

EDITORIAL
 JUST SUSTAINABLE INNOVATION IN THE AGE OF
 EXPERIMENTALISM AND IMPACT
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Crises spurring from climate to geo-political to social and technological threats, as pointed to by Morin and Kern, who coined the term ‘polycrisis’, and by Rockstrom et al., who conceptualized the ‘planetary boundaries’, call for innovative regulatory and governance frameworks. Such interventions are needed to address the multiple unequal and unjust consequences of such crises. The effects of such crises are indeed often unevenly distributed across regions, sectors, and society, as pointed out by Dawson.

The European Union (EU) recognized the key role that innovation and sustainability can play in solving societal challenges by embedding the principle of “sustainable innovation” as a principle that should guide public investment on innovation. The principle became a cornerstone of the main EU research and innovation program and regulation, Horizon Europe.

Building on relevant scholarship - represented *inter alia* by Iaione, Al-Jayyousi et al., Mazzucato - we posit the relevance of the social justice dimension of this principle, which is essential to make the technological and ecological transitions more just. We encapsulate this reflection with the concept of “Just Sustainable Innovation”. As a matter of fact, the recipes capable of amplifying the magnitude and accelerating the pace of the crisis response needed seem to rely on approaches that consider civic collaboration and civic empowerment, as their main ingredient.

Throughout this special issue, we aim at further developing and disentangling the concept of Just Sustainable Innovation along two axes: the dimension of governance and regulatory experimentalism that is essential to ensure that innovation can flourish and be shaped by justice considerations (Part 1); the operational dimension of impact development and investments which is crucial to assure the means that innovation needs to create long-term change (Part 2).

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We explore these two axes through an interdisciplinary methodology, shared among the contributions, that relies on comprehensive literature review of legal scholarship and other relevant doctrinal sources, policy and legal frameworks, and case studies related to just sustainable innovation and the possible solutions for its governance and investment.

In Part 1, we collect studies on regulatory, and governance experimentalism read through the so-called WEFE (Water, Energy, Food and Ecosystems) nexus. In this section, our guiding theoretical framework is inspired by studies on governance experimentalism - especially those community-based mechanisms involving various stakeholders and adopting a capabilities approach – drawing on the work of Ostrom, Nussbaum, Sen, Mazzucato, and Carayannis, *inter alias* – in order to design and test public-private-science-social-community partnerships to manage critical infrastructure, resources and services, as posited by Foster and Iaione. We also build on literature on regulatory pluralism and regulatory experimentalism (e.g., the work of Gunningham, Sinclair, Black, Verbruggen) and on the scholarship advancing the study of transnational administrative law and comparative legal analysis (e.g., Auby, Della Cananea, Bartolini, Boscolo, De Lucia, Chirulli, Ferrari-Zumbini, Conticelli, Eliantonio, De Bellis).

Further, Part 2 collects studies on the new corporate governance model tailored to achieve the goal of stakeholderism, new tools and paradigm of sustainable and impact finance and multistakeholder partnership for sustainable impact development. In this section, our guiding theoretical framework is inspired by studies on corporate purpose – drawing on the work, among the others, of Mayer and Deakin – to explore how governance structures can embed stakeholder value and sustainability. We also rely on Stout's critique of shareholder primacy and Tirole's contributions on aligning private incentives with public interest to investigate mechanisms for balancing profit-making and societal objectives. In addition, we consider critiques of law and development, particularly those advanced by Davis and Trebilcock, and build on impact-based investment frameworks (e.g., drawing on the work of Eccles, Serafeim, Edmans, Consolandi, and Amaeshi) to propose actionable approaches for measurable social and environmental outcomes. Finally, this section benefits also from the stream of literature of Ostrom and Black on commons and

decentralized governance and on literature on multi-stakeholder partnerships.

We build our contributions on enabling legislative instruments at the EU level, such as Regulation (EU) 2020/741 on Minimum Requirements for Water Reuse; Directive (EU) 2024/3019 concerning urban wastewater treatment; the amending Renewable Energy Directive (EU) 2023/2413 which enables EU countries to promote energy communities; at national level, for example Article 36 of the Italian Law Decree no. 2020/76 which fosters technological innovation in the public sector; the legislation and constitutional case law on the so-called “community enterprises” (d.lgs. n. 112/2017 - “Revisione della disciplina in materia di impresa sociale”; d.lgs. n. 117/2017 - “Codice del Terzo settore”; disegno di legge n. 1650 - “Disposizioni in materia di imprese sociali di comunità” Italian Constitutional Court ruling n. 131/2020); as well the Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector (SFDR) that establishes requirements for financial market participants and financial advisers to disclose sustainability-related information, including environmental, social, and governance (ESG) aspects, to enhance transparency and comparability for investors; Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (EU Taxonomy), that provides a framework to classify environmentally sustainable economic activities, creating a common language to support sustainable investment, and amends the SFDR to integrate the taxonomy; the Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting (CSRD), that updates corporate reporting obligations to require comprehensive and standardized disclosures on sustainability matters, including environmental, social and governance (ESG) impacts. It introduces the principle of double materiality, mandating companies to report both the impact of their activities on the environment and society, as well as the financial risks posed to the company by sustainability issues, the Directive

(EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859 (CSDDD) that establishes obligations for companies to identify, prevent, and mitigate adverse human rights and environmental impacts in their own operations and supply chains, amending whistleblower and financial reporting frameworks; and more in general the Sustainable Development Goals adopted under the United Nations' 2030 Agenda for Sustainable Development.

Overall, the special issue discusses this scholarship and legislation to approach the question of regulatory and governance experimentalism and sustainable investment and governance for innovation and for the benefits of vulnerable communities especially in developing countries, situating the discussions in the context of analysis of access and benefit sharing (e.g., Sovacool in the energy sector, Humphries et al.'s in the field of agri-food innovation). Ultimately, our special issue, reviewing a variety of case studies in various domains and from various countries and contexts, aims at demonstrating that fostering new forms of multistakeholder cooperation between public, private, scientific, social and civic actors can produce multiple (i.e., social, economic, environmental, institutional, technological, health, institutional, generational and cultural) impacts thereby attracting sustainable investment. By examining the legal and policy dimensions of the governance and investment of Just Sustainable Innovation as I construed it in 2024, we aim to identify effective strategies and regulatory frameworks as well as fair access and benefit sharing mechanisms that can facilitate investments on just sustainable innovation.

The studies contained in the two parts of this special issue are interdisciplinary and include the voices of both experienced and emerging scholars from the Global South.

In Part 1 on Governance and Regulatory Experimentalism, we underline how the management of water, food, energy and ecosystems-related resources today is plagued by conflicts, also due to the scarcity of these resources. This fact is testified, for example, by the presence, at national and local levels, of a conspicuous number of judicial conflicts and legal uncertainties concerning water and its management. Addressing such conflicts and uncertainties calls for a cooperative approach that surpasses the

limitations of nationalistic and privatized management paradigms. Faced with mounting socio-environmental challenges in the field of the WEFE Nexus, governmental actors, researchers, businesses and civil society often mobilise to develop innovative solutions exploring forms of regulatory experimentalism, participatory governance approaches and novel partnership arrangements. Frequently, the policy, legal and regulatory frameworks struggle to cope with the fast pace at which these innovative solutions take shape, whereas these frameworks should play a key role in steering innovation towards justice considerations.

Innovative solutions from a variety of actors and their joint ventures often fill normative and regulatory gaps, shape new modes of governance of innovation and give an impetus to policymakers and legislators in envisaging new intervention strategies, tackling such vacuums and impasses in a constructive and participatory manner. These dynamics may lead to innovation-friendly approaches and must be understood closely to be scaled up and replicated in other geographical and political scenarios. The illustrated dynamics demand a thorough analysis to be leveraged for greater societal benefits, to secure that innovation is also just and sustainable.

Against this backdrop, what role the involvement of stakeholders can play, in terms of contributing to governance and regulatory processes? How novel governance models, strategic partnerships and regulatory experimentation can benefit vulnerable communities, in the multiple ‘Souths’ understood beyond its geographical dimension? How can technology and innovation transfer happen for the benefit of vulnerable communities through regulatory design fostering institutional capacity? By tackling these and further questions, Part 1 addresses the complex dynamics underlying the governance, regulatory and partnership dimension of sustainable innovation. The section contributes to the special issue by offering reflections on the challenges and opportunities associated with governance, regulatory and partnership experimentation in the context of the WEFE Nexus.

In their article on regulatory voids as spaces for experimentation and innovation for sustainability, Anna Berti Suman, Adaeze Oluchi Ashaheme and Mohtas Anwar Modier address the complex dynamics underlying regulatory

experimentation and participatory regulatory processes for sustainable innovation in the agri-food sector. These experiences are investigated in their potential to promote a better understanding of the risks and opportunities associated with innovation, better legitimise its adoption, and stimulate responsible experimentation. The article first reviews relevant theories, such as critiques to techno-solutionism and literature on regulatory pluralism and experimentalism, and transnational administrative law doctrine, to stress the need for multiple instruments and viewpoints in shaping innovation. The case study analysis builds on the experience of the Horizon project AWARE, driving innovation in the field of aquaculture from refined wastewater through a pilot based in Southern Italy. The article also engages with a review of other case studies from the Global South shedding light on experiences of sustainable innovation for the benefit of vulnerable communities and related regulatory modalities. The 'capabilities approach' is discussed to frame the context through the lens of 'just' experimentalism in the sector. In conclusion, the article develops a reflection on way forwards that encompass co-governance approaches and a 'right to innovation through experimentalism' which entails not only access to innovation but also the opportunity to participate in shaping innovation.

With their contribution on legal frameworks enabling Renewable Energy Community initiatives, Elena De Nictolis, Alberica Aquili and Benedicta Quarcoo explore the energy transition in the EU and Africa. It deepens the research hypothesis of whether a commons-based approach can be an effective strategy to ensure energy justice and energy poverty. The contribution therefore aims to explore the potential of community-led energy initiatives, such as energy communities. Drawing on theoretical frameworks such as commons governance, co-city design principles, social justice and the capabilities approach, the article seeks to examine whether energy communities that follow such theories may be the answer. It then focuses on the EU and the Economic Community of West African States (ECOWAS), to open a vision of the North and South of the world, analysing their energy policies and deepening through an empirical analysis three case studies: Middelgrunden Offshore Windmill Cooperative, in Denmark, Melpignano Cooperative, in Italy and Bboxx Energy, in Togo. The research concludes by reflecting on the importance of

non-profit utilities, as an organizational model, for sustainable development and resilience in the public service sectors.

Marijana Krstic, Ivan Mugabi and Sofia Sabatucci, with their work on Sustainable Co-governance of water utilities companies, examine the impact and challenges of Environmental, Social, and Governance (ESG) Standards within the water utilities sector, highlighting the pressing need for sustainable governance models amid increasing scrutiny of ESG criteria. Recognizing the critical role of water management for sustainable development, as underscored by the United Nations' SDG 6, this study emphasizes collaborative governance strategies as essential for equitable and sustainable water resource management. It delves into the complexities of defining and implementing ESG standards, critiquing their conceptual fluidity and the risks of poor implementation. Starting from Integrated Water Resources Management (IWRM), through the lens of the Urban Commons and Co-City theory, the paper proposes a participatory, multi-stakeholder governance model – “Co-Governance” – characterized by shared decision-making, community engagement and equitable resource distribution. This model challenges traditional ownership paradigms, advocating for collective stewardship and long-term sustainability. The hypothesis is tested through empirical case studies of utility companies in diverse contexts, including Glas Cymru in the UK, Acquedotto Pugliese (AQP) in Italy, and Runda Water Ltd (RWL) in Nairobi, Kenya.

Finally, the article of Davide Testa, Giorgia Nolfi, Shasa Cali and Magloire Fopokam on overtourism to preserve urban liveability analyses this phenomenon through Weitzman's economic theories, in light of which more traditional regulatory approaches are criticised. The analysis relies mainly on Italian case studies, such as the restrictions and taxes imposed on access to certain cities, including Venice, and some seaside destinations, also comparing the different regulatory choices made by some of Italy's major cities and the outcome of the judgments involving them before the Administrative Courts. Ultimately, the hypothesis is that there is a need for a collaborative governance approach to tourism as a third way, in addition to the “Weitzman” approach, to be implemented through partnership models. Examples of this include Community Land Trusts, which are beginning to establish themselves in Italy as participatory foundations, and innovative

solutions tested in public policy programmes such as Smarter Italy. Last, the issue of overtourism is addressed from a comparative perspective, also in relation to areas that have recently become tourist destinations, such as Africa, highlighting how similar solutions are emerging in this case too, starting from Community Land Trusts.

In Part 2 on Impact Development and Investments the pursuit of sustainable development and impact-driven investment is deeply intertwined with evolving governance models, strategic partnerships, and financial mechanisms. The challenges of aligning economic goals with sustainability imperatives demand innovative frameworks that address normative and regulatory gaps while fostering inclusive growth and environmental resilience. Benefit corporations, dual-purpose entities and state-owned enterprises (SOEs) are emerging as critical actors in this landscape, bridging public and private interests to advance purpose-driven capitalism. By balancing profitability with sustainability objectives, these entities embody a shift towards governance models that integrate diverse stakeholder interests, though they continue to face challenges such as political interference, inefficiencies, and corruption risks. Multi-stakeholder partnerships further enrich this paradigm by creating inclusive and collaborative platforms that enable long-lasting impacts on vulnerable communities. These partnerships, supported by European Structural and Investment Funds and local regulatory frameworks, demonstrate the potential of co-governance tools in driving innovation and fostering equitable outcomes. The transformative experimentations in cities such as Reggio Emilia exemplify how localized solutions can address global sustainability challenges through contractual and regulatory innovations. Sustainable and impact finance, through instruments like green bonds, verified carbon credits, and sustainability-linked investments, plays a pivotal role in operationalizing these transitions. By channelling resources towards initiatives with measurable social and environmental benefits, these financial tools not only reshape market priorities but also enhance the scalability of sustainability efforts. Against this backdrop, what synergies can be achieved between governance models, multi-stakeholder partnerships, and financial mechanisms? How can these approaches be harmonized to ensure sustainable and inclusive growth across different regions? By

addressing these questions, this section aims to offer critical insights into how diverse governance frameworks, collaborative partnerships, and innovative financial mechanisms can be effectively integrated to drive sustainable impact development and investment, ensuring long-term benefits for society and the environment.

First, Kenneth Amaeshi, Adriano Contardi and Stella Scocco on Multi-Stakeholder Partnerships for Sustainable Impact Development highlight how contemporary challenges, such as climate change and the digital transition, make emerge the limitations of traditional governance models, often characterized by top-down decision-making processes. This article argues that achieving a just transition requires a new quality of sustainable innovation, and that traditional top-down innovation models are inadequate to address contemporary social, environmental, and territorial challenges. Instead, sustainable innovation must be co-governed and co-produced by public authorities, private actors, civil society, knowledge institutions, and communities. The article turns to the rise of sustainable impact finance and the growing emphasis on measurable, real-world impacts to show how this new focus can reshape incentives for both public and private actors. It then analyses how the EU and Italian legal frameworks, governed by principles such as the partnership principle and the Italian principle of result, can be used to steer public administration toward impact-oriented, co-governance models, aligning policy and finance mechanisms. Cities emerge as important enablers of this transformation due to their connectedness to communities and institutional flexibility. Two case studies, Reggio Emilia and the OKOBI initiative in Nigeria, illustrate how impact-driven multistakeholder partnerships can take form. The article concludes by identifying key challenges and outlining pathways to strengthen impact-based partnerships and advance a more inclusive, just and sustainable governance model of innovation.

Second article of Part 2 is that of Rubina Galeotti, Martina Mariani and Carlos Kodjori on the evolving landscape of ESG reporting in utilities. The study analyses the evolution of ESG reporting in the utilities sector, which is increasingly under scrutiny due to its environmental, social, and governance impact. With the growing global awareness of environmental challenges and the increasing demand for transparency, companies are being more

strongly encouraged to provide information on their ESG practices, often following mandatory regulations such as the EU's Non-Financial Reporting Directive (NFRD) and the Corporate Sustainability Reporting Directive (CSRD). The aim of the research is to assess how utilities are responding to these demands by analysing the structure of their sustainability reports through three main indicators: integration with financial statements, the way information is presented (text vs. graphics), and the length of the reports. The literature review highlights that ESG reporting allows companies to communicate their progress toward sustainability goals, improving trust among investors and stakeholders. The utilities sector, in particular, faces several challenges in aligning its business models with sustainability objectives, although many companies comply with EU reporting standards. The research is based on a sample of 16 utilities, with the intention of comparing recent data from 2023 with data collected in 2021. An improvement is expected in the more recent reports, particularly regarding the integration of sustainability reports into financial statements, the clarity of presented information, and the length of the documents. However, the study points out some limitations, such as the need to expand the sample and adopt complementary methods (e.g., case studies or surveys) to improve the validity of the results. In conclusion, the research suggests that companies in the utilities sector need to continue improving the transparency of their ESG reporting by adopting more standardized and understandable practices to better communicate their commitments and progress toward sustainability.

Third study by me, Antonio Persico and Gideon Galizzi on *Just, Democratic, Innovative and Sustainable Industrial Planning (JuDISIP)* aims at investigating why and how investing on countervailing economic and industrial power of vulnerable groups can maximize the economic, environmental, social and institutional impact of public laws and policies on development. The article addresses the evolving role of the State in the economy, in the context of the renewed prominence of industrial policy. A growing awareness, in fact, is emerging that global challenges and the crises of our time call into question the very role of the State and demand outputs capable of steering economic dynamics toward socially desirable objectives. This contribution focuses on this ongoing transformation and seeks to identify the legal, economic,

and financial toolkit of the new planning State. It argues that this new trajectory must overcome the current neglect of societal and territorial well-being in economic planning, instead aiming at the generation of multidimensional impacts and enabling the active participation of communities in identifying needs, shaping solutions, and exercising stewardship over the implementation of economic initiatives.

Finally, the article by Livia Ventura, Mario Manna and John Manuwa on Benefit Corporation, dual-purpose entities and state-owned enterprises: “new” models to achieve purpose driven capitalism, critically examines the evolving roles of benefit corporations, dual-purpose entities, and state-owned enterprises (SOEs) in advancing sustainable development, analysing how these corporate models balance economic success with sustainability goals while addressing the governance and legal challenges of integrating diverse stakeholder interests into corporate decision-making. Before analysing these “new models”, the article outlines the broader debate surrounding corporate purpose, sustainability, and the challenges of embedding these principles within corporate strategies. Then, a comparative analysis of legal frameworks governing benefit corporations and dual-purpose entities across multiple jurisdictions is provided, highlighting the diversity of regulatory approaches and their impact on corporate responsibility. A specific focus is dedicated to the Italian model of benefit corporations, examining its distinctive features and contributions to the integration of social and environmental objectives within corporate strategies. In addition to examining private sector initiatives, the article investigates the potential role of SOEs in driving sustainable transitions. While SOEs must operate according to economic criteria, they are often established to fulfil public interest missions, positioning them as key players in sustainability challenges such as emission reductions, sustainable waste management and green infrastructure investments. However, the article, through case studies analysis, also critically addresses the governance challenges SOEs face, including political influence, corruption risks, and inefficiencies, which may hinder their effectiveness as sustainability leaders. In conclusion, the article shows that benefit corporations, dual-purpose entities, and SOEs offer promising pathways for integrating sustainability into economic practices, yet their impact is contingent on overcoming

significant governance, regulatory, and operational challenges. A comprehensive, multi-dimensional approach is essential to fully realize their potential and drive meaningful progress toward achieving Sustainable Development Goals.

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