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Insight: Political–Economic Systems, Transformation, and the Future of Sustainability – an introduction

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Abstract

*Sustainability and adaptation are no longer peripheral concerns but central challenges for political, social, and economic systems. This paper examines how governance under uncertainty, justice as a structural condition, and economic reorientation toward ecological limits collectively drive transformational change. Drawing on ecological political theory, just sustainabilities, post-growth economics, and reform agendas, this introductory insight highlights three converging influences: **ecological realities that move thresholds into the present, equity as a prerequisite for legitimacy, and macroeconomic strategies judged against planetary boundaries.** The synthesis demonstrates that durable climate action arises only when governance, justice, and economic design evolve in concert. The conclusion emphasizes that legitimacy, narrative, and fairness are as critical as technological and financial innovation in shaping credible pathways forward. By integrating frameworks such as planetary boundaries, polycentric governance, doughnut economics, and the capability approach, the paper contributes to debates on how societies can align ecological viability, social legitimacy, and economic resilience within finite planetary limits.*

I. Introduction

Climate, economy, and society have become so tightly interdependent that treating them as separate spheres obscures more than it reveals. Effective sustainability and adaptation require holding several structural realities together: institutions shape incentives; values shape institutions; and ecological limits—once abstract—now directly constrain political imagination and economic strategy. Across the work of Adger on governance thresholds, Agyeman on just sustainabilities, Dobson on ecological political theory, Jackson on post-growth economics, and the New Climate Economy’s reform agenda, a shared insight emerges - durable climate action arises only when governance, justice, and economic design evolve in concert. Grasping this interplay is essential for charting pathways that are both ecologically viable and socially legitimate.

II. How Political, Social, and Economic Systems Shape Sustainability

Political systems: governance under uncertainty

Political systems mediate collective decision-making in contexts defined by conflict, uncertainty, and uneven vulnerability. Adger and Lorenzoni’s work reframes adaptation as a governance challenge rather than a technical fix: decisions about acceptable risk, loss allocation, and long-term planning are inherently political (Adger et al., 2009). Different political models — decentralized, institutionally negotiated, or centralized — each encode different accountability structures, shaping how adaptation trade-offs are negotiated and whose voices matter. Institutions capable of managing cross-scale dynamics, path dependencies, and contested values are therefore foundational to effective climate governance.

Social systems: justice, identity, and co-production of resilience

Social systems do not simply receive policies; they coproduce risk and resilience. Agyeman’s concept of *-just sustainabilities* -claims that environmental gains cannot come at the expense of equity or procedural fairness (Agyeman, 2013). Social capital, trust, and local knowledge influence adaptation outcomes, yet these resources are unevenly distributed. North’s ecolocalisation illustrates how communities reorganize provisioning and protection in response to climate stress but also warns that inward-looking resilience can drift into exclusionary protectionism if not grounded in justice (North, 2010).

Economic systems: growth, limits, and reorientation

Economic systems translate preferences and constraints into production and investment—but the dominant growth paradigm struggles with biophysical limits. Jackson’s *Prosperity Without Growth* challenges the assumption that GDP equates to well-being, advocating for economies centered on capabilities, care, and sufficiency (Jackson, 2017). Scott Cato deepens this critique by showing how money, credit, and ecological accounting shape resource use and externalities (Scott Cato, 2012). Meanwhile, the New Climate Economy argues that structural reforms—carbon pricing, clean energy, compact cities—can deliver “better growth” while reducing emissions (Global Commission on the Economy and Climate, 2018). Together, these perspectives reveal that markets are embedded in political choices and social norms, and that ecological boundaries ultimately discipline economic strategy.

III. What Drives Transformational Change?

Transformation is not incremental improvement; it is a reconfiguration of goals, institutions, and routines.

Governance thresholds and legitimacy

Transformational change often emerges when governance systems encounter stress beyond their adaptive capacity. Adger's threshold framework highlights how institutional brittleness can catalyze discontinuous shifts in governance logics (Adger et al., 2009). This resonates with Ostrom's polycentric governance theory, which argues that overlapping centers of authority can enhance resilience by distributing risk and experimentation (Ostrom, 2010). However, legitimacy remains central: without transparent processes and inclusive participation, threshold-driven change risks eroding trust. Meadowcroft (2011) emphasizes that climate governance must balance urgency with democratic accountability, ensuring that rapid transitions do not bypass deliberative legitimacy.

Political narratives and ecological citizenship

Narratives are not peripheral; they are constitutive of political possibility. Dobson's ecological citizenship framework insists that sufficiency and precaution must become civic virtues (Dobson, 2007). Building on this, Dryzek (2013) shows how discursive democracy can expand the range of voices and imaginaries in climate debates, enabling new coalitions to form around ecological integrity. Political narratives also shape international regimes: Hulme (2009) argues that climate change is as much a cultural idea as a physical phenomenon, meaning that transformation requires reimagining collective identities and responsibilities. Ecological citizenship thus becomes both a normative commitment and a practical tool for mobilizing legitimacy.

Economic architecture and material incentives

Economic transformation hinges on reconfiguring the engines of value creation. The New Climate Economy frames climate action as an upgrade to growth quality, emphasizing opportunity rather than sacrifice (Global Commission on the Economy and Climate, 2018). Yet Jackson (2017) warns that efficiency gains alone risk rebound effects unless prosperity metrics are redefined. Complementing this, Raworth's "doughnut economics" proposes a safe and just operating space that integrates social foundations with ecological ceilings (Raworth, 2017). Embedding ecological accounting into fiscal and monetary governance, as Scott Cato (2012) suggests, aligns with Stiglitz, Sen, and Fitoussi's call for multidimensional well-being indicators (Stiglitz et al., 2009). Together, these perspectives highlight that material incentives must be recalled to reward resilience, sufficiency, and ecological stability.

Justice and capability distribution

Justice is not an addition but a structural precondition for transformation. Agyeman's insistence on just sustainabilities underscores that adaptation without fairness erodes legitimacy (Agyeman, 2013). Sen's capability approach provides a complementary lens: transformation must expand people's substantive freedoms, not merely redistribute risks (Sen, 1999). Just transition policies — from retraining programs to regional development — operationalize this principle by ensuring that livelihoods are protected during structural shifts. North's ecolocalisation warns against exclusionary resilience, reminding us that local provisioning must remain open and equitable (North, 2010). Schlosberg (2007) further broadens the justice

frame to include recognition and participation, arguing that distributive justice alone cannot sustain democratic consent in the face of ecological limits.

IV. Synthesis: Current Influences on Sustainability and Adaptation

Three forces now shape sustainability and adaptation thinking:

Ecological realities have moved thresholds into the present. Ecological limits are no longer abstract projections; they have become immediate constraints. Climate extremes, biodiversity collapse, and accelerating feedback loops force states and markets to treat risk management as a core function rather than a peripheral concern (Adger et al., 2009). Rockström et al.'s planetary boundaries framework underscores that several Earth system processes — including biosphere integrity and biogeochemical flows — are already transgressed, narrowing the margin for adaptive maneuver (Rockström et al., 2009; Steffen et al., 2015). This immediacy shifts adaptation from a technical exercise to a political negotiation: tradeoffs across regions and generations require transparent norms, inclusive processes, and recognition of contested values. As Pelling (2011) argues, adaptation is inherently political because it redefines whose risks are prioritized and whose vulnerabilities are tolerated. The ecological reality thus compels governance systems to confront legitimacy crises when thresholds are crossed.

Equity has become a structural precondition for effective climate action. Equity has moved from normative aspiration to structural necessity. Agyeman's framework of just sustainabilities insists that environmental gains cannot be pursued at the expense of fairness (Agyeman, 2013). This principle now informs global debates on loss and damage finance, just transition strategies, and community-led planning. Sen's capability approach reinforces this by emphasizing that adaptation must expand substantive freedoms rather than merely redistribute burdens (Sen, 1999). Schlosberg (2007) broadens the justice lens to include recognition and participation, warning that distributive justice alone cannot sustain legitimacy. Empirical evidence from climate justice movements shows that adaptation without equity erodes trust and compounds vulnerability, particularly among marginalized groups (Bulkeley et al., 2013). Equity therefore functions as a threshold condition: without it, climate action lacks democratic consent and risks backlash.

Macroeconomic strategy is increasingly judged by compatibility with planetary boundaries. Economic strategy is increasingly judged by compatibility with ecological ceilings. Jackson's post-growth critique challenges the assumption that GDP equates to well-being, advocating for economies centered on sufficiency, care, and capabilities (Jackson, 2017). Scott Cato's ecological accounting highlights the need to embed precautionary norms into fiscal and monetary governance (Scott Cato, 2012). The New Climate Economy emphasizes structural reforms — carbon pricing, clean energy, compact cities — as pathways to "better growth" (Global Commission on the Economy and Climate, 2018). Complementing these, Raworth's doughnut economics integrates social foundations with ecological ceilings, offering a design principle for economies that remain within planetary boundaries (Raworth, 2017). Stiglitz, Sen, and Fitoussi (2009) argue for multidimensional well-being indicators, shifting measurement away from throughput toward resilience and human flourishing. Together, these perspectives converge on shared design principles: align incentives with ecological caps; invest in public goods; privilege resilience over fragility; and measure success in capabilities and ecological stability, not output.

Emerging synthesis in practice. Adaptation practice increasingly reflects this synthesis. Cities experiment with circular provisioning, localized governance, and climate-resilient infrastructure (Bulkeley & Betsill, 2005).

National strategies blend industrial policy with social protection, as seen in the European Union's Green Deal and South Korea's Green New Deal. Financial systems integrate climate risk through disclosure frameworks such as the Task Force on Climate-related Financial Disclosures (TCFD), though political feasibility lags behind technical feasibility. Narratives, coalitions, and institutional inertia constrain implementation, echoing Meadowcroft's (2011) warning that sustainability transitions are as much about political contestation as technological innovation. The synthesis therefore represents not a settled paradigm but a contested terrain where ecological realities, equity imperatives, and economic redesign must be continually renegotiated.

V. Conclusion

Transformational change is as much about legitimacy, justice, and narrative as it is about technology and finance. Political systems must earn trust by making value trade-offs explicit and fair, ensuring that governance under stress does not erode democratic consent. Social systems must be empowered to coproduce resilience rather than merely absorb shocks, recognizing that adaptation is relational and deeply embedded in identity, equity, and participation. Economic systems must internalize ecological limits and redefine prosperity, moving beyond throughput toward sufficiency, care, and capabilities.

The literature collectively maps a coherent arc: adapt within thresholds (Adger, 2009); reframe political purpose toward ecological integrity (Dobson, 2007); mobilize practical reforms that unlock opportunity (Global Commission on the Economy and Climate, 2018); insist on justice as structure (Agyeman, 2013); reimagine prosperity beyond growth (Jackson, 2017); and reform the monetary and accounting backbone of the economy (Scott Cato, 2012). This arc is reinforced by complementary frameworks: Ostrom's polycentric governance (Ostrom, 2010), Raworth's doughnut economics (Raworth, 2017), Sen's capability approach (Sen, 1999), and Rockström's planetary boundaries (Rockström et al., 2009; Steffen et al., 2015). Together, they converge on a vision of sustainability that is ecologically viable, socially legitimate, and economically resilient.

The task ahead is to translate these principles into institutions and investments that people can trust and rely on—credible, fair, and resilient. This requires embedding ecological accounting into fiscal systems, designing participatory governance that values justice and recognition (Schlosberg, 2007), and cultivating narratives that expand what is politically thinkable (Dryzek, 2013; Hulme, 2009). It also demands practical experimentation: cities advancing circular provisioning, nations pursuing green industrial strategies, and financial systems integrating climate risk disclosure. Yet political feasibility lags behind technical feasibility, constrained by inertia and contested values (Meadowcroft, 2011). Bridging this gap is the defining challenge of sustainability transitions.

Ultimately, transformational change is not a single leap but an ongoing process of renegotiation between ecological realities, social justice, and economic design. It is about building institutions that can withstand shocks, distribute capabilities fairly, and remain accountable to democratic values. The future of sustainability depends on whether societies can align legitimacy, justice, and prosperity within the boundaries of a finite planet — a task that is urgent, complex, and profoundly political.

VI. Future Research Agenda

Future research must grapple with the unresolved tensions at the heart of sustainability transitions. First, governance scholarship should deepen analysis of **polycentric and multi-level systems**, exploring how authority can be distributed without fragmenting legitimacy (Ostrom, 2010; Meadowcroft, 2011). Second,

justice frameworks require expansion beyond distributive equity to encompass **recognition, participation, and intergenerational fairness**, particularly in contexts of loss and damage and indigenous sovereignty (Schlosberg, 2007; Whyte, 2017). Third, economic research must advance **post-growth modeling and ecological macroeconomics**, integrating planetary boundaries into fiscal and monetary policy while testing alternative prosperity metrics (Jackson, 2017; Raworth, 2017; Stiglitz et al., 2009). Fourth, empirical case studies are needed to evaluate how **narratives and cultural imaginaries** shape political feasibility, from grassroots climate movements to national green industrial strategies (Dryzek, 2013; Hulme, 2009). Finally, interdisciplinary work should investigate the **institutional design of resilience**, asking how trust, transparency, and capability distribution can be embedded into adaptive systems that remain credible under stress. Advancing these research frontiers will help bridge the gap between normative visions and practical pathways, ensuring that sustainability transitions are not only technically feasible but also socially legitimate and politically durable.

VII. References

- Adger, W. N., Lorenzoni, I., & O’Brien, K. (Eds.). (2009). *Adapting to climate change: Thresholds, values, governance*. Cambridge University Press.
- Agyeman, J. (2013). *Introducing just sustainabilities: Policy, planning, and practice*. Zed Books.
- Bulkeley, H., & Betsill, M. (2005). Rethinking sustainable cities: Multilevel governance and the urban politics of climate change. *Environmental Politics*, 14(1), 42–63. <https://doi.org/10.1080/0964401042000310178> ([doi.org in Bing](#))
- Bulkeley, H., Edwards, G. A. S., & Fuller, S. (2013). *Climate justice and global cities*. Cambridge University Press.
- Dobson, A. (2007). *Green political thought* (4th ed.). Routledge.
- Dryzek, J. S. (2013). *The politics of the earth: Environmental discourses* (3rd ed.). Oxford University Press.
- Global Commission on the Economy and Climate. (2018). *Unlocking the inclusive growth story of the 21st century: Accelerating climate action in urgent times*. New Climate Economy.
- Hulme, M. (2009). *Why we disagree about climate change: Understanding controversy, inaction and opportunity*. Cambridge University Press.
- Jackson, T. (2017). *Prosperity without growth: Foundations for the economy of tomorrow* (2nd ed.). Routledge.
- Meadowcroft, J. (2011). Engaging with the politics of sustainability transitions. *Environmental Innovation and Societal Transitions*, 1(1), 70–75. <https://doi.org/10.1016/j.eist.2011.02.003> ([doi.org in Bing](#))
- North, P. (2010). *Local money: How to make it happen in your community*. Green Books.
- Ostrom, E. (2010). Polycentric systems for coping with collective action and global environmental change. *Global Environmental Change*, 20(4), 550–557. <https://doi.org/10.1016/j.gloenvcha.2010.07.004> ([doi.org in Bing](#))
- Pelling, M. (2011). *Adaptation to climate change: From resilience to transformation*. Routledge.
- Raworth, K. (2017). *Doughnut economics: Seven ways to think like a 21st-century economist*. Chelsea Green Publishing.
- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., Lambin, E., Lenton, T. M., Scheffer, M., Folke, C., Schellnhuber, H. J., Nykvist, B., de Wit, C. A., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P. K., Costanza, R., ... Foley, J. (2009). A safe operating space for humanity. *Nature*, 461(7263), 472–475. <https://doi.org/10.1038/461472a>
- Schlosberg, D. (2007). *Defining environmental justice: Theories, movements, and nature*. Oxford University Press.

- Scott Cato, M. (2012). *The bioregional economy: Land, liberty and the pursuit of happiness*. Routledge.
- Sen, A. (1999). *Development as freedom*. Oxford University Press.
- Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., Biggs, R., Carpenter, S. R., de Vries, W., de Wit, C. A., Folke, C., Gerten, D., Heinke, J., Mace, G. M., Persson, L. M., Ramanathan, V., Reyers, B., & Sörlin, S. (2015). Planetary boundaries: Guiding human development on a changing planet. *Science*, 347(6223), 1259855. <https://doi.org/10.1126/science.1259855> ([doi.org in Bing](#))
- Stiglitz, J. E., Sen, A., & Fitoussi, J.-P. (2009). *Report by the Commission on the Measurement of Economic Performance and Social Progress*. Commission on the Measurement of Economic Performance and Social Progress.
- Woodin, M., & Lucas, C. (2004). *Green alternatives to globalization: A manifesto*. Pluto Press.
- Whyte, K. P. (2017). Indigenous climate change studies: Indigenizing futures, decolonizing the Anthropocene. *English Language Notes*, 55(1–2), 153–162. <https://doi.org/10.1215/00138282-55.1-2.153> ([doi.org in Bing](#))