

Commentary

Green Sacrifice Zones, or Why a Green New Deal Cannot Ignore the Cost Shifts of Just Transitions

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A Green New Deal could put severe pressure on lands held by Indigenous and marginalized communities and reshape their ecologies into “green sacrifice zones.” Such cost shifting risks reproducing a form of climate colonialism in the name of just transition. Avoiding cost shifts opens interdisciplinary research questions regarding land-use policy, economics, politics, and non-Eurocentric knowledge and leadership.

Green New Deal (GND) proposals are among the boldest initiatives for a large-scale, equality-oriented systemic transformation of Global North economies in order to address the climate crisis. The GND is used here as an umbrella term for a package of measures meant to deliver such transformation. Several versions of a GND have emerged in the last 2 years, and despite their differences, all versions explicitly include “just transition” as an essential goal (Table 1).

Just transition highlights the need for the shift to low-carbon societies to be as equitable as possible by ensuring decent work, social inclusion, and poverty eradication together with environmental sustainability as that shift’s central goals. Within all major GND proposals, just transition involves pursuing two key priorities: first, a transition of energy systems away from fossil fuels by emphasizing clean energy and massive expansion of renewable power resources; second, the impulse to avoid transferring the costs of transition to workers (e.g., those losing their jobs from the closure of carbon-intensive industries) and their communities or to communities that are vulnerable and at “the frontline” of climate change impacts.

As such, GND proposals represent an admirable effort to produce a much-needed, equality-minded U-turn in the public policy of some of the world’s

biggest economies. Yet, despite their transformative potential, GND plans have been criticized as potentially colonial by critical scholars and grassroots organizations belonging to the very groups that in theory stand to benefit from them, such as frontline and vulnerable communities. Activists raise the concern that despite its intentions, the GND could lead “to a new form of green colonialism that will continue to sacrifice the people of the global south to maintain our broken economic model.”¹ The worry is that climate colonialism could occur. Climate colonialism involves the deepening or expanding of domination of less powerful countries and peoples through initiatives that intensify foreign exploitation of poorer nations’ resources or undermine the sovereignty of native and Indigenous communities in the course of responding to the climate crisis.²

Taking seriously those concerns is essential if the GND is to avoid replicating the very same logics that produced the climate crisis³ in the first instance. Specifically, increased pressure on Indigenous and marginalized lands, livelihoods, and sovereignties in the effort to supply material resources for just low-carbon transitions could generate what we here call “green sacrifice zones” (GSZs), that is, ecologies and spaces where “the possibility that the political economy of green energy contains its own sacrifice zones”⁴ physically manifests itself.

Green Sacrifice Zones

Originally used as a label for areas dangerously contaminated by the mining and processing of uranium for developing nuclear weapons during the Cold War, the meaning of the term “sacrifice zones” has been expanded to include “communities or hotspots of chemical pollution where residents live immediately adjacent to heavily polluted industries or military bases.”⁵ With the term GSZ, we propose that the logic of sacrificing a certain space or ecology can be expanded to include places and populations that will be affected by the sourcing, transportation, installation, and operation of solutions for powering low-carbon transitions, as well as end-of-life treatment of related material waste.

The implications of producing GSZs in the course of seeking just transitions cannot be overlooked. The question of who will bear the social, environmental, health, and economic costs of decarbonizing economies, and the fear that the burdens of transitions to low-carbon economies will be unevenly distributed,⁶ cannot be left unaddressed.

We explore the GSZ hypothesis by looking at the two most prominent versions of the GND, namely, H. Res. 109 in the US and the EU’s European Green Deal (EGD). While doing so, we acknowledge that other, less prominent versions of the GND—such as the Green New Deal for Europe or Global South initiatives

Table 1. GND Versions and Just Transition

GND Version	Description	Just Transition Claims
H. Res. 109 (2019) introduced by Rep. Alexandria Ocasio-Cortez at the 116 th Congress (US) (https://www.congress.gov/bills/116/congress/house-resolution/109/text)	failed attempt to establish a commitment by the US federal government to create a GND	“Resolved, That it is the sense of the House of Representatives that—(1) it is the duty of the Federal Government to create a Green New Deal—(A) to achieve net-zero greenhouse gas emissions through a fair and just transition for all communities and workers”
European Green Deal (EU) (https://ec.europa.eu/info/news/launching-just-transition-mechanism-green-transition-based-solidarity-and-fairness-2020-jan-15_en?pk_campaign=DG%20ENER%20Newsletter%20january%202020)	EU’s roadmap for making Europe the first carbon-neutral continent by 2050; it’s already at an early implementation stage	“On 14th January 2020, the European Commission presented the European Green Deal’s Just Transition Mechanism and the Sustainable Europe Investment Plan. The Just Transition Mechanism will ... assure that no one is left behind in the green transition ...”
Bernie Sanders’s GND (US) (https://berniesanders.com/issues/green-new-deal/)	the most ambitious GND plan by a US Democratic candidate for the 2020 presidential election	“Rebuild Our Economy and Ensure Justice for Frontline Communities and a Just Transition for Workers” (one of the three basic pillars of the proposal)
UK Labour Party (https://www.labourgnd.uk/policy)	political party commitment; motion passed at 2019 Labour conference as party policy	“in power Labour will ... oversee a just transition, increasing the number of well-paid, unionised green jobs in the UK through ... large-scale investment in renewables and low-carbon energy”
Australian Greens (https://greens.org.au/greennewdeal)	political party campaign platform	“Just & Fair: Government has a responsibility to ensure this transition is inclusive, delivers climate justice and ensures no one is left behind”
K-New Deal (South Korea)	government program for post-coronavirus disease 2019 (COVID-19) recovery	the South Korean government has set up a Regional Energy Transition Centre to support workers’ transition to green jobs

such as the Pacto Ecosocial del Sur— seem to be mindful of that danger.

Cost Shifts

There are two key components of GSZs. First, cost shifts. Cost shifting refers to the

practice where private enterprises pass the harmful consequences and damages of economic production to third parties (within or outside the economic production circuit) and communities. K.W. Kapp, who coined the term, concluded that cost shift-

ing is a pervasive rather than exceptional practice for production systems oriented toward increasing profit margins. This distinguishes the notion of cost shifting from that of externality, which denotes an accidental and unintended effect. This also means that policy responses that simply seek to correct or internalize externalities into the market cannot properly address cost shifting because its causes are systemic rather than incidental.

The mining necessary for powering GNDs could generate such cost shifts. For example, a 100% renewable energy supply of electric grids and transportation systems by 2030, as envisaged by certain US versions of the GND, would put considerable stress on ecosystems containing lithium and cobalt, two metals necessary in lithium-ion batteries for electric vehicles. Currently, and without a US GND—some versions of which (e.g., that of Bernie Sanders) aspired for 100% transition to electric vehicles—the world’s stock of electric vehicles is expected to grow to 130 million in 2030, and the overall demand for cobalt is expected to outstrip supply by 64,000 metric tons in 2030.⁷ And although improving efficiency or substituting cobalt is possible, it could increase demand for other metals, including lithium, which is among the most challenging metals when it comes to reducing or offsetting its demand because it is used in the dominant battery technologies and those predicted to be important in the future, and it currently only has limited recycling from batteries.⁸

This implies that the risk of cost shifts increases with such dramatic increases in demand. Consider that nearly 50% of cobalt reserves are located in the Democratic Republic of the Congo (DRC) (Table 2), where the cobalt mining region is one of the ten most polluted areas in the world.⁹ Cobalt extraction in the DRC involves extremely dangerous and precarious working conditions, including extensive child labor.⁸ Links have been established between cobalt mining and the DRC civil war,¹⁰ which has claimed some 6 million lives.

Similarly, more than half of the world’s lithium reserves are located in the salt flats of the Lithium Triangle, which lies among Argentina, Bolivia, and Chile, one of the driest places on the planet, where lithium extraction has put significant stress on limited water resources. Currently, i.e., in

Table 2. Where Would the Material Come from? Top Concerning Minerals for Low-Carbon Transitions

Mineral	Reserves in Developing Countries (without China)	Country with Biggest Reserves
Lithium	91% (68%)	Chile (53%)
Cobalt	68% (67%)	Democratic Republic the Congo (47%)
Rare earths	62% (19%)	China (43%)

Own elaboration based on data from Dominish et al.⁸ and Arrobas et al.¹¹

the absence of a major GND in large economies such as the US, industry analysts expect South American lithium production to increase by 199% by 2025¹² to meet demand.

Unsurprisingly, mining companies are concerned about their capacity to provide long-term supply of cobalt and lithium at stable prices and about securing adequate volumes from responsibly sourced mines.⁸ At the same time, mining companies already justify the adverse effects of their operations upon local communities (such as endangering vital ecosystems and water supplies) by claiming that their “products are essential to the transition to a low-carbon economy.”¹

Some governments also facilitate cost shifts. Morocco is building the world’s largest concentrated solar power plant, the Noor Power Station, expected to cover an area as large as the country’s capital, Rabat. Noor involved the acquisition of 3,000 ha of communally owned land by characterizing land that was used for pasture as “marginal” and “underutilized,” a possible case of “green grabbing” according to the Environmental Justice Atlas. Beyond covering energy needs in Morocco, the project is expected to export green energy northward to Europe and eastward to other regional states.

Coloniality

Coloniality is the second component of GSZs, a key colonial logic that can both encourage and justify the production of such sacrifice zones. Coloniality here refers to forms of knowledge and practice inherited from European colonial order and premised on a mental order that privileges both the material entitlements and cultural elements associated with “whiteness,” which are placed at the top of its hierarchy.

Detailed GND plans are a recent development, and systematic studies linking

them to coloniality are lacking. Still, a close reading of H. Res. 109 and the EGD exposes traces of basic coloniality tropes that attempt to legitimize and establish those initiatives.

Salvation, in particular a rhetoric of “salvation by newness,” is a core element of coloniality.¹³ Historically, imperial projects proclaimed as their objective the salvation of those colonized by casting anew their spiritual existence through Christianity (Spanish Empire), their cultural condition through civilization (British and French empires), and their economic condition (poverty) through institutional and material development (post-WWII US geo-political hegemony). In all those projects, whiteness, or the material and spiritual conditions characterizing a privileged European life, has been the rod for assessing the state and progress of non-Europeans and their culture, values, norms, and practices with respect to salvation.

GNDs reflect a rhetoric of salvation by newness for responding to grand challenges. For example, the EGD webpage asserts the following:

Climate change and environmental degradation are an *existential threat* to Europe and the world. *To overcome* these challenges, Europe needs a *new* growth strategy that *transforms* the Union into a modern, resource-efficient and competitive economy... (emphasis added)

Additionally, elements of whiteness appear in the ways that climate change vulnerability and response capacity are casted. For example, H. Res. 109’s “frontline and vulnerable communities,” which include Indigenous peoples, communities of color, migrant communities, low-income workers, and women, are described as “left behind” by past development efforts (notably, the New Deal), a

mistake that GND policies would redress. Raising those communities to the standards of affluent, white communities through, e.g., economic development, building wealth, and high-quality jobs, is one way in which the GND seeks to reduce their vulnerability.

Exposing and seeking to address the highly unequal effects of past policies and climate change are fundamental. Yet, frontline and vulnerable communities are not only communities in an arrested state of development but also climate pioneers with numerous just-transition initiatives already happening under their leadership. Well-recorded examples of such leadership include Indigenous-knowledge-based sustainable forestry,¹⁴ Indigenous climate-resiliency policy plans,¹⁵ and frontline-community energy-democracy projects.¹⁶

Those are initiatives to scale up and communities to learn from, and they highlight the potential for non-Eurocentric knowledge, practices, and value systems to successfully shape climate action. Just transition should steer clear of colonial “moves to innocence” that present public policy as an opportunity for “re-dressing ‘past’ wrongs against non-white Others”¹⁷ while leaving unexamined the socio-political and material infrastructure that has generated those wrongs. If climate change really changes everything, as claimed by Naomi Klein, in the sense that dealing with it requires us to look hard for solutions that are not in store, re-visiting the logic of policy action is essential for crafting effective responses.

Entering the Aporia: Research and Policy Priorities

We argue that colonialism-related concerns point at a key contradiction, indeed an aporia of predominant expressions of just transitions (such as in H. Res. 109 and the EGD): they depend upon colonial practices and logics in order to materialize, but at the same time, dependency on colonial practices and logics renders those transitions unjust. Left unchecked, this contradiction can generate GSZs.

Concerns about cost shifts and salvation logics in the GND discourse mark the conditions of aporia of just transition. Similarly to historical colonial projects, a pattern of shifting costs and a rhetoric of salvation currently lend the GND momentum and political power. Shifting the

costs of green transitions permits the sourcing of certain materials (minerals) that are indispensable for those transitions. Assuming a salvation by development discourse permits deploying the powerful ideals of improvement and universality for achieving a GND.

But at the same time, these cost shifts and salvation logics are precisely just transition's conditions of impossibility. They undermine its own universalist ambitions (such as equal inclusion in benefit sharing or equal participation in decision making) and expose links to colonialism, a project replete with exclusions.

Despite their impassability, aporias such as these—difficulty, contradiction, and points of doubt—are fertile grounds because they help raise fundamental questions and drive us to explore and interrogate alternatives. What do we need to know to determine whether and under what conditions a non-colonial GND would be possible? Interdisciplinary environmental research should explore the pathways of cost shifting in just transitions within at least four domains.

First, land-use policy. Spatial-quantitative analysis should seek to establish what land-use policies would be necessary for avoiding or minimizing the generation of cost shifts and GSZs. It is important to visualize asymmetries of sacrifice, establish a base for exploring fairer cost distributions, and help design land-use policies that do not risk reproducing colonial effects and Indigenous land dispossession in the course of just transition.

Second, economics. We must explore what would be economically feasible for a GND-based just transition that avoids generating GSZs and stripping land from Indigenous and marginalized peoples. Sketching the political economy of cost shifting, looking at circulations of capital and added values for diverse stakeholders and localities at each stage of the green economy, and the institutional arrangements that facilitate these are crucial.

Third, politics. What green governance mechanisms are mobilized in the course of just transitions at diverse levels of decision making, ranging from the global to the personal? Who mobilizes these, to what ends, and who are the winners and losers from the mobilization of those

mechanisms? Case analyses of either minerals (e.g., lithium and rare earths) or energy solutions (e.g., wind and solar power) should illustrate how material extraction, transportation, waste treatment, and project implementation mobilize different logics and forms of political power and authority, as well as how those are received (e.g., by social movements and affected communities), in ways that facilitate or block cost shifts.

Fourth, alternatives. Qualitative and ethnographic research should examine climate initiatives led by frontline and vulnerable communities that mobilize logics alternative to salvation and coloniality to establish how they deal with cost shifting, land control and the GSZ effect, and the challenges they face. What role can non-Eurocentric knowledge and leadership¹⁸ in climate action play in just transitions? This research should beware to neither romanticize nor essentialize non-Eurocentric knowledges by brushing away their diversity, complexities, and dialogues (not only conflicts) with modernity.

Informed by such research, policy emerging from any GND might yet be built on a solid decolonial foundation rooted in rigorous empirical efforts to address the tendency for development to proliferate sacrifice zones, shift costs, and hide these effects beneath a rhetoric of salvation.

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