

Post-Extractivism and Legal Pathways toward a Just Energy Transition in Tropical Regions

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Abstract

Purpose: This paper examines post-extractivism as a normative legal framework for shaping just energy transition pathways in tropical regions, with a particular focus on Indonesia. It aims to demonstrate how legal reform can move beyond extractivist development models by integrating social and ecological justice into energy governance.

Methodology: The study employs a juridical-normative research method combining three complementary approaches. A conceptual approach is used to analyze post-extractivism and energy justice theories; a statutory approach examines Indonesia's energy and environmental legislation; and a comparative policy approach draws lessons from other tropical countries, particularly Latin American experiences with post-extractivist and just transition policies.

Results: The findings reveal that Indonesia's current legal framework remains largely fossil fuel-oriented and inadequately addresses justice-based concerns in energy transition. Regulatory fragmentation, limited public participation, and weak protection of vulnerable communities persist. However, integrating post-extractivist principles into energy governance offers coherent legal pathways toward sustainability by embedding distributional, procedural, and recognition justice into energy law.

Applications/Originality/Value: This study contributes to environmental and energy law scholarship by bridging post-extractivism, energy justice, and legal analysis within the context of tropical development. It offers normative and practical insights for policymakers in the Global South seeking to reconcile climate action with social equity and ecological sustainability, positioning post-extractivism as a conceptually robust and strategically urgent legal framework for just energy transitions.

Keywords: Post-extractivism, Just Energy Transition, Energy Justice, Environmental Law, Tropical Regions.

Introduction

Development trajectories in tropical regions have historically been shaped by extractivist economic models that prioritize large-scale natural resource extraction, such as minerals, timber, fossil fuels, and agricultural commodities, primarily for export with limited local value addition (Alarcón, 2023). These models position tropical countries as suppliers within global production chains, often under corporate or state-controlled regimes, reinforcing structural dependency on resource extraction as a dominant pathway to economic growth (Veltmeyer & Ezquerro-Cañete, 2023). While extractivism has generated state revenues and supported industrial expansion, it has simultaneously entrenched development patterns that marginalize ecological integrity and social equity (Kröger et al., 2021).

The socio-environmental consequences of extractive industries in tropical regions are increasingly visible and severe. Extensive mining, deforestation, and fossil fuel extraction have contributed to biodiversity loss, soil degradation, water contamination, and altered hydrological cycles (Bas et al., 2024), threatening the resilience of critical tropical ecosystems such as the Amazon and Southeast Asian rainforests (Agudelo-Hz et al., 2023). These ecological impacts undermine long-term environmental sustainability and compromise the life-supporting functions upon which local communities depend (Kröger et al., 2021).

Beyond ecological damage, extractivist development has generated profound social consequences. Numerous studies document how extractive projects intensify land dispossession, violate Indigenous and local community rights, and exacerbate unequal distribution of economic benefits (Alarcón, 2023). Social conflicts frequently emerge as extractive activities disrupt traditional livelihoods and marginalize local voices in decision-making processes (Zárate Rueda et al., 2023). These dynamics reveal the inability of extractivist models to deliver inclusive welfare and social justice in tropical contexts (Silva et al., 2020).

The persistence of extractivism in tropical regions is closely linked to historical patterns of colonial and neo-colonial resource exploitation. These patterns have shaped institutional arrangements and legal frameworks that favor external accumulation over local development, thereby constraining pathways toward sustainable and equitable growth (Alvarado Torres et al., 2020). As a result, contemporary development strategies often reproduce historical inequalities, locking tropical countries into environmentally destructive and socially exclusionary trajectories (Alarcón, 2023).

Within the framework of global climate governance, the urgency of transitioning away from fossil fuel dependence has become increasingly pronounced. International climate commitments require significant reductions in greenhouse gas emissions through the expansion of renewable energy systems (Alarcón, 2023). However, scholars caution that energy transition processes risk reproducing extractivist harms through new forms of mineral extraction and land appropriation

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for renewable technologies, a phenomenon widely described as “green extractivism” (Kröger et al., 2021). This tension highlights the need for justice-oriented frameworks that go beyond decarbonization metrics alone.

In response to extractivist harms, post-extractivism has emerged in Latin America as a critical development paradigm that challenges resource dependency and emphasizes ecological limits, human rights, redistribution, and economic diversification (Fernandes, 2024). Political ecology scholars such as Gudynas and Svampa have critically examined extractivism and neo-extractivism, while energy justice literature, most notably advanced by Sovacool, focuses on fairness in energy systems (Andreucci et al., 2023). Nevertheless, existing studies largely treat post-extractivism and energy justice as separate analytical domains, with limited attention to their integration as a normative legal framework for energy transition in tropical countries.

This study addresses this gap by positioning post-extractivism as a normative foundation for designing legal pathways toward a just energy transition (Andreucci et al., 2023). Post-extractivism rejects the continuation of extractivist logics under green transitions and instead advocates for development models that prioritize ecological sustainability, social justice, and community rights (Fernandes, 2024). When embedded within legal and policy frameworks, this approach enables law to function not merely as a regulatory instrument but as a transformative mechanism capable of reshaping development priorities.

Indonesia offers a particularly significant case study due to its dual position as a major fossil fuel producer and a key supplier of critical minerals for clean energy technologies. Despite official commitments to energy transition, Indonesia’s legal and policy framework remains strongly influenced by extractivist priorities, as evidenced in sectors such as coal and nickel (Astuti et al., 2025). This condition raises fundamental questions about the capacity of existing laws to integrate energy justice principles and to prevent “decarbonisation by dispossession,” especially for Indigenous peoples and environmentally vulnerable communities (Olawuyi et al., 2025).

Accordingly, this study aims to clarify and assess the role of post-extractivism as a normative legal framework for advancing a just energy transition in tropical regions, with a particular focus on Indonesia. Specifically, the research pursues two interrelated objectives. First, it seeks to conceptualize post-extractivism as a foundation for transformative legal reform by examining its relevance to energy justice and sustainability-oriented governance. Second, it aims to analyze the legal pathways through which the principles of energy justice, namely distributional, procedural, and recognition justice, can be integrated into Indonesia’s energy transition laws and policies in order to protect vulnerable communities and ecologically sensitive areas. Through these objectives, the study contributes to environmental and energy law scholarship while offering policy-relevant insights for countries in the Global South seeking to align climate action with social equity and ecological sustainability.

Method

Development trajectories in tropical regions have historically been shaped by extractivist economic models that prioritize large-scale natural resource extraction, such as minerals, timber, fossil fuels, and agricultural commodities, primarily for export with limited local value addition (Alarcón, 2023). These models position tropical countries as suppliers within global production chains, often under corporate or state-controlled regimes, reinforcing structural dependency on resource extraction as a dominant pathway to economic growth (Veltmeyer & Ezquerro-Cañete, 2023). While extractivism has generated state revenues and supported industrial expansion, it has simultaneously entrenched development patterns that marginalize ecological integrity and social equity (Kröger et al., 2021).

This study employs a juridical-normative (doctrinal) research design, which focuses on the systematic analysis and evaluation of legal norms, principles, and doctrines governing energy transition and natural resource governance (Hutchinson & Duncan, 2012). The research is oriented toward conceptual clarification and normative assessment rather than empirical measurement. By positioning law as both a regulatory and transformative instrument, this method enables a critical examination of how legal frameworks can either perpetuate extractivist development or facilitate a just and sustainable energy transition grounded in post-extractivist values (Hutchinson & Duncan, 2012).

To achieve this objective, the research applies three complementary approaches. First, a conceptual approach is used to examine post-extractivism, energy justice, and theories of legal transformation as analytical frameworks for rethinking development and energy governance. This approach clarifies the normative content of post-extractivism and its relevance for justice-oriented legal reform. Second, a statute approach is employed to analyze Indonesian legislation related to energy, environment, and natural resource management, with particular attention to their underlying assumptions, policy orientations, and implications for vulnerable groups and ecosystems. Third, a comparative policy approach is utilized to review selected tropical countries, especially in Latin America, such as Ecuador, Honduras and Bolivia, that have experimented with post-extractivist reforms or just transition pathways, in order to draw normative and institutional lessons relevant to Indonesia (Mousourakis, 2019).

The data sources for this research consist of primary legal materials, including Indonesian statutes, government regulations, international environmental treaties, and official policy documents, as well as secondary sources such as scholarly articles, academic books, and reports from international organizations and research institutions. Data are analyzed through qualitative legal interpretation, comparative mapping across jurisdictions, and normative evaluation to assess the

extent to which existing and prospective legal frameworks align with post-extractivist principles and energy justice. This analytical strategy allows the study to formulate coherent legal pathways for a just energy transition in tropical contexts.

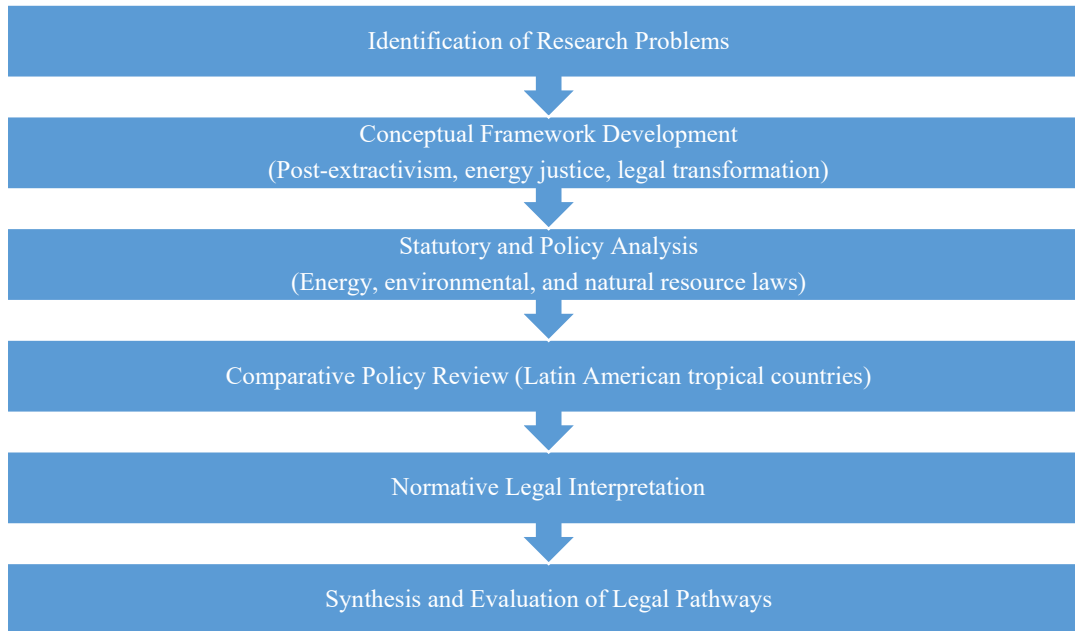


Figure 1. Research Methodology

Result and Discussion

Understanding Post-Extractivism as a Normative Framework

Post-extractivism emerges as a critical normative framework that fundamentally questions the dominance of extractivist development models, particularly in the Global South (Acosta, 2017). Its intellectual origins are deeply rooted in Latin American political ecology and critical development studies, with scholars such as Eduardo Gudynas, Maristella Svampa, and Alberto Acosta offering foundational critiques of the socio-environmental, colonial, and capitalist legacies embedded in extractivism (Post, 2023). Rather than treating extractivism as a neutral economic strategy, post-extractivism conceptualizes it as a historically contingent mode of development that reproduces dependency, inequality, and ecological degradation (Post, 2023).

At the conceptual level, post-extractivism is defined by a decisive shift away from resource dependency toward development models grounded in ecological limits, human rights, and social redistribution (Raftopoulos, 2018). It rejects the assumption that large-scale extraction of natural resources constitutes an inevitable or desirable path to prosperity (Raftopoulos, 2018). Instead, it emphasizes economic diversification, reduced material throughput, and the prioritization of social and ecological well-being over export-oriented growth (Veltmeyer, 2022). This reorientation reframes development as a normative project that must be evaluated in terms of justice, sustainability, and long-term resilience (Fash, 2022).

The theoretical foundations of post-extractivism are closely aligned with political ecology and rights-based approaches to development (Coral et al., 2024). These perspectives challenge extractivism's reductionist understanding of nature as a mere repository of commodities and of society as an instrument of accumulation (Post, 2023). Post-extractivist thought recognizes the interconnectedness of ecosystems, livelihoods, and cultural practices, emphasizing that environmental harm cannot be separated from social injustice (Alcoff, 2022). Consequently, nature is repositioned as a subject of ethical and legal concern rather than an object of unlimited exploitation.

Beyond material and ecological dimensions, post-extractivism also foregrounds epistemic justice as a core normative commitment (Dunlap, 2023). Extractivist development is sustained not only through material extraction but also through extractivist epistemologies that marginalize indigenous and local knowledge systems. Post-extractivist theorists argue for relational ethics and inclusive knowledge production that values situated knowledges and resists the commodification of cultural and ecological wisdom (Alcoff, 2022). This epistemic shift is essential for transforming governance structures and legitimizing alternative development pathways (Godrie, 2025).

The relevance of post-extractivism is particularly pronounced in tropical regions characterized by high biodiversity and intense extractive pressures. These regions often function as ecological frontiers within global production systems,

where environmental degradation and social conflict converge (Fash, 2022). Post-extractivism offers a normative framework for respecting ecological boundaries while promoting social justice, local autonomy, and community-centered development strategies suited to fragile ecosystems (Post, 2023). In this sense, it directly responds to the vulnerabilities and structural inequalities faced by tropical societies.

Overall, post-extractivism provides a critical lens for reimagining development and energy transitions in tropical contexts. By challenging colonial and capitalist extractive paradigms, it opens space for legal and institutional transformations that prioritize sustainability, rights, and equity. As a normative framework, post-extractivism does not merely critique existing models but articulates a coherent vision for transformative change that aligns ecological integrity with social justice in the pursuit of sustainable futures (Post, 2023).

Legal Pathways for Just Energy Transition in Tropical Regions

Post-extractivism The concept of a just energy transition functions as a normative legal framework that seeks to ensure that the shift toward low-carbon energy systems advances social justice alongside environmental sustainability (Galanis et al., 2025). In tropical regions such as Indonesia, the just transition agenda is commonly articulated through three interrelated dimensions: distributional, procedural, and recognition justice. Distributional justice focuses on the equitable allocation of benefits and burdens arising from energy transition, including access to affordable energy, employment opportunities, and environmental protection. Procedural justice emphasizes meaningful and inclusive participation in decision-making processes, while recognition justice demands respect for the rights, identities, and lived experiences of vulnerable and marginalized communities (Setyowati, 2021). These dimensions underscore that energy transition is not merely a technological adjustment but a fundamentally legal and governance-driven transformation (Nugroho, 2025).

Despite increasing policy commitments to renewable energy, Indonesia's energy governance framework continues to exhibit structural legal gaps that undermine the realization of just transition principles. Regulatory fragmentation, weak inter-sectoral coordination, and overlapping mandates have resulted in inconsistent implementation and limited legal certainty (Baskoro, 2025). These deficiencies constrain the capacity of law to translate normative commitments into enforceable rights and protections, thereby perpetuating asymmetric power relations between state institutions, corporate actors, and local communities (Tjahjani et al., 2025). Consequently, justice-oriented objectives remain largely rhetorical rather than operational within existing legal frameworks (Nurhidayah et al., 2024).

A central obstacle to legal transformation lies in Indonesia's persistent dependency on fossil fuels as both a source of state revenue and a foundation of national energy policy. This dependency creates regulatory inertia and reinforces political resistance to transformative reform. Even as renewable energy initiatives expand, fossil fuel interests remain deeply embedded in legal and institutional arrangements, shaping policy priorities and investment flows. Such conditions risk reproducing extractivist development patterns under the guise of energy transition, particularly when mineral extraction for clean energy technologies generates new socio-environmental conflicts and localized harms (Hyldmo et al., 2025).

Legal protections for communities affected by energy transition projects also remain comparatively weak, particularly in relation to participation rights, access to information, and legal remedies. Regulatory instruments such as Presidential Regulation No. 112/2022 demonstrate limited legal inclusivity and provide insufficient guarantees for meaningful community engagement. This deficit in procedural and recognition justice undermines public trust and exacerbates conflict surrounding energy infrastructure development. In this context, law tends to function as an administrative mechanism for project facilitation rather than as an instrument of social empowerment and rights protection (Tjahjani et al., 2025).

Environmental licensing regimes further reveal the misalignment between existing regulatory practices and just transition principles. Current approval mechanisms remain rigid and bureaucratic, applying uniform standards that often disadvantage small-scale, community-based renewable energy initiatives. At the same time, these procedures inadequately safeguard vulnerable groups from environmental and social risks. Legal scholarship increasingly calls for reforms toward risk-based, transparent, and participatory licensing systems that are more responsive to ecological sensitivity and justice-oriented governance (Ketut Rachmi Handayani et al., 2025a).

Nevertheless, significant opportunities exist for statutory reform aligned with post-extractivist principles. Embedding ecological limits, social redistribution, and community empowerment into energy and environmental legislation can strengthen legal pathways toward a just energy transition. Legal reforms that enhance transparency, institutional coordination, and stakeholder participation offer concrete mechanisms for overcoming structural barriers and ensuring that renewable energy development delivers equitable benefits. In this sense, post-extractivism provides a normative anchor for reorienting energy law away from extractive logics and toward sustainability and social justice (Daryanti et al., 2025).

A complementary and reinforcing perspective is offered by the concept of the green welfare state, which reimagines energy legal politics through the integration of social welfare, sustainability, and proactive state responsibility. Drawing on Indonesia's constitutional commitment to a welfare state, existing energy transition policies have yet to fully embody welfare-oriented principles, particularly in ensuring equitable energy access, protecting vulnerable groups, and enabling meaningful public participation (Baskoro, 2025). The green welfare state framework emphasizes ecocentrism and intergenerational justice, positioning the state not merely as a market facilitator but as an active guarantor of social and ecological rights (Baskoro, 2025). Within this framework, energy law is reconceptualized as an instrument of distributive

justice and environmental stewardship, reinforcing the normative objectives of post-extractivism by aligning energy transition with welfare, sustainability, and long-term ecological resilience. A more detailed is presented in Table 1.

Table 1. Legal Pathways for Just Energy Transition in Indonesia

Aspect	Key Findings
Just Energy Transition Principles	Requires integration of distributional, procedural, and recognition justice to ensure fairness and inclusivity
Legal Framework Condition	Fragmented regulations and weak coordination hinder effective implementation of justice-oriented energy policies
Fossil Fuel Dependency	Creates regulatory inertia and risks reproducing extractivist patterns in renewable energy transition
Community Protection	Participation rights and access to remedies remain limited, weakening procedural and recognition justice
Environmental Licensing	Rigid and bureaucratic processes disadvantage community-based renewables and inadequately protect vulnerable groups
Post-Extractivist Reform Potential	Embedding ecological limits, redistribution, and empowerment can strengthen legal pathways toward sustainability
Green Welfare State Contribution	Repositions energy law as a tool of social welfare, ecological justice, and active state responsibility

Integrating Energy Justice into Indonesia’s Legal and Policy Framework

Integrating energy justice into Indonesia’s legal and policy framework requires a deliberate shift from a narrowly technocratic approach toward a justice-oriented model of energy governance. Energy justice provides a normative lens through which the energy transition can be evaluated not only in terms of emissions reduction, but also in relation to fairness, inclusion, and rights protection (Setyowati, 2021). In the Indonesian context, this integration necessitates embedding the principles of distributional, procedural, and recognition justice across legislation, planning instruments, and regulatory reforms to ensure equitable energy access while safeguarding vulnerable social groups and ecological systems (Nurhidayah et al., 2024).

At the legislative level, distributional justice has received relatively greater attention, particularly through policies aimed at expanding energy access and affordability. However, empirical studies indicate that these efforts often fail to address deeper structural inequalities, especially in rural and peripheral regions. Electrification programs may improve physical access to energy, yet they do not automatically translate into social empowerment or economic inclusion (Setyowati, 2021). Without complementary legal safeguards, distributional measures risk reinforcing existing territorial and socio-economic disparities rather than mitigating them (Fathoni & Setyowati, 2022).

Procedural justice remains one of the weakest dimensions within Indonesia’s energy governance framework. Decision-making processes related to energy planning and infrastructure development often exclude meaningful public participation, particularly for Indigenous peoples and rural communities. Although participation is formally acknowledged in regulatory texts, it is frequently reduced to consultative or symbolic mechanisms without substantive influence over outcomes (Nurhidayah et al., 2024). This procedural deficit limits the ability of affected communities to shape energy projects that directly impact their livelihoods, land tenure, and cultural integrity (Tjahjani et al., 2025).

Recognition justice is similarly underdeveloped in Indonesia’s energy legal framework, as policies tend to treat communities as homogeneous beneficiaries rather than rights-bearing subjects with distinct identities and knowledge systems. Indigenous peoples and communities living in ecologically sensitive areas are often insufficiently recognized within energy planning processes, resulting in development interventions that disregard customary rights and local ecological knowledge (Setyowati, 2021). This lack of recognition perpetuates social marginalization and increases the risk of conflict in energy transition projects (Maskun et al., 2023).

Institutional reform is therefore essential to strengthen procedural fairness, transparency, and accountability in energy governance. Scholars emphasize the need to redesign institutional arrangements to ensure that public participation is not merely formalistic but substantively influential (Nurhidayah et al., 2024). This includes improving access to information, strengthening grievance and remedy mechanisms, and enhancing oversight functions to hold both state and corporate actors accountable. Institutional reforms of this nature are crucial for translating energy justice principles into enforceable legal guarantees (Tjahjani et al., 2025).

Environmental licensing and economic law reforms represent another critical entry point for integrating energy justice into policy frameworks. Current licensing regimes remain overly bureaucratic and uniform, often disadvantaging small-scale and community-based renewable energy initiatives while prioritizing large-scale projects (Ketut Rachmi Handayani et al., 2025b). Legal scholars argue for adaptive regulatory frameworks that reduce administrative barriers, incorporate

social and environmental risk assessments, and align economic incentives with sustainability and justice objectives (Purnomo et al., 2024).

Overall, a holistic approach that integrates energy justice principles into Indonesia’s legal and policy framework holds significant transformative potential. By embedding justice considerations into legislation, planning instruments, and institutional practices, Indonesia can overcome structural governance challenges and ensure that energy transition delivers equitable benefits (Sawaludin et al., 2025). Such an approach not only supports social inclusion and ecological protection but also strengthens the legitimacy and sustainability of energy transition policies in the long term (Syahrani et al., 2024).

Lessons from Other Tropical Countries

Latin American experiences with post-extractivist policies provide valuable insights for Indonesia’s just energy transition, particularly in confronting the persistence of neo-extractivism. Despite progressive legal narratives emphasizing sustainability and social justice, many Latin American states continue to rely on intensive resource extraction as a core development strategy, resulting in socio-ecological conflicts and uneven distribution of benefits (López Flores & Ranta, 2025). This paradox illustrates that formal policy shifts alone are insufficient; without structural transformation, extractivist logics can be reproduced under the banner of green growth or energy transition (Warnecke-Berger et al., 2023).

A central lesson emerges from the role of social movements, especially in countries such as Bolivia and Honduras, where Indigenous peoples and peasant communities have actively resisted extractive projects. These movements foreground rights-based frameworks that link territorial rights, ecological protection, and alternative visions of collective life beyond extractivist development (López Flores & Ranta, 2025). Such struggles demonstrate that legal recognition of Indigenous and community rights is not merely symbolic but constitutes a foundational governance mechanism for ensuring recognition justice and safeguarding local autonomy in energy and resource governance (Fash, 2022).

Governance innovations in Latin America further highlight the importance of integrating Indigenous territorial claims and socio-ecological knowledge into state decision-making processes. Practices such as plurinational constitutionalism, recognition of collective land tenure, and participatory environmental governance have been employed to challenge centralized and technocratic policy models (Coletta, 2023). For Indonesia, these experiences underscore the potential of strengthening procedural and recognition justice by embedding meaningful participation and local knowledge within energy planning and regulatory frameworks.

However, Latin American trajectories also reveal significant risks associated with energy transitions, particularly the phenomenon of “green grabbing,” where renewable energy projects and conservation initiatives lead to new forms of land dispossession and resource control. Large-scale renewable infrastructures, when poorly regulated, have replicated extractivist patterns by marginalizing local communities and undermining ecological integrity (Barbosa & Nóbrega, 2025). This highlights the necessity of robust ecological safeguards and legal protections to prevent energy transition policies from generating new injustices under ostensibly sustainable agendas.

Finally, post-extractivist debates in Latin America emphasize the intersectionality of social struggles, incorporating dimensions of gender, race, class, and colonial history (Akgemci, 2024). Ecofeminist and decolonial perspectives argue that extractivism disproportionately affects marginalized groups and that justice-oriented transitions must address these layered inequalities (Lang, 2024). For Indonesia, the broader lesson is that legal and policy reforms must move beyond growth-oriented imperatives toward deep structural change that prioritizes ecological sustainability, social equity, and plural epistemologies as the foundation of a just energy transition (Warnecke-Berger et al., 2023). A more detailed is presented in Table 2.

Table 2. Comparative Lessons from Latin American Post-Extractivist Policies for Indonesia’s Just Energy Transition

Key Dimension	Latin American Experience	Core Lesson Learned	Relevance for Indonesia
Development Model	Persistence of neo-extractivism despite progressive rhetoric	Policy reform without structural change reproduces extractivist logic	Energy transition policies must address underlying political-economic structures
Rights-Based Frameworks	Strong role of Indigenous and peasant rights movements	Legal recognition of territorial and collective rights is central to justice	Strengthen recognition of Indigenous peoples and local communities in energy law
Governance Innovations	Plurinational constitutions, participatory governance, territorial recognition	Procedural and recognition justice enhance policy legitimacy	Embed meaningful participation and local knowledge in energy planning
Ecological Safeguards	Emergence of green grabbing in renewable energy expansion	Weak regulation can create new forms of dispossession	Develop strict safeguards for ecologically sensitive and customary areas
Intersectional Justice	Ecofeminist and decolonial critiques of extractivism	Justice must address gender, race, class, and colonial legacies	Adopt intersectional approaches in just energy transition frameworks

Closing

This paper has addressed its research objectives by examining post-extractivism as a normative legal framework and analyzing legal pathways for integrating energy justice into Indonesia's energy transition. The findings demonstrate that Indonesia's prevailing energy and environmental laws remain structurally embedded in extractivist and growth-oriented paradigms, which prioritize resource exploitation and infrastructure expansion over ecological limits and social equity. By applying the principles of energy justice, distributional, procedural, and recognition justice, this study shows that post-extractivism provides a coherent legal foundation for reorienting energy governance toward the protection of vulnerable groups, including Indigenous peoples, rural communities, and populations living in ecologically sensitive areas. Comparative insights from Latin American experiences further confirm that, in the absence of structural legal reform, energy transition policies risk reproducing neo-extractivist dynamics under sustainability-oriented narratives.

From a theoretical perspective, this study contributes to the literature by bridging post-extractivist thought with energy justice and legal transformation theories, highlighting law not merely as an instrument of regulation but as a constitutive force shaping socio-ecological relations. The findings underscore the importance of moving beyond distributive concerns to emphasize procedural fairness and recognition of plural legal orders and knowledges. Practically, the analysis illustrates that embedding justice-oriented principles into legislation, regulatory mechanisms, and institutional design can enhance the legitimacy, inclusivity, and effectiveness of energy governance. Such an approach reframes the energy transition as a socio-legal transformation rather than a purely technological or economic process, thereby aligning legal reforms with broader goals of ecological sustainability and social well-being.

Based on these findings, the paper recommends that tropical countries, particularly Indonesia, pursue comprehensive legal reforms that institutionalize meaningful public participation, strengthen rights-based protections for Indigenous and local communities, and incorporate robust ecological safeguards against new forms of resource dispossession. Regulatory frameworks should be recalibrated to support decentralized and community-based renewable energy initiatives while reducing bureaucratic and economic barriers that marginalize small-scale actors. Nevertheless, this study is limited by its reliance on normative legal analysis and secondary sources, without extensive empirical fieldwork or stakeholder interviews. Future research should therefore combine doctrinal analysis with empirical socio-legal methods to assess how post-extractivist legal principles are implemented in practice and to explore their impacts across different tropical contexts.

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