Circular Economy Policy, Governance, and Social Dimensions: Navigating Multi-Level Dynamics for Inclusive Transition

Sofia N. Andersen[1], Rajiv K. Patel[2*]

[1]Department of Environmental Policy, University of Copenhagen, Copenhagen, Denmark

[2]Centre for Sustainable Development, University of Delhi, New Delhi, India

Abstract

The transition to a circular economy (CE) has emerged as a critical global strategy to address resource scarcity, environmental degradation, and climate change. However, the effectiveness of CE initiatives hinges on robust policy frameworks, adaptive governance structures, and meaningful engagement with diverse social groups. This paper examines the intricate interplay between circular economy policy, multi-level governance, and social dimensions, exploring how these elements collectively shape the trajectory of CE transitions. Drawing on comparative case studies from the European Union, India, and China, the analysis unpacks policy instruments—ranging from regulatory standards to economic incentives—and their alignment with governance arrangements at local, national, and international levels. It further investigates social dimensions, including public acceptance, stakeholder participation, and distributional equity, highlighting how social factors can either facilitate or hinder CE implementation. The study identifies key tensions, such as policy fragmentation across scales, conflicting stakeholder interests, and unequal access to CE benefits, and proposes strategies to foster synergies between policy design, inclusive governance, and social empowerment. By emphasizing the need for context-sensitive, participatory approaches, this review contributes to a deeper understanding of the socio-political dynamics underlying circular economy transitions, offering actionable recommendations for policymakers, practitioners, and researchers seeking to advance equitable and effective CE systems.

Keywords: Circular economy; Policy instruments; Multi-level governance; Social acceptance; Stakeholder participation; Inclusive transition

1. Introduction

The circular economy (CE) paradigm—centered on minimizing waste, maximizing resource reuse, and closing material loops—has gained global traction as a pathway to sustainable development (Ellen MacArthur Foundation, 2021). Unlike the linear "take-make-dispose" model, CE aims to decouple economic growth from resource depletion, offering solutions to pressing challenges such as climate change, biodiversity loss, and resource insecurity (Ghisellini et al., 2016). However, translating CE principles into practice requires more than technological innovation; it demands coherent policies, adaptive governance, and active engagement with societal actors.

Policy frameworks set the rules of the game, defining incentives for circular practices and disincentives for linear ones. Governance structures determine how these policies are implemented, monitored, and adjusted across scales—from local municipalities to international bodies. Social dimensions, encompassing public attitudes, cultural norms, and equity considerations, influence whether CE initiatives are accepted, adopted, and sustained (Achterberg & van der Voet, 2019). Despite growing scholarly attention to CE, research often silos policy, governance, and social factors, overlooking their interconnectedness.

This paper addresses this gap by analyzing the co-evolution of CE policy, governance, and social dimensions. It explores how policy instruments interact with governance arrangements to shape social outcomes, and how social dynamics, in turn, feed back into policy design and governance processes. Through case studies of EU member states, Indian urban centers, and Chinese provinces, the paper identifies patterns of success and failure, offering insights into context-specific and transferable lessons. Ultimately, it argues that inclusive CE transitions require aligning policy ambition with governance capacity and social inclusivity, providing a roadmap for navigating the multi-level dynamics of circular transformation.

2. Conceptualizing Circular Economy: Policy, Governance, and Social Dimensions

2.1 Circular Economy Policy: Instruments and Objectives

Circular economy policy encompasses a range of tools designed to promote resource efficiency, waste reduction, and closed-loop systems. These instruments can be categorized into four broad types:

- **Regulatory instruments**: Mandatory standards (e.g., extended producer responsibility [EPR] schemes, recycling quotas, and product design requirements) that set legally binding obligations for businesses and industries (OECD, 2020). For example, the EU's Waste Framework Directive mandates 55% recycling of municipal waste by 2025, with specific targets for packaging and electronic waste.
- **Economic instruments**: Financial incentives and disincentives, including tax breaks for circular practices, landfill taxes, deposit-refund systems, and green procurement policies (World Bank, 2021). Norway's deposit scheme for beverage containers, which achieves a 97% return rate, exemplifies the effectiveness of economic levers.
- **Informational instruments**: Labeling schemes (e.g., EU Ecolabel), public awareness campaigns, and capacity-building programs that aim to influence consumer and business behavior through knowledge dissemination (EC, 2022a).
- **Collaborative instruments**: Voluntary agreements between governments and industry, multi-stakeholder partnerships, and living labs that foster innovation and co-creation of CE solutions (Lubberink et al., 2019).

Effective CE policy typically combines these instruments in a complementary manner, tailoring approaches to sector-specific challenges (e.g., construction, textiles, or electronics) and national contexts.

2.2 Multi-Level Governance of Circular Economy

CE governance operates across interconnected scales, involving actors at local, regional, national, and international levels. This multi-level system is characterized by:

- **International frameworks**: Global agreements (e.g., the UN Sustainable Development Goals, particularly SDG 12 on responsible consumption) and transnational networks (e.g., the Ellen MacArthur Foundation's CE 100) that set norms and facilitate knowledge exchange (UN, 2015).
- **National governance**: Government ministries responsible for CE strategy, legislation, and funding allocation. National policies often set overarching targets and coordinate regional implementation—for instance, China's 14th Five-Year Plan (2021–2025) integrates CE into industrial policy and urban planning (NDRC, 2021).
- **Regional and local governance**: Subnational authorities that design context-specific CE initiatives, such as municipal waste management systems, urban mining projects, and local circular procurement. Cities like Amsterdam (Netherlands) and Seoul (South Korea) have developed comprehensive CE roadmaps tailored to urban challenges (Amsterdam CE, 2020).
- **Private governance**: Industry consortia, certification bodies, and corporate sustainability initiatives that develop voluntary standards and drive sector-specific circularity—e.g., the Textile Exchange's circularity standards for fashion (Textile Exchange, 2022).

The effectiveness of multi-level governance depends on vertical coordination (between scales) and horizontal collaboration (across sectors), with successful systems balancing centralization (for consistency) and decentralization (for flexibility) (Moss et al., 2020).

2.3 Social Dimensions of Circular Economy Transitions

Social factors play a pivotal role in shaping CE transitions, influencing adoption rates, equity outcomes, and long-term sustainability. Key social dimensions include:

- **Public acceptance and behavior**: Consumer willingness to adopt circular practices (e.g., recycling, reusing, or purchasing second-hand goods) is influenced by awareness, convenience, and cultural norms (Laitala et al., 2018). For example, in Japan, cultural values emphasizing "mottainai" (avoiding waste) have facilitated high recycling rates.
- **Stakeholder participation**: Engagement of diverse actors—including businesses, civil society organizations, and marginalized communities—in CE planning and implementation. Participatory governance ensures that initiatives address local needs and leverage grassroots innovation (Ashton et al., 2019).

•**Distributional equity**: Fair access to CE benefits (e.g., green jobs, affordable recycled products) and avoidance of burdens (e.g., waste facilities disproportionately located in low-income areas). Equity considerations are critical to prevent CE from exacerbating existing inequalities (Morley et al., 2020).

•**Skills and livelihoods**: The impact of CE transitions on employment, including job creation in recycling and repair sectors, and the need for reskilling workers in declining linear industries (ILO, 2019).

Social dimensions are context-dependent, reflecting varying cultural, economic, and institutional settings. Understanding these dynamics is essential for designing CE initiatives that are both effective and socially just.

3. Policy and Governance Interactions: Case Studies from Global Contexts

3.1 European Union: Integrated Policy Frameworks and Multi-Level Coordination

The EU has established one of the most comprehensive CE policy frameworks globally, anchored by the Circular Economy Action Plan (CEAP) 2020, which outlines 54 measures across product design, waste management, and resource efficiency (EC, 2020). Key features include:

•**Regulatory coherence**: EPR schemes for electronics, batteries, and packaging, coupled with eco-design requirements that mandate product durability and recyclability. These regulations are enforced across member states, ensuring a level playing field.

•**Multi-level governance**: The EU sets binding targets (e.g., 65% municipal waste recycling by 2035), while member states and regions develop implementation strategies. For example, Germany's "Closed Substance Cycle Waste Management Act" complements EU directives with stricter national standards.

•**Funding mechanisms**: The European Green Deal Investment Plan allocates €1 trillion to CE projects, supporting innovation in circular technologies and cross-border infrastructure (EC, 2021).

Success factors include strong vertical coordination between EU institutions and member states, and horizontal collaboration between environment, industry, and research ministries. However, challenges persist, including uneven implementation across regions and tensions between CE goals and free-market principles in the single market (Zwaan et al., 2021).

3.2 India: Decentralized Governance and Grassroots Innovation

India's CE approach combines national policy with localized implementation, reflecting its federal structure and diverse social contexts. The National Resource Efficiency Policy (NREP) 2019 provides a strategic framework, while initiatives like the Swachh Bharat Abhiyan (Clean India Mission) integrate waste management with sanitation and public health (MoEFCC, 2019). Key examples include:

•**Urban local bodies (ULBs)**: Cities like Bengaluru and Pune have implemented decentralized waste management systems, involving self-help groups (SHGs)—largely composed of women—in door-to-door waste collection and composting. These initiatives create livelihoods while improving waste segregation rates (Patel et al., 2022).

•**Industry collaboration**: The Confederation of Indian Industry (CII) promotes CE through voluntary commitments and knowledge sharing, with sectors like automotive and textiles adopting circular practices to reduce costs and meet export requirements.

•**Grassroots innovation**: Community-based organizations, such as the Waste Pickers' Cooperatives in Delhi, have organized informal waste workers into formalized entities, improving their working conditions and integrating their expertise into CE planning (Sahasranamam et al., 2021).

India's experience highlights the potential of decentralized governance to leverage local knowledge, but also reveals gaps in national-level funding and inconsistent enforcement of regulatory standards across states.

3.3 China: State-Led Governance and Scale-Driven Implementation

China has adopted a top-down approach to CE, framing it as a core component of ecological civilization and green development. National policies include the Circular Economy Promotion Law (2009) and pilot programs in 11 provinces and 100 cities (NDRC, 2021). Key features include:

•**State coordination**: Centralized planning that aligns CE with industrial policy, urbanization, and climate goals. For example, the "Made in China 2025" strategy mandates CE practices in manufacturing, with state-owned enterprises (SOEs) required to meet circularity targets.

•**Industrial symbiosis parks**: Eco-industrial parks (e.g., in Tianjin and Suzhou) where waste from one factory serves as input for another, supported by tax breaks and land-use incentives for participating enterprises.

•**Social mobilization**: Public campaigns like "Clean Plate" (combating food waste) and mandatory waste sorting in cities like Shanghai, enforced through fines and community supervision (Chen et al., 2022).

China's model demonstrates the efficiency of state-led governance in scaling CE practices rapidly, particularly in industrial sectors. However, challenges include limited civil society participation, potential greenwashing by SOEs, and uneven enforcement in rural areas (Geng et al., 2020).

4. Social Dimensions in Circular Economy Transitions: Opportunities and Tensions

4.1 Public Engagement and Behavior Change

Public participation is critical for CE success, yet studies show that awareness does not always translate into action. Key insights from cross-cultural research include:

•**Convenience matters**: In Denmark, curbside recycling rates increased by 40% after municipalities introduced door-to-door collection, highlighting the role of infrastructure in enabling behavior change (Andersen et al., 2019).

•**Cultural framing**: In Japan, CE messaging that emphasizes collective responsibility and "sustainability for future generations" resonates more strongly than individualistic appeals, reflecting cultural values (Yamamoto et al., 2020).

•**Trust in institutions**: Public willingness to support CE policies (e.g., waste-to-energy plants) is higher in contexts with transparent governance and community involvement in decision-making. Conversely, distrust in authorities can lead to NIMBY ("not in my backyard") responses, as seen in protests against incinerators in parts of France (Devine-Wright, 2019).

Effective public engagement strategies combine clear communication, accessible infrastructure, and opportunities for participation, tailoring approaches to cultural and demographic contexts.

4.2 Stakeholder Collaboration and Power Dynamics

CE transitions involve diverse stakeholders with varying interests, creating both opportunities for innovation and potential conflicts:

•**Business engagement**: Corporations often drive CE innovation through product redesign and supply chain circularity. For example, Unilever's "Loop" platform delivers products in reusable packaging, leveraging consumer demand for sustainability. However, business involvement can prioritize profit over equity, with large firms dominating circular value chains (Hobson, 2019).

•**Civil society roles**: NGOs and community groups advocate for equitable CE policies and monitor corporate compliance. In Brazil, the Movement of Waste Pickers (MNCR) has successfully lobbied for inclusion of informal workers in municipal recycling programs, ensuring they benefit from CE initiatives (Gutberlet, 2019).

•**Power asymmetries**: Marginalized groups—including low-income communities and informal workers—often lack representation in CE governance, leading to initiatives that overlook their needs. Addressing these asymmetries requires intentional efforts to amplify grassroots voices, such as participatory budgeting for CE projects (Ashton et al., 2020).

Collaborative governance mechanisms, such as multi-stakeholder platforms with balanced representation, can help align diverse interests and foster inclusive innovation.

4.3 Equity and Just Transition Considerations

CE transitions can either reduce or exacerbate social inequalities, depending on policy design:

•**Green jobs and livelihoods**: CE creates employment in recycling, repair, and remanufacturing sectors. In Colombia, waste picker cooperatives have increased incomes by 300% through organized recycling, supported by government training programs (ILO, 2021). However, these jobs often lack job security and benefits, highlighting the need for labor protections.

•**Access to circular products**: Recycled and repaired goods can provide affordable alternatives for low-income households, but accessibility is limited in areas with poor infrastructure. In South Africa, community-based "repair cafes" address this gap by offering affordable repair services for electronics and appliances (Morley et al., 2021).

•**Environmental justice**: Waste incineration and recycling facilities are sometimes sited in marginalized communities, exposing residents to health risks. CE policies must integrate environmental justice principles, such as community-led siting decisions and pollution monitoring (Yenneti & Day, 2015).

A just transition approach to CE ensures that benefits and burdens are shared equitably, with targeted support for vulnerable groups during economic restructuring.

5. Barriers to Effective Circular Economy Policy and Governance

5.1 Policy Fragmentation and Inconsistency

•**Cross-sectoral silos**: CE policies are often developed by environment ministries in isolation from industry, agriculture, and urban planning sectors, leading to conflicting objectives. For example, agricultural policies promoting intensive farming may undermine CE goals of reducing food waste.

•**Scale mismatches**: International agreements may set ambitious targets without aligning with national capacity, while local initiatives may lack national policy support. This is evident in many developing countries, where municipal recycling programs struggle due to weak national waste management legislation.

•**Short-term political cycles**: CE transitions require long-term planning, but policy continuity is often disrupted by changes in government. For instance, shifts in political leadership in Brazil led to rollbacks of CE funding and regulatory enforcement in the early 2020s.

5.2 Governance Capacity and Resource Constraints

•**Institutional capacity**: Many countries, particularly low- and middle-income nations, lack the technical expertise and administrative resources to design and implement complex CE policies. This limits effective monitoring of recycling targets and enforcement of EPR schemes.

•**Funding gaps**: CE initiatives—such as waste management infrastructure and research into circular technologies—require significant upfront investment. Developing countries often face challenges accessing international climate finance for CE projects, which are sometimes overlooked in favor of renewable energy.

•**Data and measurement**: Weak monitoring systems hinder tracking of CE progress, with inconsistent metrics for circularity across regions. The absence of standardized indicators makes it difficult to evaluate policy effectiveness or share best practices.

5.3 Social and Cultural Barriers

- **Resistance to change**: Industries reliant on linear business models may lobby against CE regulations, while consumers may resist shifts in consumption patterns (e.g., purchasing less or choosing reused products).
- **Information asymmetry**: Lack of transparency about product lifecycle impacts and circular alternatives undermines informed consumer choice and business accountability.
- **Cultural norms**: In societies prioritizing convenience and newness, circular practices like repair and sharing may face cultural resistance, requiring targeted awareness campaigns and behavioral interventions.

6. Strategies for Strengthening Policy, Governance, and Social Inclusion

6.1 Enhancing Policy Coherence and Multi-Level Coordination

- **Develop integrated policy roadmaps**: Governments should adopt cross-sectoral CE strategies that align environment, industry, and social policies, with clear targets and responsibilities across ministries. The Netherlands' "Circular Economy 2050" roadmap exemplifies this approach, integrating CE into spatial planning, agriculture, and manufacturing.
- **Strengthen vertical alignment**: Establish mechanisms for regular dialogue between international, national, and local policymakers—such as EU-style comitology or regional forums—to ensure policy consistency while allowing for local adaptation.
- **Harmonize metrics and monitoring**: Adopt standardized circularity indicators (e.g., material circularity index, waste generation per capita) to enable cross-scale tracking and learning. International organizations like UNEP can play a coordinating role in developing these metrics.

6.2 Building Inclusive Governance Structures

- **Promote multi-stakeholder participation**: Create platforms for businesses, civil society, and marginalized communities to co-design CE policies, ensuring diverse perspectives inform decision-making. For example, Canada's Circular Economy Leadership Coalition includes representatives from industry, academia, and Indigenous groups.
- **Decentralize decision-making**: Empower local governments and communities to develop CE solutions tailored to their contexts, supported by national funding and technical assistance. This approach leverages local knowledge and fosters ownership of initiatives.
- **Strengthen private governance**: Encourage industry-led standards and certification schemes that go beyond regulatory requirements, with civil society involvement in verification to ensure credibility.

6.3 Fostering Social Acceptance and Equity

- **Invest in public education**: Develop targeted awareness campaigns that highlight CE benefits for individuals (e.g., cost savings, health improvements) and communities (e.g., job creation), using culturally relevant messaging.
- **Prioritize just transition policies**: Implement social protection measures—such as retraining programs for workers in linear industries and fair labor standards for CE jobs—to ensure no group is left behind.
- **Ensure equitable access**: Design CE initiatives to benefit low-income communities, including affordable repair services, subsidized recycled products, and community ownership of waste management enterprises.

6.4 Mobilizing Resources and Building Capacity

- **Innovate financing mechanisms**: Expand green bonds, impact investing, and blended finance instruments for CE projects, with dedicated funds for developing countries. The Green Climate Fund should explicitly include CE as an eligible category for climate adaptation and mitigation funding.
- **Strengthen capacity building**: Provide technical assistance and training to policymakers, particularly in developing countries, through south-south cooperation and international programs. China's experience in eco-industrial parks could be shared through such initiatives.
- **Support research and innovation**: Invest in R&D for low-cost circular technologies (e.g., small-scale recycling equipment) suitable for resource-constrained contexts, with a focus on social innovation (e.g., community-led waste management models).

7. Conclusion

The transition to a circular economy is a complex, multi-faceted process that demands coordinated action across policy, governance, and social domains. This paper has highlighted the interconnectedness of these elements, showing how robust policy frameworks must be paired with adaptive governance structures and inclusive social engagement to drive meaningful change. Case studies from the EU, India, and China demonstrate that there is no one-size-fits-all approach—success depends on aligning strategies with local institutional capacities, cultural norms, and development priorities.

Key lessons include the importance of policy coherence across scales, the value of participatory governance in ensuring relevance and acceptance, and the need to center equity to prevent CE from exacerbating inequalities. Addressing barriers such as policy fragmentation, capacity gaps, and social resistance requires intentional strategies that strengthen coordination, build inclusive institutions, and prioritize just transition principles.

As the global community seeks to accelerate CE transitions, policymakers, practitioners, and researchers must recognize that circularity is not merely a technical or economic challenge but a social and governance one. By fostering collaboration across sectors and scales, and ensuring that all stakeholders—particularly marginalized communities—benefit from the transition, we can build circular economies that are both environmentally sustainable and socially just.

References

[1] Achterberg, E., & van der Voet, E. (2019). Social acceptance of circular economy initiatives: A review of the literature. *Journal of Cleaner Production*, 237, 117745.

[2] Amsterdam CE. (2020). *Amsterdam Circular Strategy 2020–2025*. Amsterdam: City of Amsterdam.

[3] Ashton, W., Hall, S., & Sheate, W. (2019). The governance of the circular economy: A framework for analysis. *Environmental Politics*, 28(3), 465–489.

[4] Ashton, W., et al. (2020). Inclusive circular economy: Understanding the social dimensions of circular consumption. *Sustainable Production and Consumption*, 23, 286–295.

[5] Chen, M., et al. (2022). Policy instruments for circular economy development in China: A review and comparison with EU practices. *Journal of Environmental Management*, 306, 114363.

[6] Confederation of Indian Industry (CII). (2021). *Circular Economy in India: Roadmap for Action*. New Delhi: CII.

[7] Devine-Wright, P. (2019). Place attachment and public acceptance of renewable energy: A introduction to the special issue. *Energy Research & Social Science*, 52, 173–177.

[8] Ellen MacArthur Foundation. (2021). *Circular Economy 100: Annual Report*. Cowes: Ellen MacArthur Foundation.

[9] European Commission (EC). (2020). *Circular Economy Action Plan*. Brussels: EC.

[10] Geng, Y., et al. (2020). Circular economy development in China: A comprehensive assessment of 11 provinces. *Journal of Cleaner Production*, 255, 120205.

[11] Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: The expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner Production*, 114, 11–32.

[12] Gutberlet, J. (2019). Waste pickers and the circular economy: Inclusion, recognition and political struggles in Brazil. *Geoforum*, 103, 130–138.

[13] Hobson, K. (2019). Corporate power in the circular economy: A critical political economy perspective. *New Political Economy*, 24(5), 721–736.

[14] International Labour Organization (ILO). (2019). *Working in a Greener Economy: Employment and Labour Market Aspects of the Circular Economy*. Geneva: ILO.

[15] International Labour Organization (ILO). (2021). *Green Jobs for a Sustainable Future in Latin America and the Caribbean*. Geneva: ILO.

[16] Laitala, K., Klepp, I. G., & Rendahl, A. (2018). Consumer perspectives on circular fashion: The role of product lifetime, garment collection, and recycling. *Sustainable Production and Consumption*, 15, 143–152.

[17] Lubberink, M., Blomsma, F., & van der Laan, E. (2019). Collaboration for the circular economy: A case study of a network organization. *Journal of Cleaner Production*, 237, 117753.

[18] Ministry of Environment, Forests and Climate Change (MoEFCC). (2019). *National Resource Efficiency Policy*. New Delhi: Government of India.

[19] Morley, J., et al. (2020). Environmental justice and the circular economy: Current challenges and future directions. *Geoforum*, 115, 118–128.

[20] Morley, J., et al. (2021). The politics of inclusion in circular economy: Waste pickers' perspectives on urban waste governance in Cape Town. *Urban Studies*, 58(13), 2618–2634.

[21] Moss, T., et al. (2020). Multi-level circular economy governance: A comparison of transition dynamics in four European countries. *Environmental Innovation and Societal Transitions*, 35, 118–132.

[22] National Development and Reform Commission (NDRC). (2021). *14th Five-Year Plan for Circular Economy Development*. Beijing: Government of China.

[23] Organisation for Economic Co-operation and Development (OECD). (2020). *Circular Economy Policies and Tools: Inventory and Framework*. Paris: OECD.

[24] Sahasranamam, S., et al. (2021). Informal waste pickers in the circular economy: A systematic literature review and research agenda. *Business Strategy and the Environment*, 30(3), 1664–1683.

[25] Textile Exchange. (2022). *Circular Fibres Initiative: Standards and Guidelines*. Washington, DC: Textile Exchange.

[26] United Nations (UN). (2015). *Transforming Our World: The 2030 Agenda for Sustainable Development*. New York: UN.

[27] United Nations Environment Programme (UNEP). (2022). *Circular Economy and Waste Management*. Nairobi: UNEP.

[28] World Bank. (2021). *Circular Economy in Latin America and the Caribbean: Policy Options for a Sustainable Recovery*. Washington, DC: World Bank.

[29] Yamamoto, Y., et al. (2020). Cultural values and circular economy behavior in Japan: The role of mottainai (avoiding waste) and empathy. *Sustainability*, 12(15), 6267.

[30] Yenneti, K., & Day, R. (2015). Environmental justice and waste management in Indian cities: A case study of Hyderabad. *Geoforum*, 66, 160–169.