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Review

# Exploring ESG Dimensions in the Urban Context

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## Abstract

This article provides a critical and thematically structured literature review of Environmental, Social, and Governance (ESG) urbanism as it intersects with the right to the city, green gentrification, affordable housing, public-private partnerships, and participatory governance. Drawing from over 100 peer-reviewed sources published between 2020 and 2025, the study examines how ESG frameworks are adopted, contested, and operationalized across diverse urban contexts. While ESG has emerged as a dominant paradigm in urban planning and real estate, the review reveals its frequent co-optation by market-driven agendas, which risk reproducing socio-spatial inequalities under the guise of sustainability. At the same time, the literature highlights promising alternatives rooted in environmental justice, multispecies ethics, legal reform, and community-led planning. The review advances the argument that ESG must be reframed not as a universal compliance model, but as a situated, justice-oriented framework capable of responding to the complex ecological and social realities of contemporary urbanization. By foregrounding relational governance, inclusive design, and equitable urban futures, the article contributes to an emerging research agenda that challenges technocratic sustainability and reclaims ESG as a transformative tool for spatial and environmental justice.

**Keywords:** ESG; urban planning; sustainability

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## Introduction

Environmental, Social, and Governance (ESG) frameworks have rapidly gained traction in urban planning, real estate, and infrastructure development as tools to evaluate sustainability performance and guide responsible investment. Their rise coincides with intensifying global calls for climate-resilient, inclusive, and equitable urban development in alignment with the Sustainable Development Goals (SDGs), particularly SDG 11 on sustainable cities and communities. Yet, critical urban scholars have begun to interrogate whether ESG truly fulfills its promise as a transformative planning paradigm—or whether it has become a managerial discourse that masks the structural inequalities of contemporary urbanization (McNiff, 2023; Wachsmuth & Angelo, 2023; Layard, 2020).

Recent research reveals that ESG frameworks, when applied in cities, often reinforce the logics of capital accumulation and real estate speculation, with sustainability used as a reputational tool rather than a mechanism for systemic change (Anguelovski & Connolly, 2022; Rehder, 2022). High-profile greening and smart city initiatives may simultaneously improve environmental performance while accelerating processes of gentrification and exclusion—particularly when disconnected from participatory planning, housing justice, and equitable governance (García-Lamarca et al., 2020; Krings & Schusler, 2020; Lewartowska et al., 2024). At the same time, however, place-based governance innovations such as Barcelona's Superblocks, the Comunidad Valenciana's legal reforms, and participatory urban forestry projects in the Global North and South show that ESG-aligned planning can support equity-oriented transformation when rooted in distributive, procedural, and recognition justice (Balogh, 2024; Santin & Berndsen, 2023; Wolf-Jacobs et al., 2023).

This article contributes to this growing body of scholarship by providing a systematic, qualitative review of over 100 scholarly publications from 2020 to 2025. Its central aim is to critically

assess the conceptualization, application, and contradictions of ESG frameworks in urban planning, housing, infrastructure, and governance. It asks: How do ESG frameworks shape and reflect the urban sustainability agenda? In what ways do they reinforce or resist processes of exclusion and displacement? And what kinds of institutional, legal, and spatial configurations allow ESG to function as a genuinely transformative model rather than a technocratic checklist?

In response, the article is structured into six thematic sections that emerged through a grounded coding of the literature: (1) ESG urbanism and the Right to the City; (2) environmental gentrification and social exclusion; (3) affordable housing and ESG integration; (4) ESG narratives in public-private partnerships; (5) participation, equity, and governance; and (6) contradictions and limitations in ESG planning. This structure enables both a cross-sectional and comparative analysis of global case studies, revealing tensions between policy ambition and implementation, and between technocratic design and grassroots participation.

Ultimately, the article contends that ESG must be reclaimed as a normative and justice-oriented planning framework—one that centers spatial equity, ecological interdependence, and civic co-production over financial compliance and green branding. By engaging critically with the political ecology and governance dimensions of ESG urbanism, this review contributes to an emerging research agenda that foregrounds relational, place-based, and multispecies futures for urban sustainability.

## Methodology

This article employed a structured qualitative literature review methodology to examine the spatial, legal, social, and ecological dimensions of ESG urbanism between 2020 and 2025. Drawing from scholarly articles sourced through Lens.org, the review adopted a purposive sampling strategy focused on academic publications containing keywords such as “ESG urbanism,” “green gentrification,” “environmental justice,” “urban governance,” “smart cities,” “affordable housing,” “PPP sustainability,” “Right to the City,” and “nature-based solutions.” This approach ensured thematic alignment with the research aim: to critically assess the conceptualization, application, and limitations of ESG frameworks in contemporary urban development.

Articles were manually screened for inclusion based on three criteria: (1) publication in peer-reviewed journals or research-led institutional outputs; (2) empirical or conceptual focus on the intersection of ESG and urban spatial processes; and (3) relevance to one or more thematic domains of the review—environmental sustainability, social inclusion, governance mechanisms, and infrastructural innovation. While the search strategy emphasized literature from 2020 onward, several high-impact works from the late 2010s were retained for their conceptual importance and citation value.

The analysis proceeded in two stages. First, selected studies were coded manually across six thematic categories derived from the literature: (1) ESG urbanism and the Right to the City; (2) environmental gentrification and social exclusion; (3) affordable housing and ESG integration; (4) ESG narratives in public-private urban partnerships; (5) participation, equity, and urban governance; and (6) contradictions and limitations in ESG urban planning. This thematic taxonomy allowed for comparative and cross-sectional synthesis of trends, tensions, and innovations within ESG-aligned urbanism.

Second, a critical synthesis was conducted to trace ideological convergences, contradictions, and methodological gaps. Rather than relying on quantitative meta-analysis or citation metrics, the review privileged conceptual rigor, critical engagement, and diversity of geographical case studies. This qualitative interpretive method aligns with calls in urban scholarship to ground sustainability frameworks in lived spatial realities and to foreground justice-centered planning.

## ESG Urbanism and the Right to the City

The literature on ESG urbanism increasingly questions the structural constraints and ideological contradictions embedded within sustainability discourses in contemporary cities. McNiff (2023) presents a powerful critique of sustainable urbanism, framing it not as a coherent or transformative practice, but as a fragmented ideological response shaped by the imperatives of capital accumulation. In this account, architects and urbanists are subordinated to the priorities of real estate capital, which instrumentalizes sustainability for reputational gain while maintaining the status quo of profit-maximizing development. With the built environment accounting for 31% of global CO<sub>2</sub> emissions, McNiff highlights the limited agency of professionals vis-à-vis financiers and developers, characterizing sustainability as an “empty signifier” that conceals inaction behind rhetorical commitments (pp. 29–33). Thus, sustainable urbanism is revealed as a politically fraught terrain, where technocratic aspirations are continually undermined by capitalist urban governance.

In contrast, Balogh (2024) introduces a ee-oriented comparative lens by analyzing how environmental justice (EJ) is differentially integrated into urban sustainability governance in Barcelona and Oslo. Applying a triadic justice framework—distributional, recognitional, and procedural—the study argues that Barcelona’s model, rooted in participatory urbanism and historical redress, embeds EJ more comprehensively than Oslo’s technocratic, market-driven approach. Through initiatives like the Superblocks and platforms such as Decidim Barcelona, the city actively incorporates public input to rebalance mobility and access to green spaces in historically marginalized neighborhoods. Conversely, Oslo’s emphasis on climate budgets and efficiency reflects a growth-centered paradigm that marginalizes equity. Balogh’s work situates EJ not as a universal metric but as a governance outcome contingent upon political ideology, institutional design, and civic infrastructure.

Expanding on the spatial practices of sustainability, Macaione et al. (2024) underscore the growing relevance of Nature-based Solutions (NbS) in climate-adaptive urban regeneration.

Their design-oriented framework reconceptualizes streetscapes as regenerative, multifunctional systems, integrating ecological, social, and aesthetic values. By employing a research-by-design methodology, the authors offer a conceptual taxonomy grounded in precedents, policy alignment, and interdisciplinary experimentation. The study not only foregrounds the intersection of spatial justice and ecological infrastructure but also contributes operational models to replicate NbS across European urban contexts. NbS is thus reframed as a vehicle for equity-oriented urban transformation rather than an isolated ecological intervention.

A more radical epistemological shift is advocated by Fieuw et al. (2022), who propose a more-than-human urbanism rooted in posthumanist ethics, Indigenous knowledge systems, and multispecies justice. Their horizon scan of urban planning literature challenges anthropocentric paradigms by emphasizing cohabitation, ecological interdependence, and biodiversity-sensitive design. By integrating spatial planning with the rights of nature and ethics of care, they move beyond sustainability-as-efficiency toward a transformative agenda that reframes urban governance to include non-human life. Their contribution calls for a post-disciplinary rethinking of ESG frameworks that embraces relational ontologies and multispecies accountability.

Legal and governance dimensions of ESG urbanism are particularly salient in the Global South, where calls for the formalization of the Right to the City remain urgent. Samal (2021) traces the Indian constitutional landscape to reveal that core elements of this right—housing, health, livelihood—are implicitly protected under Article 21 but lack enforceability due to fragmented jurisprudence. The COVID-19 crisis exposed these systemic gaps, disproportionately affecting marginalized urban populations. Samal argues for the constitutionalization of the Right to the City, positing that such a move would operationalize inclusive development and strengthen social protection within sustainability agendas. His intervention highlights the normative and legal potential of urban rights frameworks in catalyzing equitable development.

Complementing this perspective, Santin and Berndsen (2023) explore how local governments in Brazil and Spain mediate the nexus between sustainability, environmental justice, and participatory



governance. They demonstrate that when decentralization is coupled with institutionalized citizen participation, local governments can proactively align land use planning with environmental safeguards. Focusing on the Comunidad Valenciana, the study illustrates how legal reforms to the Ley de Suelo integrate social equity, compact growth, and public transparency. By comparing these mechanisms across legal regimes, the authors reveal the critical role of localized legal instruments in embedding ESG principles into territorial governance.

Lastly, the concept of placemaking is presented by Kumar and Nigam (2023) as a tactical response to the challenges of urban livability, social cohesion, and ecological degradation. They argue for a broader vision of sustainable urbanism that incorporates community-centered design, adaptive reuse, and participatory planning. Drawing from cases such as New York's Times Square pedestrianization and Delhi's Raahgiri Day, the authors show how placemaking strategies—ranging from green open spaces to transit-oriented development—can foster civic engagement and spatial equity. Their work positions placemaking as a critical strategy for ESG urbanism, one that bridges technical planning with local social imaginaries.

## Environmental Gentrification and Social Exclusion

Urban greening interventions in the Global North have increasingly come under scrutiny, not only for their ecological aspirations but for their complicity in reproducing socio-spatial inequalities. Anguelovski and Connolly (2022), drawing on 21 case studies across North America and Europe, reveal how green planning initiatives often align with neoliberal municipal governance, resulting in upscale redevelopment and real estate speculation that displaces vulnerable communities. Framed rhetorically as inclusive and sustainable, many such initiatives commodify green amenities while dismantling social safety nets, particularly in cities that defund affordable housing and public services. Yet, their work also highlights alternative urban models grounded in environmental justice and community-led planning, calling for a re-politicization of sustainability that centers equity and recognition.

This critique is echoed in Venner's (2024) analysis of urban climate adaptation finance within the European Union, where competitive funding models exacerbate multi-scalar inequities. Cities with greater political visibility and administrative capacity—often wealthier and less climate-vulnerable—are more successful in securing resources, leaving smaller or under-resourced municipalities with limited access to funds. These patterns of spatial inequality challenge the EU's commitments to territorial cohesion and call into question the distributive justice of climate finance mechanisms.

The limits of institutionalized sustainability discourse are further illustrated by Rehder (2022), who interrogates Oslo's Fjordbyen waterfront redevelopment. Although lauded as an eco-city exemplar, Oslo's policies reveal an underlying exclusionary logic wherein blue-green infrastructure and vague sustainability narratives serve elite interests. Rehder proposes a paradigm shift toward "just sustainability," foregrounding equity, participation, and capabilities as core planning principles.

Scholars have also documented how remediation initiatives such as brownfield clean-up, tree planting, and green infrastructure may improve environmental quality while accelerating processes of gentrification. Campbell et al. (2024) caution that without intentional safeguards, these improvements render low-income, racialized neighborhoods attractive for investment, thereby facilitating displacement. They advocate for participatory planning and "just green enough" strategies that prioritize social justice alongside ecological restoration.

Expanding this analysis, Sax, Nesbitt, and Quinton (2022) introduce a dimensional framework that positions green gentrification not as an isolated outcome of specific projects but as a manifestation of broader neoliberal urbanism. Their scoping review identifies three interrelated dimensions—conceptual, implementation, and socio-spatial change—through which exclusion is reproduced. They argue for systemic interventions that confront the structural roots of displacement, rather than relying on surface-level equity measures.

Similarly, Krings and Schusler (2020) explore how community groups respond to environmental gentrification, identifying grassroots strategies ranging from protest to participatory engagement. Emphasizing the integration of distributive, procedural, and recognition-based justice, they call for more inclusive planning processes—particularly those involving social work practitioners—to ensure that sustainability benefits do not reproduce racial and class hierarchies.

Wolf-Jacobs, Wilson, and Margulies (2023) reinforce this perspective through a systematic review of urban forestry expansion in the U.S., emphasizing the role of participatory planning in mitigating eco-gentrification. They stress the need to address historical injustices and power asymmetries by centering local knowledge, compensating community participation, and tailoring interventions to locally defined priorities. Their advocacy for “just green enough” approaches situates urban greening within broader struggles for racial and socioeconomic justice.

Legal interventions also emerge as potential tools for resisting displacement. Hevia (2021) proposes leveraging the U.S. National Environmental Policy Act (NEPA) to require Environmental Impact Statements that account for indirect displacement. He reframes environmental gentrification as a foreseeable social harm of federally funded green infrastructure, arguing for the reinterpretation of ecological protections through a lens of spatial justice.

Adding a cultural dimension, Maia et al. (2020) deploy the concept of Cultural Ecosystem Services (CES) to analyze how urban park values contribute to gentrification in Barcelona. Using crowdsourced social media data, they demonstrate how aesthetic and recreational appeals attract higher-income users and investors, whereas parks valued for cultural identity and social cohesion resist displacement dynamics. Their findings underscore the importance of integrating intangible cultural values into green infrastructure planning.

Kim et al. (2022) further unpack the link between social vulnerability and environmental injustice in South Korea’s metropolitan regions. Their study reveals how green spaces and healthcare amenities can drive displacement by increasing property values, particularly in urban cores. They call for urban regeneration policies that incorporate vulnerability assessments and environmental justice indicators to avoid reproducing inequalities.

A parallel concern is raised by Baumann et al. (2021) in their evaluation of the Vert le Nord initiative in Montreal. Despite intentions to address heat island effects, the project is criticized for excluding community voices and triggering eco-gentrification. The authors advocate for greater stakeholder engagement and policy frameworks that embed social equity into environmental improvements.

Finally, Lewartowska et al. (2024) foreground the racialized dimensions of green gentrification, introducing the concept of “compounded environmental racisms.” Their research demonstrates how green infrastructure projects disproportionately displace communities of color, perpetuating environmental injustices rooted in historical land dispossession and systemic neglect. They recommend zoning protections, affordable housing mandates, and community-led greening as strategies to resist exclusionary redevelopment.

## Affordable Housing and ESG Integration

The intersection of affordable housing and ESG frameworks presents a multifaceted challenge, shaped by structural, financial, and design-related constraints. Reid (2023), through a meta-analysis of over 3,500 publications, identifies persistent barriers such as inadequate inclusive design, project mismanagement, and environmental inefficiency. These issues collectively undermine the production of truly accessible and sustainable housing. The findings highlight how the failure to accommodate diverse needs, including those of people with disabilities, and the reliance on energy-inefficient materials and construction practices, reinforce urban inequalities and environmental degradation. Tackling these limitations requires a paradigm shift toward inclusive, socially attuned design alongside the adoption of modern, sustainable construction methods.

Building upon this foundation, Silva et al. (2024) provide a structured typology to categorize sustainable affordable housing based on environmental, technical, and socio-economic performance.

Their systematic review advances the conversation by offering a classification framework that allows policymakers and practitioners to evaluate solutions across a spectrum of ESG indicators. Importantly, they emphasize the necessity of integrating clean energy technologies and life cycle assessments, while proposing future research agendas centered on governance models that enhance outcome-based sustainability. This approach reflects the growing recognition that environmental efficiency must be coupled with social inclusivity and robust institutional support to address housing deficits.

In emerging economies, where regulatory fragmentation and financial barriers are particularly pronounced, Nhat and Hoang (2025) highlight the compounded nature of affordable housing challenges. Their study of Vietnam underscores the impact of bureaucratic inertia, limited incentives for developers, and underdeveloped legal frameworks, which together constrain both public and private investment in low-cost housing. By comparing Vietnam's experience to other developing markets, the authors advocate for reforms in land use planning, streamlined approval processes, and stronger financial mechanisms. Their work situates affordability not only as a technical or market issue but also as a governance problem requiring cross-sectoral coordination.

Beyond cost-efficiency and governance, the inclusion of health as a social determinant in housing design marks a significant evolution in ESG-aligned development. Manoj (2023) emphasizes that housing conditions play a pivotal role in the well-being of vulnerable populations, particularly in the aftermath of the COVID-19 pandemic. By framing health as a core ESG outcome, the author positions housing as both an infrastructural and public health intervention. Complemented by the role of Information and Communication Technology (ICT) in enabling more transparent, responsive service delivery (JLL, 2023), this perspective aligns with global calls for socially responsible real estate development.

Lee (2020) furthers this discourse through an empirical analysis of green-certified affordable housing projects in New York. The study demonstrates that while financial savings from sustainable features may be moderate, residents experience noticeable improvements in their overall quality of life. Importantly, Lee highlights the role of resident participation in shaping meaningful sustainability interventions, reinforcing the idea that housing must be co-produced with end-users to meet ESG goals effectively. This bottom-up perspective complements more technical approaches, adding depth to the social (S) pillar of ESG.

The role of green building technologies (GBT) is further interrogated by Ge et al. (2020), who employ a multi-objective evaluation model to assess their applicability in China's affordable housing sector. Their findings reveal a trade-off between initial investment and long-term environmental gains, with technologies such as energy-efficient lighting and intelligent controls emerging as high-impact solutions. The study highlights the critical balance between cost-effectiveness and environmental stewardship in contexts where affordability is paramount, while also reinforcing the dual social and environmental benefits of GBT adoption.

From a strategic planning perspective, Akinsulire et al. (2024) emphasize the need for rigorous financial modeling and community-aligned planning frameworks to ensure the scalability and resilience of affordable housing initiatives. By integrating scenario planning, risk mitigation, and needs assessments, their approach ensures that projects align not only with immediate shelter needs but also with long-term ESG performance criteria. This dual focus on financial and social sustainability broadens the real estate sector's capacity to contribute to equitable urban development.

## ESG Narratives in Public-Private Urban Partnerships

This section explores how Environmental, Social, and Governance (ESG) principles are being negotiated, embedded, and contested within the evolving landscape of public-private partnerships (PPPs) in urban development. Across diverse geopolitical contexts, PPPs are increasingly positioned as tools to catalyze sustainable regeneration, though their capacity to deliver on ESG promises remains contingent on power dynamics, regulatory frameworks, and civic engagement.

De Paula, Marques, and Gonçalves (2023) highlight the strategic role of PPPs in urban regeneration through the case of the “Porta a Mare” project in Livorno, Italy. The transformation of a former industrial site into a mixed-use waterfront illustrates how a clear legal framework, transparent procurement, and well-defined stakeholder roles can drive successful urban revitalization. Yet, the study also acknowledges limitations in public participation and design critiques, suggesting that even successful PPPs must contend with issues of social legitimacy and design quality. The case underscores the potential of PPPs to align economic growth with urban sustainability, provided that institutional coordination is robust.

Fell and Mattsson (2021) offer a critical perspective on PPPs, emphasizing their dual potential as both enablers and inhibitors of sustainability. They argue that while PPPs can foster inclusive development, this potential is frequently undermined by power imbalances between municipalities, private developers, and citizens. By highlighting the importance of resident participation and social network-building, the authors advocate for a reorientation of PPPs toward broader social and ecological goals. Their analysis calls for a recalibration of PPP governance to move beyond growth-driven agendas and instead prioritize sustainability principles embedded in international frameworks like the SDGs.

From a fiscal and land-use planning standpoint, Guarini et al. (2021) introduce a methodology for quantifying the surplus value generated by urban transformation. Through a case study in Rome, they demonstrate how land value recapture (LVC) mechanisms—such as the Extraordinary Charge of Urbanization (ECU)—can redistribute the financial gains of urban development between private investors and the public sector. By incorporating risk and time into valuation models, the authors propose a more equitable approach to PPPs, aligning with ESG goals through fiscal justice and cost internalization. This approach resonates with international practices in Spain and Italy, showing how financial tools can be structured to support sustainability and mitigate speculative dynamics in real estate development.

Rechler (2021) reinforces the need for reflective practice in PPP implementation.

Drawing from the Nassau Hub redevelopment in New York, the study illustrates how documentation of past projects—including failures—can inform future governance models. Central to this case is the importance of trust-building between developers, public officials, and communities. Rechler emphasizes co-creation, transparency, and responsiveness to community concerns as critical conditions for PPP success in the face of public skepticism. This perspective reframes PPPs not merely as financial mechanisms, but as sociopolitical processes that require ongoing dialogue and adjustment.

Adopting a behavioral lens, Abatecola et al. (2020) propose a co-evolutionary framework to understand how PPPs emerge and evolve. Using the Benito Stirpe Football Stadium in Frosinone as a case study, they distinguish between the formation and consolidation phases of partnerships. Their findings underscore how reciprocal perceptions of benefit and mutual trust are prerequisites for collaboration, while reinforcing mechanisms—such as feedback loops—sustain long-term cooperation. This analysis reveals that effective PPPs are shaped not only by institutional design, but by dynamic social interactions that align with ESG values such as accountability, resilience, and equity.

In contexts marked by public budget constraints, Manganeli et al. (2022) present an innovative PPP model based on asset exchange rather than sale. Here, public properties are transferred to private actors in exchange for redevelopment, preserving public ownership while enhancing asset value. The model offers a pathway for urban regeneration that maintains public control over land and fosters social and environmental sustainability. It highlights how contractual innovation can align financial viability with long-term ESG outcomes, particularly in cities with limited fiscal capacity.

Ortega Zapata (2023) examines the role of P3s in the U.S. infrastructure sector, particularly regarding sustainability and climate resilience. Through examples like the Fargo-Moorhead flood diversion and D.C.’s Smart Streetlighting project, the study demonstrates how long-term contracts and performance-based incentives can support green goals. Yet, the paper also points to the need for



flexible, adaptive contracts that evolve with sustainability targets, warning against the risk of minimal compliance. This analysis positions P3s as critical for bridging infrastructure gaps while advancing climate and equity agendas—if designed with foresight and responsiveness.

## Participation, Equity, and Urban Governance in ESG Cities

This section critically explores how ESG principles intersect with legal, technological, and governance frameworks to shape participatory and equitable urban development. From the conceptual foundations of urban law to the empirical performance of smart city initiatives, the literature reveals ongoing tensions between idealized ESG governance and its practical enactment.

Layard (2020) initiates this conversation by framing urban law as a dynamic socio-legal construct that co-produces the city through spatial policies, legal rights, and governance frameworks. Her critique of European urban law scholarship—particularly in contrast to the more structured legal discourse in the United States—calls for a grammar of urban legal research that accounts for both territorial specificity and the fluid processes of urbanization. Central to her analysis is the caution against overreliance on global metrics like SDG 11, which, she argues, often obscure legal repetition and normalize inequitable spatial practices such as housing financialization and the privatization of public space. Layard thus urges scholars to treat urban law as an analytical entry point into the governance of livable, inclusive cities.

Building upon the legal-institutional framework, Esmailpour et al. (2021) position ESG as a performance-oriented paradigm capable of restructuring urban governance. By centering participation, accountability, and transparency across government, civil society, and private actors, the authors present a normative model that aligns ESG performance with democratic urban management. The framework reflects a holistic view of urban governance that is not merely regulatory but relational, reinforcing the idea that ESG adoption must be grounded in participatory legitimacy.

Case-based studies on smart city initiatives offer empirical insight into the operationalization of ESG governance. Elhag (2024), through a comparative analysis of NEOM and Telosa, illustrates how divergent levels of ESG integration shape smart-city trajectories.

NEOM is presented as a frontrunner due to its environmentally advanced infrastructure and strong emphasis on renewable energy and zero-emission planning. Telosa, while ideologically ambitious in its commitment to social equity and circular economy principles, remains behind in terms of concrete ESG implementation. This comparison reveals that while ESG narratives may be adopted symbolically, their realization hinges on institutional capacity and infrastructural readiness.

The opacity and inconsistency of ESG metrics emerge as another barrier to equitable governance. Keeley et al. (2022) highlight the divergence in social equity indicators across major ESG rating agencies, noting discrepancies in the measurement of diversity, education, income, and labor rights. While employment and social well-being are gaining prominence in the 'S' dimension, the lack of standardized methodologies weakens the ability of ESG metrics to foster real accountability. The authors call for increased methodological transparency and standardization to ensure that social equity is effectively incorporated into ESG frameworks.

Technological integration through smart city infrastructure presents new pathways for ESG reporting and public accountability. Gu et al. (2024) offer a multilayered framework wherein smart technologies—from EVs to air quality sensors—generate data that feeds into ESG reporting. This techno-infrastructural model enables governments to bridge the gap between environmental monitoring and participatory governance by making ESG performance data more transparent and actionable. However, the framework also raises questions about surveillance, data governance, and equitable access to digital infrastructure.

At the corporate level, the effect of state-led smart city initiatives on ESG practices is analyzed by Tang, Wang, and Ou (2024). Their study of Chinese manufacturing firms demonstrates that Smart City Pilot (SCP) policies significantly improve ESG performance by fostering green innovation and enhancing internal control quality. Notably, non-state-owned enterprises in more developed regions

benefit disproportionately, suggesting that the positive effects of ESG-oriented policies are unevenly distributed and influenced by spatial and institutional factors.

Similar findings are echoed by Wan et al. (2024) in their evaluation of the Low-carbon City Pilot Policy (LCPP) in China. The policy is shown to catalyze ESG improvements particularly among firms with strong dynamic capabilities and high analyst attention, pointing to the role of market signaling and institutional preparedness. While the policy effectively enhances ESG adoption, the authors caution that such outcomes may be contingent on firm-specific and regional variables, complicating its replicability.

Chong et al. (2022) provide a broader Southeast Asian perspective by examining smart cities in Malaysia and the Philippines through the ESG lens. They find that community readiness and willingness to participate are critical determinants of smart city sustainability. Public perception, rather than privacy or security concerns, is shown to be the main factor influencing project success, underscoring the importance of social legitimacy and public engagement in ESG-aligned urban initiatives. The study reinforces the notion that community participation is not merely a normative goal but a practical necessity for the sustainable governance of smart cities.

## Contradictions and Limitations in ESG Urban Planning

A growing body of scholarship problematizes the contradictions and unintended consequences embedded in ESG-driven urban planning. A central tension emerges in cities like Barcelona, where greening initiatives aimed at enhancing urban livability have inadvertently contributed to processes of exclusion. García-Lamarca, Connolly, and Anguelovski (2020) use a longitudinal spatial analysis of 18 parks developed between 1992 and 2004 to reveal how projects associated with large-scale urban renewal, such as the 1992 Olympic Games, facilitated demographic shifts in historically working-class neighborhoods. Rising property values, an influx of Global North residents, and displacement of elderly, immigrant, and low-income populations demonstrate how urban greening—especially when aligned with market logics—can produce spatial polarization. Their concept of “procedural displacement” underscores how technocratic planning mechanisms can systematically exclude marginalized voices from decision-making. This analysis reframes green infrastructure not as inherently equitable, but as a performative tool of profit-driven urbanism unless explicitly designed with justice at its core.

Wachsmuth and Angelo (2023) further interrogate the ideological roots of sustainability discourse by distinguishing between “green urban nature”—focused on ecological restoration—and “grey urban nature,” which emphasizes density, transit, and energy efficiency. Drawing on Lefebvre’s distinction between realistic and transparent illusions, they illustrate how these competing visions shape planning narratives in cities such as Vancouver, Abu Dhabi, and Germany’s Ruhr Valley. These ideological framings, while often coexisting in urban agendas, obscure political contestations over land use and benefit distribution, ultimately informing who the city is for.

The implementation gap between sustainability rhetoric and regional coordination is highlighted by Miller and Mössner (2020) through their comparative study of Freiburg and Calgary. Despite Freiburg’s green credentials, neighboring municipalities pursue sprawl-driven growth that undermines collective environmental goals. Similarly, Calgary’s regional efforts are thwarted by inter-municipal competition for investment, revealing that sustainability strategies often function within fragmented governance frameworks that prioritize economic competitiveness over systemic coherence.

In the Russian city of Yakutsk, Durova and Ryan (2024) unpack how contradictions between environmental, social, and developmental goals manifest in land use conflicts. For instance, compact development projects encroach on ecologically sensitive zones such as the Lena River floodplain, while suburban expansion threatens permafrost stability and hydrological systems. These trade-offs reflect how sustainability planning, despite its holistic aspirations, is often reduced to prioritization among competing agendas shaped by political and economic imperatives.

Karlsson (2024) echoes this critique through a discourse analysis of Malmö's planning documents, revealing how densification and green infrastructure are framed as mutually reinforcing. However, the erasure of policy conflicts—such as tree removal and green space privatization—reveals how planning discourse rooted in ecological modernization can mask the displacement of marginalized residents. Karlsson calls for greater transparency and conflict acknowledgment to ensure that sustainability agendas do not obscure socio-spatial inequities under technocratic rationalities.

Næss (2023) takes a broader systems-level view, arguing that current planning paradigms rooted in perpetual growth fail to address the interconnected crises of climate change, biodiversity loss, and inequality. He advocates for planning that incorporates global environmental interdependencies and social equity into regional and national strategies, urging a departure from short-term economic fixes toward transformative sustainability. His work demands planners confront the socio-political limits of urban development rather than reproducing the status quo through green branding.

Finally, Campbell and Zellner (2020) use the concept of “wicked problems” to frame the governance complexity of urban sustainability. Through the dual case studies of ecogentrification and megaregional sustainability, they argue that well-intended ecological improvements can intensify inequalities if divorced from systems thinking. Their call for causal loop diagrams and adaptive governance underscores the necessity of iterative, negotiated solutions capable of addressing feedback effects and cross-scalar challenges. Their work reframes urban governance as a dynamic practice, requiring humility, experimentation, and inclusive deliberation in the face of intractable problems.

## Discussion, Conclusions and Future Scope

The literature analyzed across ESG urbanism, green infrastructure, housing affordability, and urban governance reveals a deeply fragmented yet ideologically charged landscape of sustainability planning. ESG, as an evaluative and governance framework, offers both a language of accountability and a site of contestation. Its adoption across urban contexts—whether through legal mechanisms, design practices, financial models, or participatory governance—demonstrates its versatility, but also exposes its limits when reduced to compliance checklists devoid of contextual nuance or justice-oriented goals.

One of the central contradictions highlighted throughout the literature is the co-optation of sustainability by capitalist urban development models. As McNiff (2023) and Wachsmuth and Angelo (2023) demonstrate, ESG discourses can function as “empty signifiers,” legitimizing environmentally regressive urban practices under the guise of greening. This critique is reinforced in cases such as Barcelona (García-Lamarca et al., 2020) and Oslo (Rehder, 2022), where well-publicized green infrastructure projects have spurred processes of exclusion and displacement. Such findings call for a more grounded application of ESG principles, one that prioritizes procedural and distributive justice over technocratic sustainability.

At the same time, examples such as Barcelona's Superblocks (Balogh, 2024) and the Comunidad Valenciana's legal reforms (Santin & Berndsen, 2023) suggest that alternative governance configurations can reorient ESG toward equity. These models integrate spatial justice, participatory planning, and legal accountability, thereby expanding the transformative potential of ESG-aligned urbanism. Likewise, the integration of multispecies ethics (Fieuw et al., 2022) and Cultural Ecosystem Services (Maia et al., 2020) reveals the potential of posthumanist and cultural framings to expand ESG beyond the human-centered, growth-driven paradigms that currently dominate.

In the realm of housing, the alignment between affordability and sustainability remains tenuous. Studies such as Reid (2023), Silva et al. (2024), and Lee (2020) underscore persistent barriers including design exclusion, cost inefficiencies, and institutional inertia. The lack of scalability in sustainable affordable housing projects often stems from weak governance frameworks, especially in emerging markets (Nhat & Hoang, 2025). However, strategic planning (Akinsulire et al., 2024) and green building technologies (Ge et al., 2020) offer replicable models that align long-term environmental

performance with financial sustainability. Health-driven frameworks (Manoj, 2023) further elevate housing as a key site for integrating social determinants into ESG agendas.

Public-private partnerships (PPPs) serve as both a mechanism and a battleground for ESG integration. While they hold potential to finance large-scale regeneration (De Paula et al., 2023; Ortega Zapata, 2023), their success is highly contingent on institutional design, civic engagement, and equitable benefit-sharing (Fell & Mattsson, 2021; Rechler, 2021). Innovative fiscal tools such as land value recapture (Guarini et al., 2021) and contractual models preserving public land (Manganelli et al., 2022) point toward more just and transparent PPP structures. Yet, the behavioral dimensions of trust, reciprocity, and co-evolution (Abatecola et al., 2020) remain underexplored in ESG evaluations of PPP performance.

The rise of smart cities introduces both opportunities and risks for ESG urbanism. On the one hand, data-driven governance and smart infrastructure (Gu et al., 2024) can enhance ESG transparency and responsiveness. On the other, divergent ESG metrics (Keeley et al., 2022) and uneven outcomes of smart city policies (Tang et al., 2024; Wan et al., 2024) caution against techno-solutionism. Community legitimacy, as seen in Southeast Asia (Chong et al., 2022), remains a vital, often overlooked, pillar of smart urbanism.

Ultimately, this body of research underscores that ESG urbanism must not be approached as a universal framework, but rather as a set of relational, negotiated practices grounded in place-specific political, ecological, and socio-economic realities. The future of ESG integration lies in recalibrating its metrics and methodologies to reflect equity, participation, and long-term planetary wellbeing.

This review confirms that while ESG frameworks are increasingly prevalent in urban discourse, their transformative potential is constrained by structural inequalities, institutional inertia, and the commodification of sustainability. The challenge for scholars, practitioners, and policymakers is to reclaim ESG as a normative project—one that foregrounds social and environmental justice, not merely risk management or reputational gain. Achieving this requires embedding ESG within legal instruments, participatory governance, inclusive design, and regenerative planning.

Future research should delve into the development of participatory ESG indicators that are co-produced with marginalized communities, ensuring that these frameworks reflect diverse lived experiences and promote social equity. Comparative analyses of ESG outcomes between cities in the Global North and South are also essential to uncover spatial and contextual disparities, enabling a more nuanced understanding of global ESG implementation. Additionally, the integration of posthumanist, decolonial, and intersectional frameworks can significantly expand the theoretical and practical horizons of ESG, fostering more inclusive and transformative approaches. Longitudinal studies that trace the lifecycle impacts of ESG-driven projects—particularly their implications for displacement and social stratification—are needed to assess long-term consequences and unintended effects. Moreover, the development of cross-sectoral evaluation models that interlink health, housing, and ecological resilience would enrich ESG assessments and enhance their relevance for urban sustainability. Finally, innovations in governance—especially within public-private partnerships and smart city initiatives—should be investigated to ensure that ESG frameworks are aligned with principles of transparency, equity, and public accountability. By shifting the focus from technocratic implementation to transformative justice, ESG urbanism can move beyond rhetoric and contribute meaningfully to inclusive, sustainable futures.

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