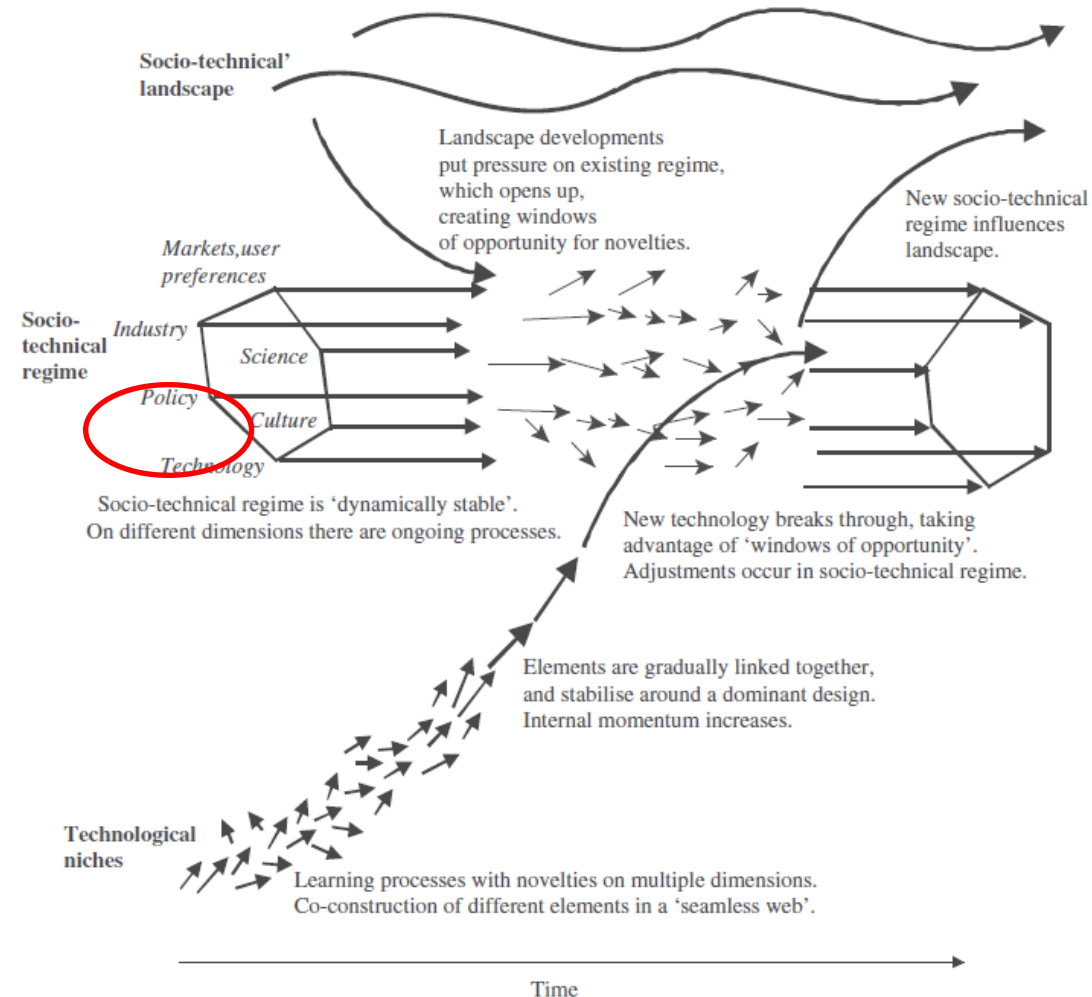


Diagramm: Geels/Kemp (2007):
Technology in Society 29, p. 444.

Drei widersprüchliche Aspekte von Politik in Transformationen

Institutionalisierte Politiken sind das Ergebnis einer Koevolution und Teil des dominanten Regimes.

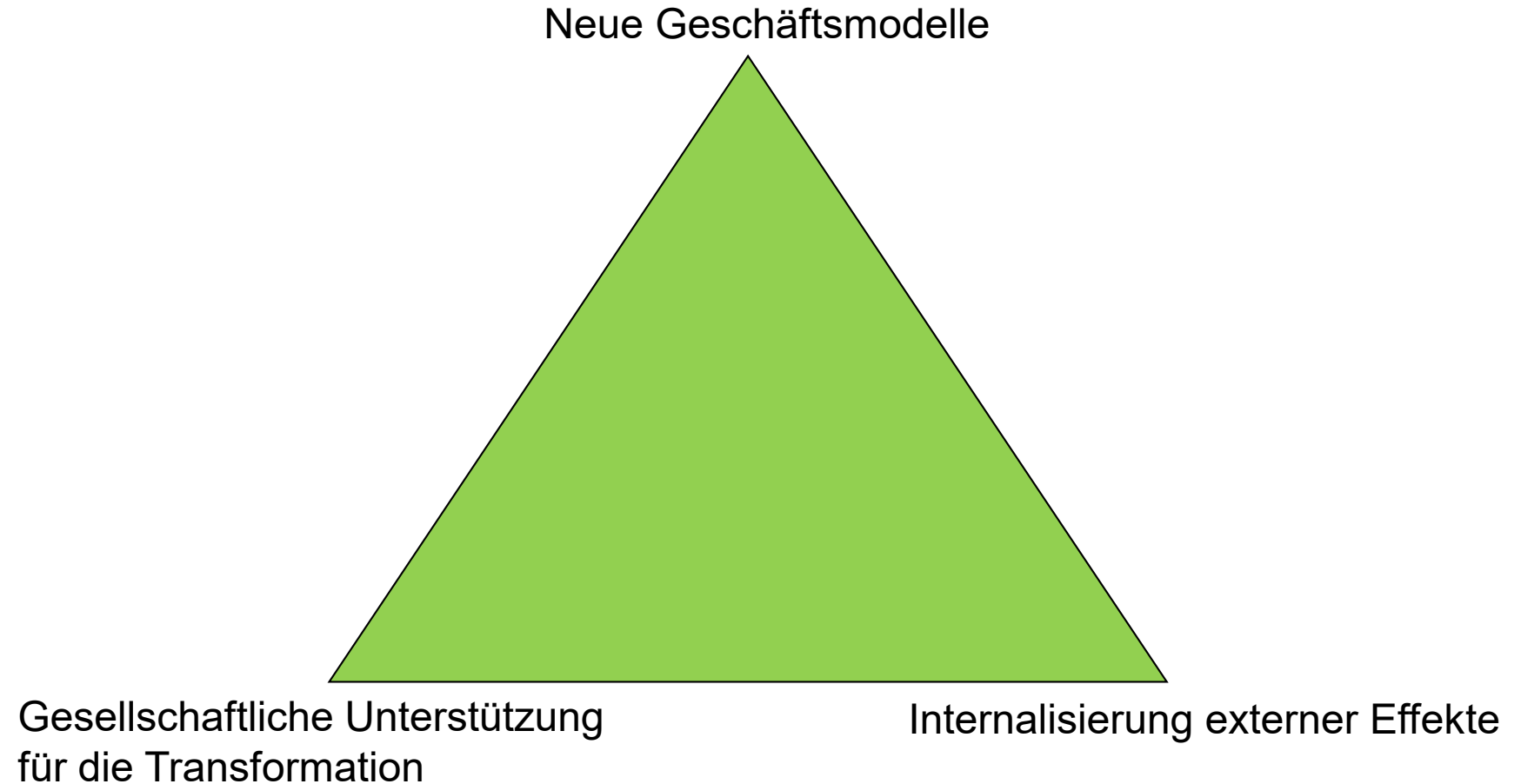
Politiken ermutigen oder behindern Nischeninnovationen.



Politiken verstärken oder dämpfen Veränderungsdruck aus der „Landschaft“.

Diagramm: Geels/Kemp (2007):
Technology in Society 29, p. 444.

Das magische Dreieck der Transformation

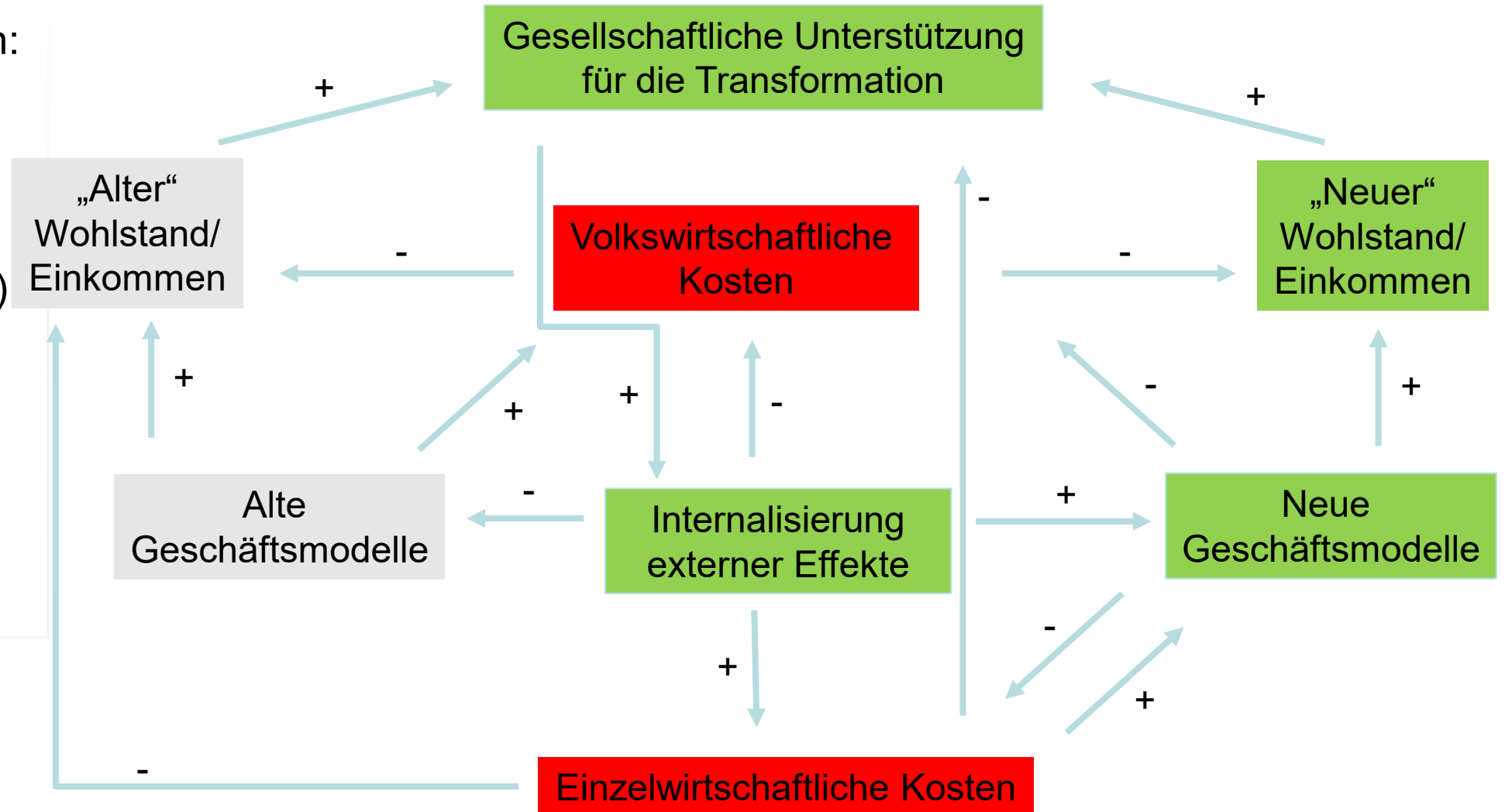


Verlust von „altem Wohlstand“ vs. Aufbau von „neuem Wohlstand“

Sachliche Dimension:
Dekarbonisierung,
Entmaterialisierung,
Kreislaufwirtschaft
etc.
(Innovationsrichtung)

Temporäre
Dimension: Wettlauf,
Synchronisierung

Soziale Dimension:
Verteilung („just
transition“)



Transformative governance

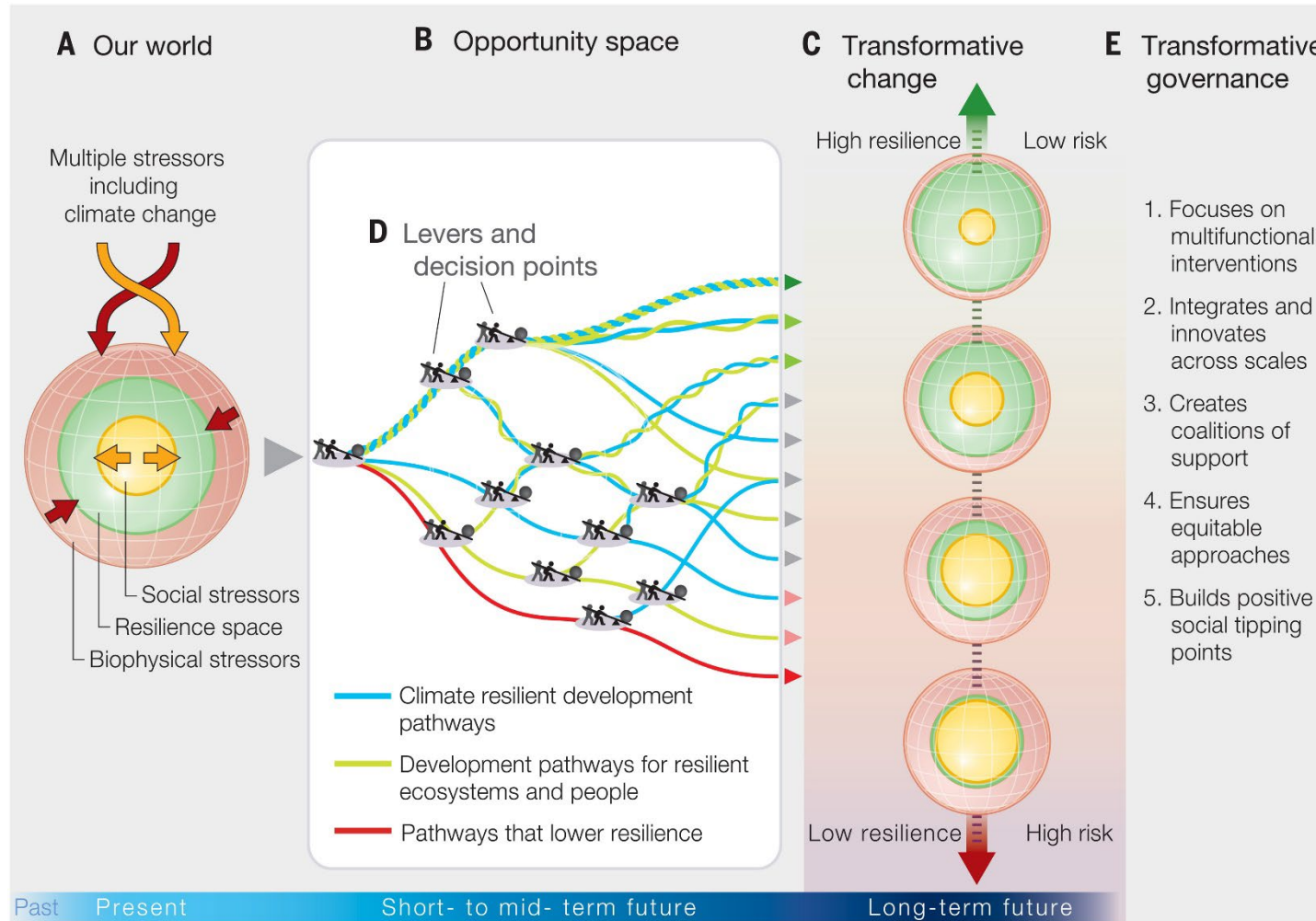
- A thriving academic discourse – 2280 hits on Google Scholar (13.3.2024)
- Core meaning: governance that supports transformative change
- Highly normative/prescriptive concept:
 - Transformative governance “is *integrative*, to ensure local solutions also have sustainable impacts elsewhere (across scales, places, issues and sectors); *inclusive*, to empower those whose interests are currently not being met and represent values embodying transformative change for sustainability; *adaptive*, enabling learning, experimentation, and reflexivity, to cope with the complexity of transformative change; and *pluralist*, recognizing different knowledge systems.” (Visseren-Hamakers et al., 2021, emphasis added)

Transformative governance as a counter-factual concept

Transformative governance feature	Purpose	Empirical political systems
<i>integrative</i>	“ensure local solutions also have sustainable impacts elsewhere (across scales, places, issues and sectors)”	Division of labour Functional sub-systems Specialised agencies and siloism
<i>inclusive</i>	“empower those whose interests are currently not being met and represent values embodying transformative change for sustainability”	Power imbalances Power struggle Status quo interests
<i>adaptive</i>	“enabling learning, experimentation, and reflexivity, to cope with the complexity of transformative change”	Dominance of instrumental learning Functionally differentiated communication Epistemic communicites
<i>pluralist</i>	“recognizing different knowledge systems”	Ideational struggle Politics of expertise

Left columns: Visseren-Hamakers et al., 2021.

Transformative Governance as a stepwise strategy with quasi-Utopian perspective



Source: Pörtner et al. 2023, p. 8

Problem der Anschlussfähigkeit der Steuerungskonzepte

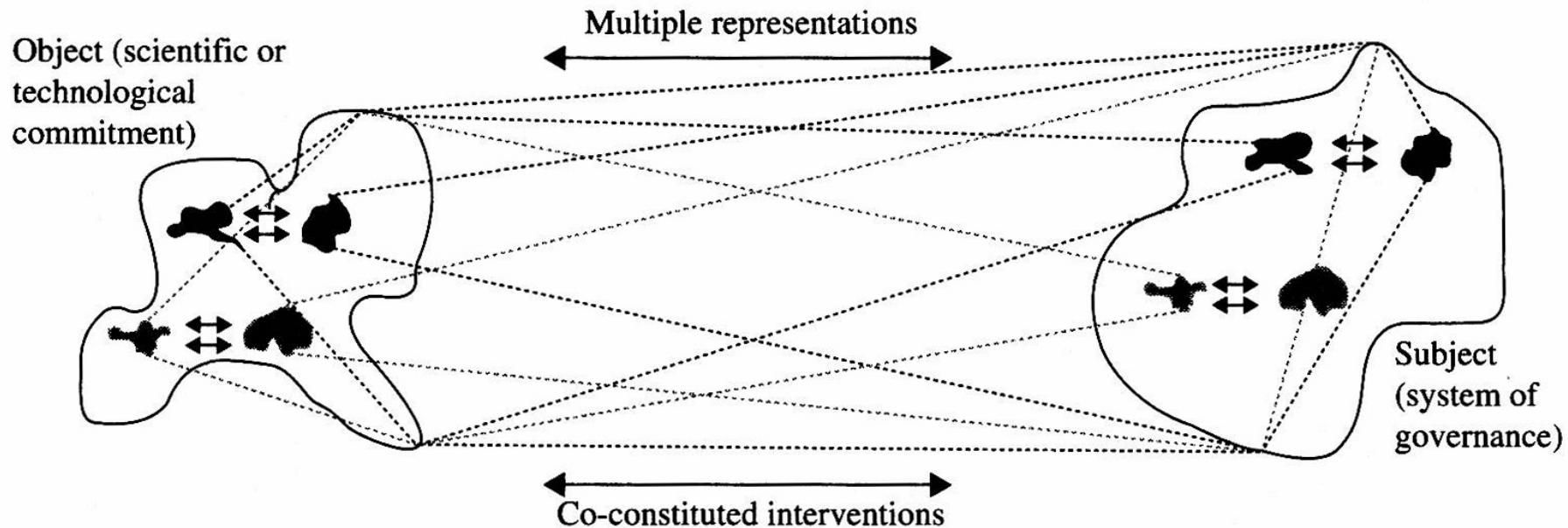
- Überzogene Steuerungserwartungen
- Technokratische Steuerungsphantasien
- Unklare Steuerungssubjekte
- Mangelnde Problematisierung der Steuerungsobjekte

→ Reflexive Governance-Perspektive

Reflexive governance perspective

- Recursive mutual contingency: Interdependence between the subject and the object of representation and political intervention

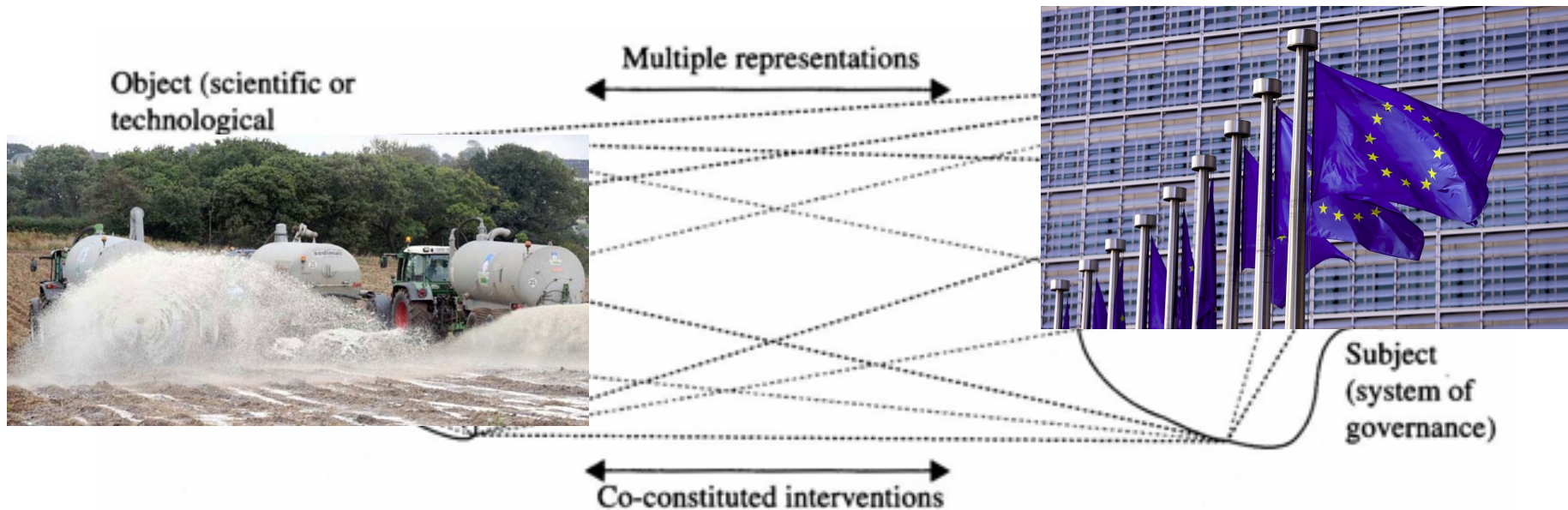
Reflexivity: Attention simultaneously encompasses and helps constitute both subject and object (recursive mutual contingency of subjective representations and interventions), e.g. 'the consequences depend on our point of view and our expectations of use'.



Stirling, A. (2006): "Precaution, foresight and sustainability: reflection and reflexivity in the governance of science and technology", in: Voß, J.-P. Bauknecht, D. and Kemp, R. (Hrsg.): Reflexive Governance for Sustainable Development. Edward Elgar: Cheltenham, UK, Northampton, MA, USA, p. 229

Recursive mutual contingency: Interdependence between the subject and the object of representation and political intervention

Image: dpa,
<http://www.taz.de/!5155962/>



Photograph: François Lenoir/Reuters
<https://www.theguardian.com/world/2017/jan/05/so-whats-the-big-idea-european-union>

- Ontological dimension: co-constitution of the elements of governance – the potential objects, subjects and instruments
- Epistemological dimension: co-determining how actors can and must “see” the world
- Interventions onto an object of governance reflect the subjectivities implied in the representations of the object upon which the intervention is based.
- Acting upon representations can affect subjectivities and therefore the epistemological and ontological foundations of intervention

Policy-Evolution ist nicht-linear

- Crowded policy space
 - Zu jedem Zeitpunkt finden sich bereits zahlreiche Politiken vor.
 - Diese reflektieren historische Kompromisse, Machtkämpfe und Identitäten.
- Policy feedback:
 - Bestehende Politiken erzeugen Ressourcen-, Wissen- und Anreizeffekte.
 - Z.B. lernen begünstigte Gruppen, wie eine Politik funktioniert, und wollen sie beibehalten.
- Layering:
 - Neue Politiken werden oft auf alte aufgelagert, dadurch entstehen ...
- ... Policy-Mixe
 - mit vielen Zielen und Instrumenten,
 - die verschiedene, z.T. gegensätzliche Ideen und Ziele verkörpern,
 - und oft mehrere Politik-Ebenen umfassen.
- -> Potenzial für Policy Lock-in and hohe Politik-Komplexität

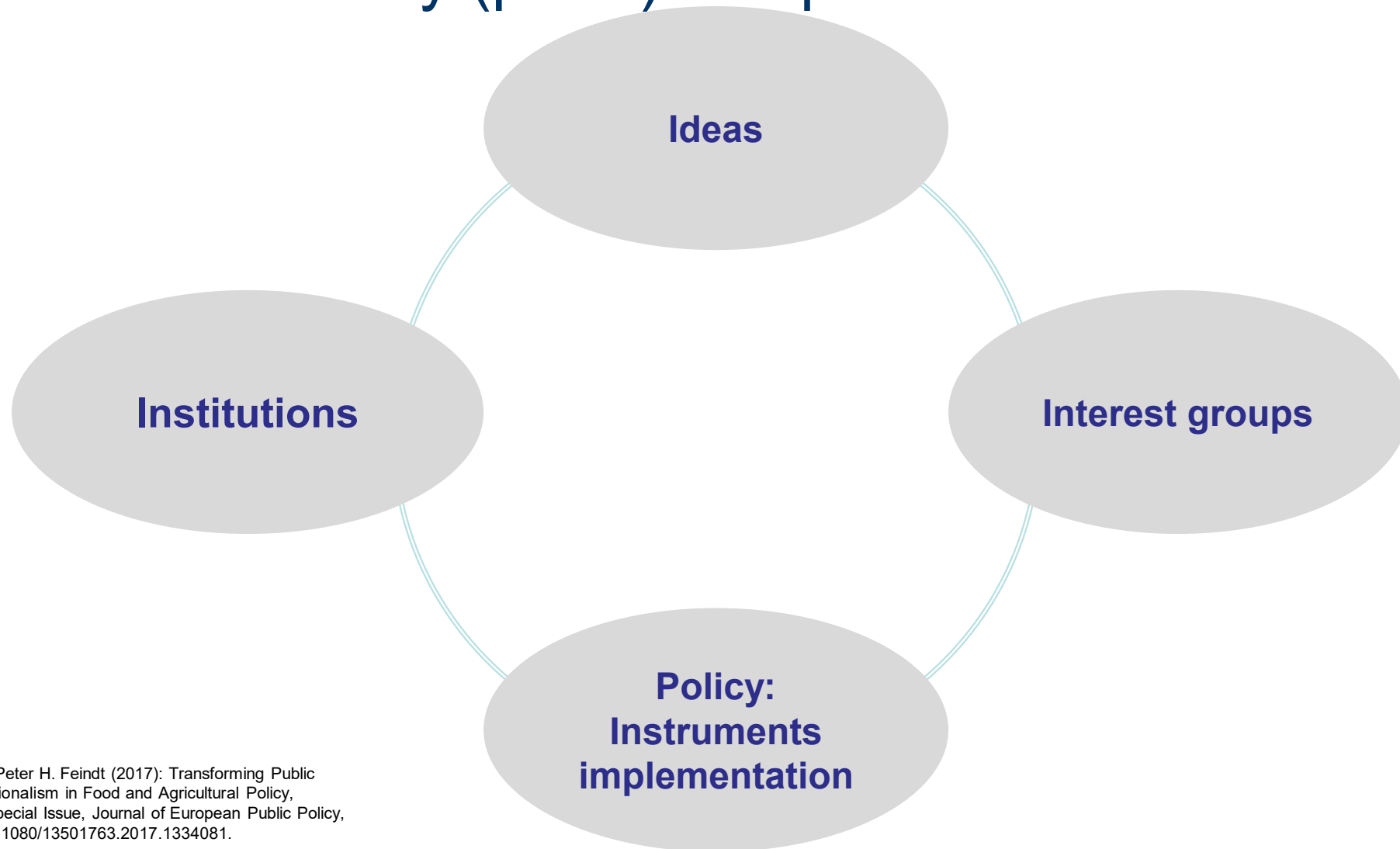
Herausforderung: Abstimmung alter und neuer Politiken

Policy mix component	Definition	Types and dimensions	
Goals	Manifestations of cognitive assumptions and normative beliefs regarding policy purposes	<ul style="list-style-type: none"> • Cross-cutting • Sectoral • Operationalised objectives 	Coherence
Instruments	Tools and techniques used by governments to achieve the policy objectives	<ul style="list-style-type: none"> • Regulatory • Financial • Informational • Cooperative 	Consistency
Calibration	Concrete adjustments of the policy instruments settings	<ul style="list-style-type: none"> • Stringency • Specificity • Flexibility • Temporality 	Congruence

Tabelle nach: Grohmann & Feindt (2023)

Policy legacies and policy feedback

Policy (post-)exceptionalism



Carsten Daugbjerg, Peter H. Feindt (2017): Transforming Public Policies: Post-exceptionalism in Food and Agricultural Policy, Introduction to the Special Issue, Journal of European Public Policy, 24/11, 1-20, DOI: 10.1080/13501763.2017.1334081.

Agricultural exceptionalism



Carsten Daugbjerg, Peter H. Feindt (2017): Transforming Public Policies: Post-exceptionalism in Food and Agricultural Policy, Introduction to the Special Issue, Journal of European Public Policy, 24/11, 1-20, DOI: 10.1080/13501763.2017.1334081.

Institutionalization of agricultural exceptionalism in the CAP (1957-1970s)

Ideas:

Objectives of the CAP
(Title II Agriculture, art.
38-47 Treaty of Rome)

Institutions:
CAP, CMOs
Ag Commissioner
Closed networks
Satellites



Interest groups:
COPA/COGECA

Policy: minimum
prices, import
levies, export
subsidies

Carsten Daugbjerg, Peter H. Feindt (2017): Transforming Public Policies: Post-exceptionalism in Food and Agricultural Policy, Introduction to the Special Issue, Journal of European Public Policy, 24/11, 1-20, DOI: 10.1080/13501763.2017.1334081.

Agricultural post-exceptionalism in the CAP

Ideas:
Objectives of the CAP +
sustainability & resilience

Institutions:
CAP, CMOs
Ag Commissioner
COMAGRI
New fora



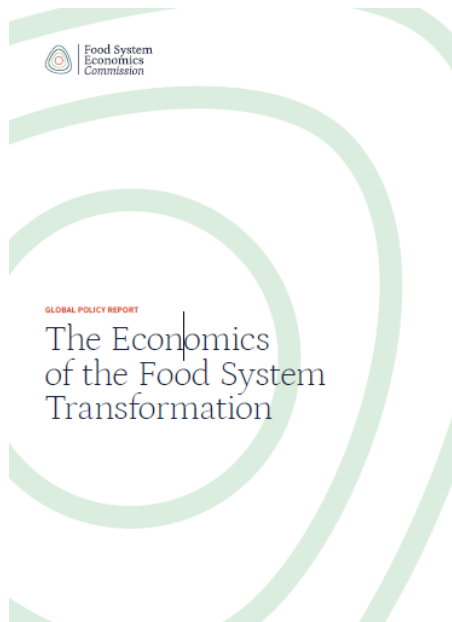
Interest groups:
COPA/COGECA
+ NGOs

Policy: direct
payments with
conditionality,
eco-schemes,
AECM, ELER

- Vielfache Policy-Innovationen zur Verteidigung des Status Quo
- Phänomen der Als-Ob-Reformen

Carsten Daugbjerg, Peter H. Feindt (2017): Transforming Public Policies: Post-exceptionalism in Food and Agricultural Policy, Introduction to the Special Issue, Journal of European Public Policy, 24/11, 1-20, DOI: 10.1080/13501763.2017.1334081.

Strategies to foster food system transitions



FSEC recommendation	Comment
Building coalitions of stakeholders	Status quo coalitions often deeply entrenched
Establishing new governance arrangements that facilitate balanced stakeholder representation and policy coherence	Propositions often call for expertocratic arrangements
Shaping narratives and providing information	Limits to the creation of win-win narratives
Calibrating policies to gain acceptance from key stakeholders	Strategies: Flexibility and incentives – financial limits -> weak calibration
Holding governments and businesses to account for progress	Limited power of independent agencies and policy targets, limited willingness of executives to prioritise societal targets

Fazit

- Transformation der Agro-Food-Systeme erforderlich, um externe Effekte zu vermindern und Krisenfestigkeit zu erhöhen
- Systemische Lock-Ins verhindern Transformation zu nachhaltigeren und resilienteren Agro-Food-Systemen
- Politische Interventionen erforderlich, um Lock-Ins zu überwinden
- Pfadabhängigkeiten des politischen Systems sind Teil der systemischen Lock-Ins
- Empirisches Verständnis von gesellschaftlichen und politischen Prozessen und Institutionen erforderlich
- Konzepte von transformativer Politik und transformativer Governance müssen ...
- ... die rekursive Konstitution von Steuerungssubjekt und -objekt in ihrem Ansatz klären,
- ... breit getragene Zielbilder entwickeln
- ... und diese Zielbilder laufend übersetzen in die multiplen funktionalen Logiken der Institutionen der gesellschaftlichen Arbeitsteilung, also wissenschaftliche Evidenz (z.B. Kippunkte), technologische Machbarkeit, Geschäftsmodelle, Rechtsstaatlichkeit, demokratischer Parteienwettbewerb, usw.
- Transformation erfordert Akzeptanz von Kontingenz und Multiperspektivität

Vielen Dank für Ihre Aufmerksamkeit!

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Cited references

- Araújo, R. G., Chavez-Santoscoy, R. A., Parra-Saldívar, R., Melchor-Martínez, E. M., Iqbal, H. M. N. (2023): Agro-food systems and environment: Sustaining the unsustainable, *Current Opinion in Environmental Science & Health*, Vol. 31 Pages 100413, DOI: <https://doi.org/10.1016/j.coesh.2022.100413>
- Conti, C., G. Zanella and A. Hall (2021): *Why are agri-food systems resistant to new directions of change? A systematic review*, *Global Food Security*, Vol. 31, pp. 100576, DOI: <https://doi.org/10.1016/j.gfs.2021.100576>
- Geels, F.W. and Kemp, R. (2007). 'Dynamics in Socio-Technical Systems: Typology of Change Processes and Contrasting Case Studies'. *Technology in Society* 29: 441–455.
- Grohmann, P. and Feindt, P.H. (2023). 'The Importance of Calibration in Policy Mixes: Environmental Policy Integration in the Implementation of the European Union's Common Agricultural Policy in Germany (2014-2022)'. *Environmental Policy and Governance* 34(1): 16-30. doi: <https://doi.org/10.1002/eet.2052>.
- Herrero, Mario, et al. (2020): Innovation can accelerate the transition towards a sustainable food system. In: *Nature Food* 1/5, S. 266–272.
- Laderchi et al. (2024): (2024). *The Economics of the Food System Transformation*. Food System Economics Commission (FSEC), Global Policy Report.
- Pörtner, H. O., et al. (2023). "Overcoming the coupled climate and biodiversity crises and their societal impacts." *Science* 380(6642): eabl4881. Richardson *et al.* (2023), Earth beyond six of nine planetary boundaries. *Sci. Adv.* **9**, eadh2458(2023). DOI: [10.1126/sciadv.adh2458](https://doi.org/10.1126/sciadv.adh2458)
- Richardson *et al.* (2023), Earth beyond six of nine planetary boundaries. *Sci. Adv.* **9**, eadh2458(2023). DOI: [10.1126/sciadv.adh2458](https://doi.org/10.1126/sciadv.adh2458)
- Stirling, A. (2006): "Precaution, foresight and sustainability: reflection and reflexivity in the governance of science and technology", in: Voß, J.-P. Bauknecht, D. and Kemp, R. (Hrsg.): *Reflexive Governance for Sustainable Development*. Edward Elgar: Cheltenham, UK, Northampton, MA, USA, p. 229
- Visseren-Hamakers, I.J., J. Razzaque, P. McElwee, E. Turnhout, E. Kelemen, G. M. Rusch, et al. (2021): Transformative governance of biodiversity: insights for sustainable development, in: *Current Opinion in Environmental Sustainability* 2021 Vol. 53 Pages 20-28, DOI: <https://doi.org/10.1016/j.cosust.2021.06.002>

Further references

- Diercks, G., et al. (2019). "Transformative innovation policy: Addressing variety in an emerging policy paradigm." *Research Policy* 48(4): 880-894.
- Godfray, H. C. J., et al. (2010). "Food security: The challenge of feeding 9 billion people." *Science* 327(5967): 812-818.
- Haddad, C. R., et al. (2022). "Transformative innovation policy: A systematic review." *Environmental Innovation and Societal Transitions* 43: 14-40.
- Janssen, M. J. (2019). "What bangs for your buck? Assessing the design and impact of Dutch transformative policy." *Technological Forecasting and Social Change* 138: 78-94.
- Kern, F. and K. S. Rogge (2018). "Harnessing theories of the policy process for analysing the politics of sustainability transitions: A critical survey." *Environmental Innovation and Societal Transitions* 27: 102-117.
- Lukkarinen, J. P., et al. (2022). "Transitions in planning: Transformative policy visions of the circular economy and blue bioeconomy meet planning practice." *European Planning Studies* 31(1): 55-75.
- Nohrstedt, D. (2022). "When do disasters spark transformative policy change and why?" *Policy & Politics* 50(3): 425-441.
- Pörtner, H. O., et al. (2023). "Overcoming the coupled climate and biodiversity crises and their societal impacts." *Science* 380(6642): eabl4881.
- Rockström, J., et al. (2016). "The world's biggest gamble." *Earth's Future* 4(10): 465-470.
- Rockström, J., et al. (2009). "A safe operating space for humanity." *Nature* 461(7263): 472-475.
- Rodríguez-Barillas, M., et al. (2024). "Transformative policy mix or policy pandemonium? Insights from the Climate Smart Agriculture policy mix in Costa Rica." *Environmental Innovation and Societal Transitions* 50.
- Rogge, K. S., et al. (2020). "Transformative policy mixes in socio-technical scenarios: The case of the low-carbon transition of the German electricity system (2010–2050)." *Technological Forecasting and Social Change* 151: 119259.
- Rogge, K. S. and K. Reichardt (2016). "Policy mixes for sustainability transitions: An extended concept and framework for analysis." *Research Policy* 45(8): 1620-1635.
- Rose, D. C., et al. (2020). "Policy windows for the environment: Tips for improving the uptake of scientific knowledge." *Environmental Science & Policy* 113: 47-54.
- Schot, J. and W. E. Steinmueller (2018). "Three frames for innovation policy: R&D, systems of innovation and transformative change." *Research Policy* 47(9): 1554-1567.
- Steward, F. (2012). "Transformative innovation policy to meet the challenge of climate change: Sociotechnical networks aligned with consumption and end-use as new transition arenas for a low-carbon society or green economy." *Technology Analysis & Strategic Management* 24(4): 331-343.
- Weber, K. M. and H. Rohracher (2012). "Legitimizing research, technology and innovation policies for transformative change." *Research Policy* 41(6): 1037-1047.