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Unsettling Energy Transitions: Toward a Critical, Anticapitalist, and Plural Perspective

Carlos Tornel,¹ Alexander Dunlap,² Joanna Allan,³
Chris Hesketh,⁴ and Larry Lohmann⁵

¹Global Tapestry of Alternatives, Mexico City, México; email: tornelc@gmail.com

²Institute for Global Sustainability, Boston University, Boston, Massachusetts, USA

³Geography and Environmental Sciences, Northumbria University, Newcastle upon Tyne, United Kingdom

⁴International Relations, University of Sussex, Sussex, United Kingdom

⁵The Corner House, Dorset, United Kingdom

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Abstract

This article examines the socioecological and justice implications of the rapid discursive global shift toward low-carbon infrastructures as a response to an accelerating civilizatory crisis. While the idea is to reduce fossil fuel dependence and mitigate this planetary crisis, evidence reveals that low-carbon technologies, or so-called renewable energy, are adding to, rather than replacing, existing fossil fuel-based energy systems. Furthermore, low-carbon technologies remain intertwined with fossil fuels, mining, and mineral extraction alongside extensive supply chains that disproportionately impact the Global South, where mineral and land use as well as environmental and social costs are keenly felt. This review highlights the geopolitical reconfigurations prompted by the so-called energy transition while engaging with critical debates surrounding coloniality, justice, and socioecological well-being perspectives embedded within these processes. Through a comprehensive literature review, the article identifies key trends, critiques, and limitations in these debates, emphasizing notable gaps. It advances a critical agenda: to demodernize “energy” by treating it as a contested relation; to reconceptualize justice around territorial self-determination and multiple

ways of knowing and living; to treat transitions as conflictual reconfigurations that can intensify extraction; and to prioritize energy autonomy, sufficiency, and convivial infrastructures that reduce dependence. The review maps debates on, identifies gaps in, and outlines research priorities for plural, anticolonial energy transformations.

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1. INTRODUCTION

What exactly are we talking about when we talk about energy, transitions, or justice? At first glance, this question might seem deceptively simple—perhaps even redundant. A recent *Annual Review of Environment and Resources* article (1) engages many of the same debates and calls for a “radical reconceptualization” of energy transitions, justice, and sustainability. Our contribution is to sharpen the critique by foregrounding how these terms often retain developmentalist, statist, and colonial assumptions even when framed as “radical.” In this sense, returning to these concepts is urgent because it determines what problems become legible, what solutions appear plausible, and which forms of autonomy and resistance are ruled out in advance. Not only because their definitions are unclear but also because their apparent familiarity masks the deep political and historical baggage they carry, energy, transitions, and justice are not neutral terms. These terms emerge from, and are embedded within, specific worldviews shaped by centuries of colonialism, capitalism, modern statecraft, and consequently human engineering. Using them uncritically risks reinscribing the very systems of domination that many scholars and communities seek to dismantle. Drawing on critical literature from political ecology, decolonial, postdevelopment, and Indigenous studies, we contend that these terms are too often mobilized in ways that (a) depoliticize energy; (b) downplay struggles over energy systems; (c) obscure power relations; and (d) marginalize or discount political, practical, epistemic, and ontological alternatives (see 2, 3). Our objective is to examine how unreflective references to energy, transitions, and justice can sustain dominant imaginaries and foreclose more emancipatory possibilities. In doing so, we aim to reframe the conversation around energy, justice, and transitions through a more self-consciously relational and critical lens.

Despite the growing volume of literature engaging with energy, justice, sustainability, and transitions, much of it remains confined within liberal frameworks of fairness, technocratic rationality, and developmentalism (4–9). Even critical interventions often fall short of questioning the foundational assumptions underpinning these frameworks (1, 10–13). Exceptions notwithstanding (e.g.,

14–28), dominant or hegemonic approaches continue to frame energy as a universal good; transitions as linear and stagist processes; and justice as a matter of distributive efficiency, inclusion, participation, and at times restoration (see 1, 29–32). This conceptual closure—exemplified by Sustainable Development Goal 7 (SDG 7), which aims to ensure “access to affordable, reliable, sustainable, and modern energy for all” (33)—reproduces forms of epistemic injustices (34) and violences (35). By flattening ontological and political difference, these approximations legitimize extractive and colonial regimes in the name of progress—often framed as sustainability, inclusion, or development—which, as Dunlap & Sullivan (36) argue, ultimately advances rather than challenges the modernist paradigm. Such discourses further capital-centered forms of development as opposed to subaltern-centered forms of flourishing (37, 38).

The review is organized into six sections. Sections 1 through 3 critically examine the dominant conceptual pillars of energy, justice, and transitions. Section 1 analyzes the historical and ideological construction of “energy” through thinkers such as Ivan Illich (39), Cara Daggett (40), and Larry Lohmann (27), arguing that modern energy is not a neutral scientific category but a capitalist abstraction that helped commodify labor and nature while displacing vernacular forms of energy. In Section 2 we interrogate “energy justice,” showing how influential policy and academic framings often reproduce liberal-modern norms of recognition, participation, and distribution and—drawing on Indigenous and anticolonial critiques (18, 41–43) alongside Martinez-Alier (44), Schlosberg (45), Lennon (22), Temper (46), Hesketh (37), Partridge (47), Dunlap (17), and Tornel (18)—arguing that justice cannot be reduced to inclusion within existing systems but requires rethinking those systems from the ground up. In Section 3, we critique the dominant “transition” narratives as linear and progressivist, drawing on postdevelopment critiques to expose how teleological assumptions naturalize extractivism, centralize decision-making, and attempt to depoliticize resistance (16, 48–50) while reframing transitions as contested terrains shaped by historical, political, and economic struggle. Section 4 then argues that ostensibly “green” transitions often reproduce colonial appropriation and dependency, displacing subsistence and deepening reliance on institutional monopolies. This concern draws on Illich’s (51) critique of modernization and Hornborg’s (52) analysis of ecologically unequal exchange while situating the “pluriverse” as a field of struggle that can also be depoliticized if detached from concrete conflicts, as Section 5 discusses. Finally, Section 6 asks what genuine sustainability and renewability might look like, while advancing a decolonization of energy beyond technological fixes or state-led reforms and toward autonomy, relationality, resistance, and reexistence.

2. ENERGY, THERMODYNAMICS, AND THE WEST: UNPACKING THE COLONIALITY BEHIND ENERGY

As geographers have noted, energy has often been treated as “just another resource” (53), instrumentalized through developmentalist and technocratic frameworks aimed at maximizing productivity and efficiency. While some scholars have responded to this reductionism by focusing on the materiality of resources (54) or the metabolic flows underpinning global inequality (55, 56), others have examined how fossil fuel technologies enable specific configurations of power (57, 58), thus emphasizing how energy is at once material and political. Fressoz (50) demonstrates how energy often sustains a teleological narrative of transition that privileges a linear, bourgeois, and futuristic vision of progress. This narrative masks the historical violence and epistemological impositions embedded in the nineteenth-century notion of energy itself (27, 40). By contrast, we wish to emphasize that the concept of energy, far from being a neutral or timeless category, is historically and ideologically constructed, emerging as part of the political projects of European industrial modernity (40). Said simply, the thermodynamic construct and system were and continue to be essential to advancing (large-scale) extractivism.

Huber (53) argues that energy should be understood as a “social relation” shaped by historically specific struggles, rather than as a neutral, technical quantity to be distributed and optimized. Such a perspective helps us to foreground the exploitative relations of capitalism in discussions of energy. As Jason Moore (59) explains, capitalism is best understood as a world ecology encompassing capital, power, and re/production. This perspective challenges depoliticized framings of energy, highlighting how it is embedded in and productive of relations of empowerment, domination, dependency, and resistance. In contrast, global policy institutions such as the International Energy Agency (60) and the Intergovernmental Panel on Climate Change (61) continue to treat “energy” as an isolatable, universal, ahistorical object to be governed in the interest of solving climate change. By positioning energy as a measurable input to be managed efficiently, these institutions help render extractive development unquestionable.

Such technocratic framings resonate with the post-1973 oil crisis emphasis on energy security, which repositioned energy as a cornerstone of national interest and geopolitical stability (53). As Bonneuil & Fressoz (48) note, the idea of “energy transition” has often functioned to evade a deeper structural critique, serving to distract from the urgency of systemic transformation. In the United States, for instance, the Department of Energy used the language of transition to stabilize public discourse and reassure markets, effectively paving the way for the consolidation of “energy companies” and investor-driven futures (62). This shift facilitated the expansion of environmental-technological optimism, closely aligned with the emergence of sustainable development ideologies that attempted to counter radical environmentalism(s) (63, 64). In this context, “energy” and “energy transition” perform a counterinsurgent function—appeasing legitimate socioecological demands while reinforcing the current trajectory of capitalist political economy (62). As Verweijen & Dunlap (65) argue, the discourse of sustainability—an heir to the energy transition euphemism of the 1970s—is frequently enforced through both “soft” and “hard” forms of coercion, ranging from social engineering and consent manufacturing to policing, military deployment, and extralegal violence. These mechanisms help secure extractive forms of development under the rhetorical cover of an energy transition or sustainability.

One example is Oaxaca’s Bii Hioxo wind park, where the notion of energy transition was absorbed into a security framework and state and corporate actors combined overt repression—police harassment, threats, surveillance, informant networks—with subtler tactics like development programs, corporate responsibility projects, and propaganda to mask the project’s social and ecological impacts (66). Similar dynamics are visible in other contexts. In occupied Western Sahara (67), Israel, and the occupied Palestinian Territories (68), for instance, energy infrastructures serve to reinforce settler colonial projects, utilizing greenwashing narratives to justify territorial occupation and control (69). These narratives not only secure access to land and resources but also portray Indigenous or native populations as backward, underdeveloped, inefficient, or wasteful—thus legitimizing their marginalization and control of their territories.

To understand the deeper assumptions underpinning these framings, it is essential to trace the conceptual history of energy. As Abasi (70) notes, Western conceptualizations define energy as a “property domiciled in biological and ecological forms” that must be extracted and converted to perform work. This notion of energy presupposes a world in which nature is external, inert, and available for conversion—a world made legible through the logic of measurement and productivity. Illich (39) situates the modern conception of energy in the nineteenth century, when the abstraction of labor in classical economics (e.g., Smith, Ricardo, Marx) paralleled the abstraction of nature through thermodynamics. The steam engine, as a technical and symbolic apparatus, contributed to the coconstruction of labor and energy as measurable, exchangeable, and productive forces. Illich (39) shows how “energy” shifted from signifying human vitality or divine

force to representing a calculable “ability to perform work,” naturalizing the commodification of human/nonhuman forces. The resulting outcome entailed, first, the conception of nature as a reservoir of “latent” labor power, mirroring the proletariat as a matrix of industrial productivity. Second, it presented electrification as a universal good, discounting how it is often used as a tool for pacification, counterinsurgency, and consumerist indoctrination (17, 71–73). Modern energy systems colonize desires, displacing subsistence-based ways of life. In this way, energy, as Robert (74, 75) reminds us, is not just a commodity but an apparatus for shaping subjectivities and reproducing dependency. Illich (51) describes how development does not alleviate poverty but “modernizes” it through institutional monopolies that generate new needs. Each technological “solution” deepens social dependency on experts, infrastructures, and bureaucracies, producing what he calls the “modernization of poverty.”

Daggett (40) shows that energy emerged not as a neutral concept but as a political rationality legitimizing extractivism and imperial rule. In nineteenth-century Britain, the convergence of thermodynamics and fossil fuel imperialism made energy the idiom of productivity, civilization, and progress, binding the moral economy of labor to the technical management of fuel. This coupling underwrote imperial expansion and a cosmology in which human flourishing was measured by the conversion of nature into outputs, while also justifying genocidal and ecocidal projects such as assimilationist polytechnic education (76). Energy, then, was produced largely as a ruling idea friendly to the expansion of capitalism, concealing its epistemic ruptures and ecological violence, although other genealogies remain underexplored. Extending this analysis, Daggett (77) links energy to fossil fuels and gendered power through “petromasculinity,” arguing that fossil fuels are more than an economic input, having also historically helped secure a cultural ideal of white patriarchal authority and sovereignty. When decarbonization, climate regulation, or feminist gains are experienced as threats to that gendered order, attachments to fossil fuels can become highly emotionally charged, producing denial and backlash. In this reading, continued fossil fuel use can function as a compensatory performance—a way of reasserting virility and dominance through the willful embrace of destructive energy practices—thereby aligning fossil defense with authoritarian desire. Under this kind of “extractive masculinity,” not only oil but also lithium mines, hydropower dams, wind parks on Indigenous lands, and digital infrastructures embody a logic of “total extraction” (78). “Extractive masculinity” thus names how fossil and so-called renewable energies alike sustain patriarchal fantasies of mastery while violently reorganizing territories and social relations.

Daniela Russ (79) helps explain in further detail how energy was constructed through political, economic, and technological processes that rendered diverse materials into standardized “sources of energy.” Drawing on the sociology of quantification, she shows that energy functioned less as a substance than as a statistical framework, making coal, oil, and water comparable through metrics like calorific value. This commensuration helped enable their commodification and incorporation into state and market logics. Marx similarly traces the abstraction of human activity into “labor power.” Under capitalism, labor’s particular qualities were de-emphasized in the course of the emergence of what he terms “abstract labor” (80, p. 297; 81, pp. 128, 135–36). Like Russ, Marx shows how standardization of work, whether natural or human, legitimates systems of control, productivity, and economic rationalization. Illich (39), meanwhile, observes how energy’s nineteenth-century redefinition as nature’s capacity to perform work mirrored the abstraction of humans into labor power via concepts such as scarcity and conservation, recasting both as resources to be optimized. Similarly, Lohmann (27) shows that energy as a universal, interconvertible substance crystallized only during the time that thermodynamics was evolving in a way that served industrial and imperial interests. Yet all societies have continued to rely in part on plural, vernacular “little-e energies” of much older standing (82), which resist

commodification even as thermodynamics has enabled their abstraction, measurement, and monetization and contributed to the erasure of many preexisting local practices while helping to remap landscapes into extractive zones or “free gift[s] of Nature to capital” (83, p. 745). As Lohmann (27, p. 93) puts it, “thermodynamic energy is the re-engineering of territories,” enclosing commons, disciplining labor, and externalizing waste. Extending Illich, he argues that this abstraction helped impose a cosmos of scarcity, redefining humanity as consumers in perpetual deficit and dependent on centralized supply. Energy thus operates not only as a resource but as a psycho-political technology producing the modern energy-dependent subject.

Such critiques call attention to the coloniality embedded within the ontology of energy. While colonialism refers to a practice tied to a political and historic period that largely ended during the 1960s but that persists in some territories,¹ coloniality refers to the diversity of practices that derive from the matrix of power created by colonialism and that are still at work within contemporary, postcolonial societies (84). In addition, it is important to differentiate between internal colonialism, which highlights the ways in which nation-states reproduce colonial forms of exploitation and domination within their own borders, often against Indigenous peoples and marginalized regions (85), and settler colonialism, which is not limited to extraction but rather entails the permanent occupation and erasure of Indigenous lifeworlds through dispossession, assimilation, and elimination (86). Coloniality is the result of a complex entanglement of different dimensions of power, knowledge being, gender, and nature (87, 88). Illich, Lohmann, Lennon, and Daggett all point to how energy was constructed as a singular, universal force by the imperial tendencies of capitalist modernity and helped legitimize its global imposition.

As Lohmann & Hildyard (82) note, multiple energy epistemologies persist beneath the surface of this hegemony—vernacular forms that continue to resist incorporation into thermodynamic systems. These include Indigenous and subsistence-based practices, where energy is not extracted but flows through relations of reciprocity, care, and spiritual connection. Examples such as Lake Atitlán in Guatemala (89), the Saaghii Naachii/Peace River in northeastern British Columbia (BC) (90), and the Wet’suwet’en First Nation territory (46) in northwestern BC reveal the radical incommensurabilities between western and nonwestern cosmoexperiences of what is often translated as “energy.”

Abasi (70) describes African cosmologies where energy cannot be enclosed but animates life through sharing and complementarity. Likewise, Mazzone and colleagues (91) show how forest-based communities view energy as protection and healing, embedded in relational ties to place, while Post and colleagues (92) highlight ethical frameworks like *yeknemilis*—“good living”—that lie beyond liberal notions of sovereignty or democratization (93, 94). These perspectives reject extractivist and technocratic logics, grounding energy in reciprocity, well-being, and the sacred. They reveal that modern energy is a historically contingent abstraction tied to colonial power and political violence, whose universalization delegitimizes other energetic knowledges. Decolonizing energy thus requires working to dismantle the regimes that tie it to capitalist work, scarcity, and value production, instead making space for other ontologies, lifeways, and practices. This entails not quantifying care or the more-than-human into grids of domination, but valuing them outside state and computational logics, through a “radical unmaking” of energy itself—an epistemic and ontological transformation inseparable from material practice.

¹ Colonialism is a practice of domination, which involves the subjugation of one people or territory to another. While most anticolonial liberation movements achieved independence for their peoples by the late 1960s, territories such as Western Sahara remain on the UN’s list of non-self-governing territories to this day. Likewise, Palestinians continue to be dispossessed, displaced, ethnically cleansed, and deprived of their land and its resources by Israel.

3. JUSTICE, MODERNITY, AND THE TELEOLOGY OF PROGRESS

Liberal notions of justice are often presented as universally applicable frameworks, readily transferable across contexts. As Mills (95) argues, influential liberal thinkers such as John Rawls embody what he calls “racial liberalism”: a framework or contract model, limited to certain domains in “well-ordered” liberal societies, that systematically ignores the realities of white supremacy and presumes away racism. This presumption flattens complex histories and overlooks the ways justice is always situated in specific social, cultural, and political realities (96). The early development of environmental justice illustrates this tension. Initially rooted in quantitative methodologies, it relied on spatial analyses that conceptualized space in static, Cartesian terms (97). Critical scholars such as Schlosberg (98) highlighted the disconnect between theorists and activists, noting that environmental justice movements themselves already practiced diverse, context-specific conceptions of justice. Yet similar limitations persist in the field of energy justice. As Partridge (47) observes, the field retrospectively constructed a canon around the depoliticized 2013 definition by McCauley and colleagues (4), neglecting the deeper genealogies of energy struggles. This framing erases grassroots, antiestablishment origins of energy justice and reframes it in terms of technocratic legitimacy and policy relevance (cf. 6, 99). Much like environmental justice, the critical task is to reconnect energy justice to its activist and subaltern roots, particularly those grounded in Indigenous, antiracist, and anticolonial resistance (22, 37, 97, 100–103).

Dominant perspectives obscure the moral and culturally situated character of justice. As Avelino and colleagues (1) argue, justice is inherently normative, shaped by interpretation and power. The widely adopted tripartite structure—distribution, recognition, participation (99)—appears comprehensive, but as Álvarez & Coolsaet (104) show, it encodes Western universalism while disregarding colonial legacies and structural inequalities. These frameworks risk reproducing hierarchies by redistributing harm, misrecognizing difference, or incorporating it only instrumentally (46, 62, 105). Within energy justice, the “triumvirate of tenets” (4, 8, 106) has become hegemonic, shaping academic and policy interventions while marginalizing nonliberal, modern, or developmental alternatives.

Energy justice is increasingly mobilized as both an analytical tool and a normative imperative to guide transitions (107–109). Its appeal lies in its simplicity: Injustices are framed as failures of distribution, recognition, or participation, correctable through targeted reforms (5). Yet as Tornel (18), Temper (46), and De Onis (110) argue, these tenets are not culturally neutral, but deeply rooted in modern liberalism and colonial histories. By assuming the state and its institutions as universal and constant, energy justice risks reinforcing the systems it seeks to challenge. To unpack these issues, it is essential to foreground two interrelated and emerging critiques in the literature. We must recognize first that modernity and coloniality are coconstitutive and second that the mainstream construction of justice is based on a liberal “ideal theory” of justice that inherently dehumanizes the other.

Decolonial scholarship demonstrates that modernity is not simply the product of Enlightenment rationality, but a world-historical project inaugurated with the 1492 invasion of the Americas (84). As Grosfoguel (35) and Walsh & Mignolo (105) emphasize, coloniality is inseparable from modernity, sustained by the construction of an “Other” against which Europe defined itself as the pinnacle of human development (111, 112). This civilizational project was rooted in racial hierarchies, epistemic domination, and the expansion of capitalist social relations. Latour’s (113) concept of the “modern constitution”—the ontological divide between nature and culture—captures one dimension of this paradigm but can be extended to include faith in progress and the universalization of Eurocentric knowledge (114). Moore (59) highlights modernity’s cognitive dissonance: obscuring humanity’s embeddedness in the web of life while justifying ecological destruction in the name of justice.

Mills's (95) critique of liberal justice, especially his dismantling of Rawls' "ideal theory," is pivotal. Mills shows how liberal theories rely on "White time," a temporal framework that erases histories of slavery, colonization, and racial violence by positing a neutral starting point. Following this logic, many energy justice scholars obscure the historical conditions that produced energy systems. Lohmann (28) draws from Mills to argue that mainstream transition narratives operate within a similar exclusionary temporality, imagining justice as a future outcome of policy improvements while neglecting the colonial foundations of energy. Justice becomes depoliticized, reduced to inclusion and recognition, rather than addressing structural violence (18, 62). Fricker's (34) concept of "epistemic injustice" is useful in clarifying how alternative conceptions of energy are rendered unavailable. For example, when energy justice scholarship defines its object through policy-facing tenets and omits (Indigenous) struggles and knowledges, it not only marginalizes those first-hand accounts but also discounts them as relevant evidence for diagnosing injustice (47). This aligns with Fricker's "testimonial injustice" (a credibility deficit assigned to speakers) and "hermeneutical injustice" (a gap in shared interpretive resources that makes certain experiences harder to render intelligible): Indigenous sovereignty-based critiques are treated as "outside our scope," while the framework's categories are built in ways that cannot fully register them as energy injustice in the first place. Thus, energy justice often functions less as transformation than as *transformismo* (115, 116), a discourse and program that co-opt dissent to stabilize the colonial-modern order. Within this paradigm, the Western model of development was naturalized as a global norm, equating capitalism with progress (35, 117, 118). Developmentalism cast the West as the pinnacle of modernity, consigning others to what Chakrabarty (119) calls the "waiting room of history." This stagist narrative continues to shape energy transition discourse, where access to electricity and renewables is assumed to follow Western industrial trajectories (71). As Fressoz (50) and Hanieh (120) show, the concept of "transition" lacks empirical grounding; energy systems do not substitute fuels for one another as much as layer, expand, and commensurate the use of all of them. The rhetoric of transition thus functions as a statist and capitalist political slogan, concealing continuities of extractivism and enclosure.

Despite the emancipatory aspirations of environmental and climate justice movements, academic energy justice remains tightly bound to liberal universalism. Foundational texts (4, 7) often separate energy issues from broader political ecologies (121) and privilege establishment managerial fixes over structural change. Many researchers continue to call for a modernization of "energy services" and SDG 7 as central concerns, thereby structurally reinforcing the rapacious extractivisms necessary for modernist developmentalism (for a critique, see 26, 33, 122, 123). For example, SDG 7-style "modern energy services" institutionalize new energy needs and lock everyday life into grids, expertise, finance, and long commodity chains—meaning that "inclusion" is achieved only through deepening dependency and "ever-expanding extractive economies" (2). In parallel, SDG 7's "clean energy" push actively creates new extractive frontiers (e.g., expanding markets for lithium and rare earth and other minerals used in wind turbines, solar panels, and battery storage systems), meaning that modernization is materially pursued through intensified mining and territorial capture rather than as an exit from extractivism (62, 122). Under capitalist conditions, this dynamic is then narrated as "sustainable" despite its extractive substrate. Even when recognition and participation are invoked, they remain trapped within a liberal ontology that presumes state legitimacy, technocratic neutrality, and market integration (123). Energy justice's supposed universality thus mirrors what Santos (124) calls the "abyssal line," which renders non-European knowledges invisible. Colonized and racialized peoples are denied full humanity, treated as passive recipients of development (125). While cocreation discourses claim to challenge this, they often reproduce colonial governance traps that manage difference rather than enable autonomy and self-determination. In energy justice, this approach results in a failure to

acknowledge alternative ontologies of energy, land, and community and the corresponding territorial practices.

Colonial governance was not only external but also internal. Scholars like González Casanova (85) and Turner (126) show how internal colonialism organized exploitation within states, often against Indigenous and rural peoples. Liberalism, as Öcalan (127) contends, integrates only those fragments of theory that support its telos of progress and market rationality. Practices of governance honed in colonies fed back into Europe, shaping Enlightenment ideals of procedural justice and democratic participation. Concepts such as energopower (128) and infrastructural colonization (16) highlight how energy systems not only deliver power but also constitute political subjectivities. In Europe and North Africa, transnational energy infrastructure prefigures authoritarian politics (129, 130). In contexts such as Western Sahara (67), Inner Mongolia (131), and the Golan Heights (132), “renewable” energy infrastructures serve as tools of settler colonial control, supporting extraction, surveillance, and exclusion. Such projects illustrate how energy infrastructures territorialize space, erode autonomy, and materialize the coloniality of development (24, 133). The modern constitution, then, is not some detached philosophical framework but rather a material product of colonial expansion. Energy monism—the reduction of all forces to a universal substance—helped enable commodification of nature and erase plural knowledges (75). This homogenizing worldview naturalized extraction while suppressing other relational ontologies. As Moore (59) emphasizes, racism and extractivism are infrastructural, not accidental to capitalist modernity. Energy systems in the Global South tend to embody these relations: built on stolen land, powered by coerced labor, legitimized by ideologies that mask domination (20, 37, 66, 134, 135). Within such structures, energy justice often affirms rather than disrupts hierarchy. By incorporating difference through recognition or distributive fairness, it relegitimizes institutions of oppression. As Coulthard (41) warns, recognition politics can reinforce colonial authority, while efforts to pluralize energy justice risk bureaucratizing rebellion (19). The critical literature suggests that energy justice remains constrained by modernity’s teleology of progress, its narrow Eurocentric universalism, and the ontological separation of nature-culture. Its liberal frameworks attempt to erase colonial histories, universalize Western categories, and depoliticize demands for transformation. To move beyond these frameworks, justice must be reconceptualized not as inclusion within modernity’s institutions but as a radical rethinking of energy, politics, and life itself—one that confronts the coloniality of power and affirms a “pluriverse.”

4. TRANSITION, INNOVATION, AND RENEWABILITY

The discourse of transition occupies a central place in contemporary debates on energy, sustainability, and development. It typically conveys an image of societies moving inexorably from one stage to another—backwardness to advancement, inefficiency to optimization, fossil fuels to greener technologies (136). Such stagist narratives have deep intellectual roots in Enlightenment and modernist thought, where the future is imagined as redemptive and technologically saturated, despite a lack of evidence of uncontested “improvements” (50, 137). A large body of post/decolonial scholarship has shown how these stagist assumptions continue to structure narratives of development and transition. Hesketh (100), following Illich (138), argues that development operates as a strategy of internal colonialism: It domesticates “undeveloped” subjects through techniques of pacification, discipline, and dependency (see also 133). Scholars such as Maldonado-Torres (139), McKittrick (140), Wynter (141), Said (112), Armiero (142), and Andreucci & Zografos (143) show how such frameworks read entire human and more-than-human populations as surplus, risk, or waste to be managed, improved, or sacrificed in service of an abstract, supposedly greater good (e.g., development, the nation).

Within energy studies, similar stagist narratives are visible in the common reference to “ages of fuel”—wood, coal, oil, nuclear, renewables—that naturalize resources as autonomous drivers of history rather than situating them within contested struggles of overaccumulation and power (57, 58, 144; see 145). Fressoz (50) demonstrates that the notion of energy transition is largely a retrospective illusion: Energy sources have not displaced one another but instead expanded symbiotically. Coal, oil, gas, and wood layered upon each other, sustaining extractive mutual dependence rather than inaugurating clean breaks. Transition, in this view, is less an empirical description than a futurological device that emerged in the 1960s and 1970s—particularly through the scenarios of the International Institute for Applied Systems Analysis—to recast the oil crisis and later climate change as a problem of technological substitution (48). Such stagist narratives attribute to fuels an intrinsic logic of replacement, what Hornborg (52, 146) identifies as the fetishization of technology: Machines and infrastructures appear to embody autonomous agency, while the unequal flows of labor, land, and energy on which they depend are obscured. Following Schumpeter’s notion of “creative destruction,” innovation was redefined around energy materials—coal, oil, nuclear, or “renewables”—each presented as a successive stage in a linear saga of progress. This futurological framing resonates with James C. Scott’s (147) critique of high-modernism, where centralized schemes of control reduce complexity into simplified abstractions beneficial to statecraft and extractive accumulation. Transition narratives, like high-modernist planning, promise legibility and mastery and today resurface in managerial architectures of climate governance—net-zero roadmaps, carbon accounting, and SDG targets—that impose metric-driven trajectories onto plural realities. Jaume Franquesa (148) adds that “high-energy modernity” has entrenched imaginaries of abundance and inevitability, producing expectations of prosperity that persist even in “green” form.

The mainstream field of transition studies has often reproduced such stagist imaginaries. Multilevel-perspective approaches (136, 149, 150) frame transitions as sociotechnical processes driven by technological innovation and market competition. Work by Meadowcroft (151), Sovacool (152), Newell & Mulvaney (153), and Newell and colleagues (154) acknowledges issues of power and justice while still continuing to presuppose that transitions are historically underway and should be measurable in terms of speed and scale. By treating the use of fossil fuels as “stages” to be “overcome,” the notion of a “transition” reduces energy production complexity to appear as a governance challenge to be accelerated, not as a political question about the structures of capitalist modernity. By aligning with bourgeois historiography that treats each innovation as progress, the myth of transition obscures structural continuity, framing resistance as backwardness (155) and deferring systemic transformation through Promethean promises featuring hydrogen, electric vehicles, or geoengineering (156–158). These are not solutions but deferrals—technological placeholders that extend extractivist regimes while projecting images of modernist salvation (159). Building on these insights, Lennon (23) situates transition within “intersecting precarities,” examining how economic and ecological insecurities shape the lived experience of energy futures. Mulvaney (10) highlights the embodied nature of energy injustice, showing how solar infrastructures displace risks and harms onto marginalized communities, while Siamanta (160) emphasizes how “renewable” projects enact dispossession and capitalist restructuring. Müller (26) adds that sociotechnical imaginaries stabilize hegemonic visions of renewable futures, presenting them as consensual and inevitable even as they reinforce inequality. Complementing these critiques, Stock & Sovacool (161) show how India’s solar rollout entrenches multidimensional and intersectional inequities, particularly along caste, class, and gender lines, thereby revealing how transitions reproduce entrenched hierarchies under the guise of sustainability. Similarly, Vezzoni (162) exposes the contradictions of the EU’s REPowerEU plan, where promises of “green growth” deepen material dependencies, reinforce neoliberal restructuring, and externalize extractive

burdens to the Global South. Together, these works demonstrate that transition is not just about technological substitution but also about the reproduction of subjectivities, identities, and political orders.

Such critiques converge on the claim that “renewables” are renewable only in name. The idea of “renewable energy” is deeply embedded in stagist assumptions (16, 163). Scholars have shown how wind, solar, and battery infrastructures depend on extractive frontiers—steel, copper, lithium, rare earths, and fossil inputs—thus extending rather than replacing extractive regimes (15–17, 164–167). Even the World Bank has acknowledged that low-carbon technologies are “mineral intensive” (168). Far from being postextractive, wind sites, solar facilities, and battery systems expand extractive frontiers through what Dunlap (15, 16) describes as “fossil fuel+ technologies,” layered atop existing infrastructures and reliant on fossil energy for their production. Arboleda (169) characterizes this expansion as the “planetary mine,” where extraction extends to planetary scales. Theorists of “accumulation by decarbonization” (170–172) argue that decarbonization projects function as socioecological fixes: reconfigurations of landscapes and labor that sustain profitability while pretending to provide environmental care (173, 174). Green extractivism, then, mobilizes sustainability to rebrand state and corporate mining operations and colonial hierarchies (167, 175, 176). Franquesa’s (148, p. 210) ethnography of Catalonia shows how communities assert dignity—the ability to live within one’s means and make autonomous decisions—against centralized wind energy projects. Similar dynamics are evident across the Global South, where solar and wind expansion often intensifies, rather than dismantling, colonial infrastructures (37, 177, 178), with genocidal-ecocidal consequences (66).

These literatures also highlight the futurological nature of transition discourse. Fressoz (50) shows how scenario building in the 1970s established substitution narratives that attributed intrinsic agency to fuels—coal displacing wood, oil displacing coal, and so forth—thereby obscuring the political struggles behind energy change. This is a fetishism of technology (52), where fuels and machines appear to embody autonomous productivity or agency as though their power or change came from intrinsic technical properties or “human ingenuity,” rather than from unequal social relations and global transfers of work and resources that make them possible. Fraser (50) offers a different lens, conceptualizing capitalism’s history through socioecological regimes of accumulation: phases defined by distinctive ways of organizing energy, resources, waste, and territorial expansion. From this perspective, transitions are not neutral technological shifts but reorganizations of domination, entangled with racial, gendered, and colonial hierarchies. Renewability itself, framed as substitution and innovation, depoliticizes these dynamics, making the climate crisis appear solvable without confronting the systemic violence of capitalist modernity that many recognize as responsible for the current socioecological catastrophe.

The result is a paradox: While mainstream accounts present transition as a linear, inevitable, and technological process, critical scholarship reveals it to be layered, uneven, political, and profoundly uncertain. Transition discourse universalizes Eurocentric grammars of progress, meanwhile rebranding extractivism as sustainability to defer systemic transformation through Promethean promises of innovation. At the same time, it obscures the embodied injustices, precarities, and dispossessions that low-carbon infrastructures reproduce (10, 23, 148). Far from representing a rupture, transitions often function as mutations of high-modernist governance and neoliberal hegemony, extending the very patterns they claim to overcome. Recognizing this does not require rejecting so-called “renewable energy” technologies outright, but rather reframing transitions as contested and uncertain terrains—arenas where questions of justice, dignity, autonomy, and pluriversal alternatives are at stake (179). Only by situating transition within these broader struggles can scholarship move beyond stagist imaginaries toward rigorous scholarship and genuinely transformative “presents” (as opposed to futures).

5. DECOLONIZATION, DEPENDENCY, AND THE PLURIVERSE: BETWEEN CRITIQUE OF MODERNITY AND UNIVERSAL STRUGGLES

Energy transitions framed in terms of modernization, sustainability, or ecological efficiency are not neutral projects. They extend a historical trajectory in which colonial legacies of appropriation, dispossession, and dependency are reproduced in “green” form. As Alkhalili et al. (132) show, low-carbon infrastructures in occupied Western Sahara and the Golan Heights deny entire peoples the right to sovereignty and self-determination. Such cases exemplify “green colonialism” (180, 181), where land and resources are seized under the banner of clean energy, reproducing older colonial relations of extraction. Large solar projects in Morocco (181), wind and hydrogen complexes in Namibia (157, 182) and Mexico (66, 177, 178), and lithium and hydrogen initiatives in Chile and Argentina (26, 183, 184) show how the Global South becomes the site of land grabs, ecological risk, and debt, while benefits accrue to Northern states and corporations. The creation of new dependencies—through offtake agreements, conditional financing, and green bonds—mirrors earlier mechanisms of imperial control, now draped in ecological rhetoric (143).

Political ecology has long demonstrated how dependency and accumulation are materially sustained by asymmetric global flows of energy, matter, and labor. Cederlöf (185) shows that industrialization itself relied on a global infrastructure of extraction and dispossession that has anchored political ecologies of empire. Knuth and colleagues (13) highlight how low-carbon energy infrastructures extend these asymmetries, embedding new forms of accumulation and enclosure into “green” projects that appear consensual yet reproduce dependence on global markets and capital. Martinez-Alier (186) underscores this dynamic through the concept of ecological distribution conflicts, showing how the distinctively entropic nature of the industrial economy constantly pushes outward the search for new commodity and waste frontiers, thereby generating widespread resistance and valuation struggles. Recent empirical work by Hickel and colleagues (187, 188) quantifies the Global North’s continuing appropriation of vast amounts of resources, energy, land, and labor from the South through unequal exchange, a hidden transfer of value amounting to trillions of dollars annually. From this perspective, energy transitions today repeat entrenched patterns of appropriation—only with lithium, cobalt, and nickel replacing coal and oil—sustaining Northern consumption while offshoring ecological and social costs. We observe that the coloniality of energy is evident when development goals equate “modern energy for all” with centralized, fossil-linked infrastructures, attempting to foreclose vernacular and autonomous forms of subsistence (189). It is also visible when Indigenous and peasant knowledges are appropriated as “local perspectives” to be integrated into sustainability frameworks, rather than recognized as political projects of autonomy and electricity management (2).

It is in response to this foreclosure that the idea of the pluriverse emerges. The pluriverse is not a catalog of cultural differences but a provocation to reimagine politics beyond the “one-world world” (190). Drawing from Zapatista political poetics—“a world where many worlds fit” (191)—as well as decolonial and postdevelopment thought (2, 192), the pluriverse highlights how other ways of being, doing, and knowing have constituted persistent counterforces to capitalist modernity. These practices foreground reciprocity, autonomy, and care. They are grounded not in abstract universal claims but in situated practices that resist both extractivism and the homogenizing force of development (21, 193).

Yet the pluriverse is not without critiques. The academic uptake of the pluriverse has often transformed it into a form of (neo)liberal multiculturalism compatible with state or corporate agendas (2, 194, 195). Altmann (196) analyzes how *buen vivir* was abstracted from its Indigenous roots and circulated as an alternative to development, obscuring Indigenous political struggles and perpetuating epistemic extractivism. Similarly, Garcia-Arias and colleagues (3) caution that

misreadings of the pluriverse can flatten conflicts into an abstract and often romanticized menu of options, detached from actual resistance, struggle, and politics. Furthermore, Moore (194) argues that pluriversal discourse often detaches critique from the world-historical dynamics of capitalism, class, and empire. By focusing only on “ontological” difference, such discourse risks reproducing a narrative where capitalism appears to emerge or operate independently of conquest, class struggle, and ecological appropriation. Similarly, Wilson (195) highlights how certain insurgent solidarities in Ecuador have risen above cultural identitarianism, producing universalized moments of struggle against extractivism. Both critiques remind us that the pluriverse is not a “substitute” for political organization and struggle. The challenge emerges from the pluriverse’s own formulation. The pluriverse must engage with the construction of universal struggles—against capitalist modernity and its multiple systems of oppression such as patriarchy, colonialism, and extractivism (197, 198)—without erasing difference and recognizing the multiplicity of oppressions and place-based alternatives that inform those struggles.

Seen in this light, the pluriverse is most generative when it functions as a provocation to locate so-called alternatives in the messy terrain of struggle. de la Cadena & Escobar (199) use the term “pluriversal contact zones”—spaces where different worlds or different ways of knowing and living in the world collide, often under conditions of asymmetrical power. These zones are fraught, conflictual, and contingent, but they are also where solidarities can be forged. They bring politics and history, memories, and power asymmetries, local and global, to a particular place (179, 200, 201), offering and highlighting possible alliances and shared enemies and effectively challenging the romanticization of struggles and their transformation into a menu of “alternatives.” Contact zone examples include, in the 2000s, the Buddhist villagers of Baw Nawk, Thailand, who defeated a proposed coal plant in a struggle that included language-specific satire, pathbreaking alliances with distant Muslim communities facing similar threats (202), and the zone in which Afro-Colombian aquatic worlds resist homogenization (200). In such spaces, pluriversal practices emerge from lived struggles rather than from theoretical abstractions. Here the dominance of capitalist modernity is destabilized not by affirming fixed cultural differences but by creating new political possibilities.

Regardless of disagreements concerning the pluriverse, it teaches us that politics must be grounded in the cultivation of new practices of translation and contested commensuration that neither erase asymmetries nor essentialize difference, but instead build insurgent solidarities (179, 192, 200, 203, 204). The horizons of common emancipation must be kept in view without reimposing false universals. Universal claims are legitimate only when forged in and accountable to subaltern struggles, not legislated from states, markets, or academic canons. “Energy autonomy” and “community renewable energy ecologies” can be articulated as strategic bridges (205) that allow for orientations toward subsistence, care, embedding more-than-human obligations, and particular practices of self-reproduction rather than kilowatt-hours alone.

The decolonial critique shows how “transitions” have tended to reproduce colonial relations and involve new forms of colonial occupations and extractions, how growth-based teleological assumptions of technology and progress manufacture dependency and modernize poverty, and how pluriversal horizons can reopen and politicize ontologies and epistemologies of energy beyond commodification. The task is not to choose between pluriversal difference and universal struggle, but to recognize ontological difference while constituting coalitions capable of confronting capital’s planetary management (204). That means building energy politics that are both place based and relational but also capable of saying “we”—not as a false universal that erases difference, but as a concrete universality forged in common antagonism and mutual aid (206). Only in that tension between grounded normativity and world-historical analysis can transitions become genuinely decolonial, demodernizing, and emancipatory, rather than one more circuit of “green” dependency.

6. DEMODERNIZING ENERGY JUSTICE TOWARD A DIALECTICAL, PLACE-BASED, AND PLURAL RESEARCH AGENDA

As Esteva (207, p. 414) writes, “we cannot talk about how we look at the West, because the West looks through our eyes.” This captures the central concern of this article: Colonial rationality implants itself as reason itself, presenting its discourse as universal, irrefutable, and necessary. Framed through liberal notions of distribution, participation, and recognition—even in their restorative or cosmopolitan versions (see 9, 106)—energy justice risks extending logics of colonial reasoning. If the modern constitution is itself the problem, the first task of a decolonial politics of energy must be, as Esteva (207) insists, to “remove the lenses of development from our eyes.” Only then can we reimagine, embody, and reformulate energy, justice, and transition rooted in ontological multiplicity, memory, politics, and an insurgent relationality.

Destabilizing dominant practices of energy requires acknowledging how it has been naturalized as a neutral object: a resource to be extracted, managed, and allocated, a measurable force reducible to joules or dollars. This abstraction—what Lohmann & Hildyard (82) call “big-E Energy”—has obscured the multiplicity of vernacular “little-e energies” tied to seasons, ecologies, and subsistence. “Little-e energies” become more visible when communities foreground everyday, place-integrated forms of power (sunlight, water, firewood heat, human effort) that sustain life and autonomy instead of treating “energy” only as, for example, standardized electricity to be expanded through inherently destructive and expansive infrastructures. In the Sierra Norte de Puebla, the Indigenous Tosepan cooperative has codesigned wood-saving stoves, solar/hot-air drying chambers, and human-powered “anthropo-machines” with families—tools meant to be simple to maintain; built largely with local materials; and oriented to cooking, drying, and food practices that underpin community life (92). In Puerto Rico, Coqui Solar similarly treats energy as a participatory social process, training youth to install decentralized solar systems while weaving solidarity networks and collective decision-making and explicitly linking electricity access to “combating injustice” and sustaining struggle (208). Lennon (22) demonstrates how colonial and racial hierarchies embedded slavery, dispossession, and racial capitalism in the ontology of Energy itself. To decolonize and demodernize energy, as the literature above proposes, is not merely to diversify its sources or extend access to those without it, but also to disentangle energy practices from imperial legacies and reroot them in different forms of collective life, thus entrenching energies as processes that can be lived through care, territory, and the flourishing of community (92, 178). This shift challenges the extractive paradigms of “energy accounting,” which translates all forms of labor into commensurable, scarce units (75) and unsettles reformist transition narratives that remain captive to technocratic assumptions about growth and efficiency (17). A pluriversal perspective insists that energy must be grounded in history, affect, and struggle: not as an abstract commodity, but as a fundamentally political and ontological set of relations.

A similar demodernization is needed for justice. Liberal frameworks frame justice as recognition, distribution, or procedure within existing orders. Anticolonial critiques (18, 28, 46, 47, 66, 104) show how mainstream environmental justice quantifies and allocates harm—acceptable pollution thresholds, compensation packages—treating violence and dispossession as negotiable and economically commensurable. Instruments such as environmental impact assessments, free prior and informed consent, and other “social acceptance” technologies operate less as remedies than as (colonial) technologies of territorial capture (66, 164, 209–213). Gutiérrez Aguilar (210, p. 7) describes this as a “sophisticated scaffolding,” which channels collective force toward negotiation with the state, containing and pacifying insurgency.

Interruptions, however, open possibilities. As Rancière (214) argues, politics (or democracy) is never guaranteed by established categories; it emerges through interruption, through the dissensus that unsettles what he calls the “police order.” Velicu & Barca (215) note that justice

arises when those excluded from the political field—the “part of no part”—assert themselves, breaking into visibility and unsettling consensus. Justice, then, is not the recognition of pregiven identities but the refusal of universals imposed by hegemonic orders. Coulthard & Simpson (216) argue for a “grounded normativity” that reshapes what counts as good and fair through place-based relations with humans and nonhumans. These critiques become concrete in struggles for energy sovereignty. In Puerto Rico, for example, grassroots coalitions link decarbonization and decentralization to broader struggles for cultural and political autonomy, rejecting the framing of access as technical service provision (110, 208). Here, energy justice is not a static formula but a practice of care, mutuality, and territorial self-determination that interrupts colonial infrastructures and asserts new horizons of possibility.

Another step in demodernizing energy justice is confronting the teleology of progress. Dominant energy transition discourses position energy as a modern right, a measure of development, and a step on a universal path toward prosperity. This narrative obscures the dependency, alienation, and systemic violence of capitalist modernity. As mentioned above, Fressoz (50) shows how transition discourse functions less as history than as futurology, a device for projecting technological salvation. Against this, a pluriversal reframing asks not how to expand abstract “access,” but how to transform energetic relations, including the relations that constitute energy itself: reducing dependency; constraining commodification; and restoring convivial, place-bound forms of life (123). A concrete illustration comes from the Valley of Intag (Ecuador), where community organizing around territorial defense has treated “energy” not as a metric of expanded access but as a question of how to live with and care for the watershed. Lang (217) shows how communitarian hydropower is valued insofar as it strengthens local agency and ties electricity provision to protecting springs, forests, and upstream ecosystems—so “clean energy” becomes a by-product of sustaining place-based livelihoods rather than a driver of commodification or new dependency. Ecofeminist and anarchist critiques sharpen this agenda. They show how energy systems, much like capitalism itself (218), rely on gendered divisions of labor and the invisibilization of reproductive and care work; transitional frameworks that ignore these dimensions reproduce patriarchal logics and conceal embodied costs (77, 219, 220). Critical work on the “just transition” similarly reveals how Global North labor politics—focused on preserving carbon-intensive jobs or green growth and other developmentalist narratives (221)—can entrench global asymmetries if disconnected from ecoterritorial struggles in the South. This means recognizing that the struggle will have to simultaneously tackle the Global North’s historical, ecological, and structural responsibility and the fact that northern working classes have little control over finance and the means of production (215, 221, 222). This reframing does not deny the urgency of decarbonization, or the imperial and colonial burdens of history, but redirects it toward horizons grounded in certain kinds of relational praxis, joint struggles, and a world-historical analysis.

Debates on energy justice thus rehearse the tension between the universal and the particular. Universal frameworks tend to erase multiplicity (98, 43), while particularisms risk fragmentation and depoliticizations. The pluriverse potentially offers a way beyond: rejecting liberal neutrality while refusing to collapse into localisms, romanticisms, or isolationist politics. This requires grappling with the political tensions within universalisms and localisms. It resonates with Aimé Césaire’s (223) call for a universal enriched by particulars or Wilson’s (195) conception of “insurgent universality” arising immanently from situated struggles. Wittgenstein (224) reminds us that concepts like “justice” or “energy” have meaning only within specific “forms of life.” Energy is not a technical object but a living relation (39); justice is not a distributive formula but a horizon of possibilities defined by people in their place-based specificities (96, 142, 216, 225). Transition becomes the weaving of pathways toward autonomy that contests the modern assumptions built into the very idea of energy and its associated “modern constitution.”

Despite growing pluralism (220), critical engagement with the state, dependency, and modernity remains underdeveloped (2, 123). As Pulido & De Lara (102) argue, environmental injustice cannot be disentangled from racial capitalism, settler colonialism, and state violence. Yet much energy justice scholarship has turned technocratic and apolitical, focusing on policy fixes while leaving intact the logics that generate inequality. Save recent exemptions (see 226–228), confronting these issues requires recognizing what Illich (51) and Robert (75) describe as the “war on subsistence” and the “modernization of poverty.” Latin American movements expand this critique through the praxis of *resistencia y reexistencia*: not only opposing dispossession but regenerating life and territory beyond survival (229). The concept of *cuerpo-territorio* grounds this praxis: Bodies are themselves territories marked by violence and sites for new ontologies (230). These perspectives highlight that energy justice must be grounded in embodied and territorial struggles that weave dignity, autonomy, and life.

To move beyond dominant practices of energy, justice, and transition, we propose an agenda of place-based definitions of justice seeking to develop a practice of total liberation (231, 232). Following Springer and colleagues (233), the idea is to strive to dismantle domination across human and nonhuman, colonial and capitalist, and patriarchal relations (19). As **Table 1** shows,

Table 1 Principles for rethinking energy, justice, and transitions

Modernist conceptual approximation	Anticolonial and postdevelopment critique	Toward a dialectical, place-based, and plural research agenda (total liberation)
Energy is framed as a neutral, technical category—an input/output quantified through thermodynamics, efficiency, and productivity. Imagined as a universal “good” to be maximized and distributed	“ Energy ” is seen as an abstraction of industrial modernity that tries to erase various vernacular relationalities and conceals unequal global flows of labor, land, and resources. Infrastructures embodies an extractive masculinity: patriarchal, militarized, authoritarian desires that bind societies to extractivism and legibility	Open up energy to demodernization, defetishize technology: Expose asymmetric exchanges behind energy and its infrastructures (EUE of labor, land, energy, materials). Examine how infrastructures create dependency and desire while centering practices of autonomy and CREE that value sufficiency, care, and convivial tools
Justice is reduced to liberal universals of distribution, participation, and inclusion (e.g., SDG 7). Treated as measurable and transferable, sustaining existing systems	“ Justice ” in modernity discourse reproduces assimilation, racialized “ideal theories,” and procedural pacification. It flattens differences, sustains extractive regimes, and upholds liberal systems of dependency instead of enabling emancipatory ruptures	Reframe justice: (a) Ground justice in place-based normativity, solidarity, and emergent universal struggles. (b) Link energy systems to territorial, historical, and political struggles beyond state and liberal notions of justice. (c) Emphasize anticolonial, antipatriarchal, and socioecological resistance, reexistence, relationality, and communal autonomy
Transitions are cast as linear and inevitable for modernization— from “backward” to “advanced,” fossil to renewable, scarcity to abundance—anchored in Enlightenment thought progress and technologically dependent futures	“ Transition ” myths of substitution mask accumulation. Transition narratives legitimize technocratic control, green extractivism, and high-modernist state planning while obscuring violence, displacement, militarization, and dependency	Historicize transitions: Treat transitions as accumulative, not substitutive. Analyze infrastructural colonization as spatial, economic, and psychosocial management through pacification and authoritarian tactics. Orient debates toward demodernizing and decolonizing energy, redefining needs from grounded, place-based perspectives

Abbreviations: CREE, Community Renewable Energy Ecologies; EUE, ecological unequal exchange; SDG 7, Sustainable Development Goal 7.

this formulation resists compartmentalization, linking ecological justice with social, political, and epistemic emancipation. Applied to energy, it entails rejecting false conceptions of “renewable energy” and modernist, statist, and developmentalist notions of “just transition.” Total liberation, instead, seeks to advance autonomy through insurgent, community-based processes that “scale out” and federate through free association. Total liberation is not an endpoint but praxis: dismantling domination while weaving many worlds together (191). Total liberation theory and praxis deserve greater theoretical engagement and practical development.

The theoretical and practical contributions of the literature reviewed show that a critical and alternative approach to energy, justice, and transitions becomes clearest when grounded in practical experiences of collective provisioning rather than in abstract metrics of “access,” “deployment,” or SDG-style modernization. Across the theoretical and practical approximations discussed, energy is conceived as a relational practice embedded in territory and social reproduction, where the central stakes are autonomy, repairability, and collective and place-based control over the conditions of everyday life. Justice, in turn, is not reduced to distributing benefits and burdens within a given system, but reframed as the defense and/or renewal of the commons: communal decision-making, locally meaningful needs, and the right to refuse infrastructures that deepen extractive dependence. “Transition” is thus recast from a linear substitution of fuels to a contested reconfiguration of socioecological relations—one that can either expand commodity chains and institutional monopolies or cultivate cooperative, place-bound systems of self-management that constrain commodification, reduce demand, and restore convivial forms of life. **Table 1** functions as a comparative heuristic: It juxtaposes dominant liberal-modern framings of energy, justice, and transitions with key anticolonial/postdevelopment critiques and then distills from that contrast a dialectical, place-based research agenda oriented toward autonomy and “total liberation.”

7. CONCLUSIONS

This review reexamines mainstream categories of energy, justice, and transition by situating them within the histories of colonialism, capitalism, and modern statecraft. The critical literature reviewed demonstrates how these categories have tended to function as epistemic and political constructs that naturalize dependency, obscure relations of power, and foreclose place-based and political-ontological alternatives. Drawing on insights from political ecology, anthropology, geography, and decolonial thought, we highlight how energy is less a technical given than a set of geographical practices manufactured historically through processes of commensuration and scarcity construction. Justice frameworks often universalize Eurocentric norms while sidelining other grammars of dignity and reexistence, which combines with the way transitions are not politically neutral linear substitutions but rather contested, uneven, and often violent modifications of accumulation techniques. At the same time, the review foregrounds emerging approaches that defend other grounded normativities and relational ontologies. Potential dangers in these emerging approaches include the romanticization or fetishization of “alternatives,” the co-optation of pluriversal vocabularies by state and corporate actors, and the reinscription of supposedly universal antagonisms into specific instances of developing conflict. The task ahead is thus not to abandon energy, justice, or transition as categories, but to repoliticize, decolonize, and demodernize them—acknowledging their colonial inheritances while weaving research agendas that remain attentive to plurality, relationality, and autonomy. Only then can energy politics move from technocratic closure toward emancipatory horizons of autonomy, care, and solidarity.

SUMMARY POINTS

1. **Energy as a political artifact:** Modern “energy” is not a neutral resource category; it is a historically produced abstraction that helped commodify labor and land to normalize unequal exchange.
2. **Justice beyond liberal frameworks:** Hegemonic/modern “energy justice” frameworks tend to operationalize fairness through distribution, recognition, and participation, but these tenets risk bypassing ontological, racial, and colonial foundations of harm. This includes an uncritical and faulty disposition toward the state as a neutral mediator.
3. **Transitions as contested terrains:** Historical and contemporary energy shifts are nonlinear; they are overlapping and entangled. What is commonly called “the energy transition” serves as the cause of capital accumulation that maintains state-corporate dominance and exacerbates extractivism, economic dependency, and ecological breakdown.
4. **Coloniality of development:** The teleology of progress, “development,” and “modernization” underlies transition discourse, portraying conventional notions of “energy source change” as inevitable, universal, and ecologically benign while obscuring persistent economic dependencies, political subjugations, and resistances.
5. **Epistemic extractivism:** Metrics, expertise, and technocratic planning depoliticize energy, presenting it as calculable and governable while displacing other vernacular knowledges and energies constituted by different networks of relations.
6. **Pluriversal perspectives:** Alternative grammars of “little-e energy” emphasize reciprocity, dignity, and relational well-being, challenging hegemonic categories of Energy, justice, and transition.
7. **Infrastructures of domination:** Ideas of energy transition (and related concepts) promote energy infrastructures (grids, pipelines, “green” megaprojects) that are not neutral but instead constitute strategies of enclosure, militarization, and state-led accumulation, increasingly legitimized through climate improvement imperatives.
8. **Resistance and reexistence:** Grassroots struggles articulate not only opposition but also autonomous practices—community energy ecologies, agroecology, commons—that embody alternative relationalities.
9. **Critical interdisciplinarity:** Political ecology, anthropology, and geography each bring tools to expose the coloniality of energy, yet their insights must be accounted for and integrated to avoid disciplinary silos and technocratic enclosures. This means more critical engagement with natural sciences and collaboration with natural scientists.
10. **Research as situated praxis:** Scholars must remain attentive to positionality, resist extractivist research practices, and engage with movements and communities not as objects of study but as coproducers of knowledge, balancing tensions between the universal and the particulars.

FUTURE ISSUES

1. Can energy justice integrate ecologically unequal exchange and anticolonial politics into analyses of energy infrastructures and transitions?
2. What methodological tools can help investigate (or defetishize), demodernize, and decolonize energy by linking biophysical flows to different structures of lived experience and dignity as well as territorial or place-based definitions of well-being?
3. What conceptual and methodological actions prevent place-based justice from sliding into either romanticized particularism or a renewed universalism while respecting antagonisms?
4. What forms of work (including unpaid care and reproductive work) remain obscured in energy transition debates, and how can they be recentered?
5. How do militarization, securitization, and “green” geopolitics shape the contours of contemporary energy infrastructure, and vice versa?
6. What are the risks of the pluriverse itself being co-opted as a governance slogan, and how can scholars, activists, and communities guard against its depoliticization?
7. How do digital infrastructures, AI, and new forms of techno-solutionism reshape the coloniality of energy, and what critical responses are emerging?
8. How do state-led “renewable” or “green” infrastructure projects reproduce logics of legibility, and what counternarratives could make alternative territorialities plausible?
9. As decolonial approaches proliferate, how do researchers prevent decolonial approaches from becoming a vocabulary detached from alternatives to energy development and continuities of anticolonial struggle?
10. What would a genuinely convivial and decolonial research agenda on energy—one that accounts for materials extracted and moves beyond critique toward collaborative design of the pluriversal present—look like?

DISCLOSURE STATEMENT

The authors are not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

On our positionality: This article is shaped by our collective engagement with the deployment of energy infrastructures, mines, and the corresponding struggles to resist them in the Global South. All of us have worked, conducted research, and collaborated with communities across Latin America, Africa, and Asia. We approach this work not as detached “objective” observers, but as researchers committed to challenging the coloniality of dominant energy systems and the type of “transitions” they tend to promote. Although our framework draws heavily from postdevelopment and decolonial thought, we do not seek to speak on behalf of others, but to amplify or supplement critiques that remain marginalized in academia and mainstream discourses. Acknowledging that, while some of us hold positions in academic institutions in the Global North, we recognize the limitations of our own positionalities and the potential pitfalls of ventriloquizing other struggles.

AUTHOR CONTRIBUTIONS

All authors participated equally in the conceptualization, writing, and reviewing of this article.

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