DOSSIER

Energy Transitions:

Just and Beyond

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Sabrina Fernandes

To decarbonise is not enough

A TRANSITION TO A WORLD without fossil fuels is necessary to mitigate the worst of climate change. Whereas 'mitigation' and 'adaptation' are two words heavily employed in the climate conversation, it is the concept of *transition* that offers us the opportunity to coordinate and add meaning to each task involved. Rather than breaking down the process into steps, such as emissions reductions on one hand, technological improvement on another, and jobs guarantees along the way, it is key to think of transition as a comprehensive and transversal political project, inclusive of various sectors and courses of action. Because transition is political, it is fundamentally about power. But the debates and policy directions regarding transition are being actively depoliticised, reduced to investment packages and socioeconomic adjustments that try to normalise the absurd and contradictory notion that it is possible to change almost everything to stop global warming while leaving power structures intact, if not stronger than they are today. This is the ideology behind efforts to 'green' our energy system by doing no more than lowering emissions or, worse yet, abating emissions with compensating mechanisms that, in reality, provide permits for continued emission of greenhouse gases (GHGS), instead of radical emissions cuts.

The production and consumption of energy is responsible for 75% of all GHG emissions. This explains why the energy and fossil-fuel components have been so central to transition. However, their centrality has often eclipsed all other sources of emissions and, even more to the point, the many other problems that make up the ecological crisis. Reducing the crisis of our relationship with nature, first *to climate*, and then *to energy sources* only, serves powerful interests. Most immediately, it helps to deflect attention from other heavy emitters such as large-scale industrial agriculture and animal exploitation, or the concrete industry, which produces 8% of global emissions, more than three times the amount from aviation.[1]

This carbon tunnel vision also hinders decarbonisation itself. What we find is a mix of partial and false solutions that, bundled together, create profit opportunities and provide incentives for business-as-usual – only this time, painted green. This is exemplified by the fact that, although expansion of renewable energy is now a reality, with a 50% growth in capacity in 2023 according to the International Energy Agency (IEA), so is the enduring power of fossil fuels and our inability to actually coordinate a fair global phase-out of oil, gas and coal. In reality, fossil-fuel operations are perpetuated by the industry's promises of achieving lower emissions through new technologies whose capacities are largely overstated.

By focusing solely on carbon, energy transition plans can be deemed successful even if they hurt energy democracy and energy sovereignty around the world. They can be promoted as real progress even if, in practice, no transition has taken place, due to the happy co-existence of renewables and fossil fuels. One example is the case of green hydrogen investments. The original rationale was that green hydrogen would help to store energy from wind and solar, as well as serving as a strategic fuel in sectors harder to electrify, such as heavy freight, but the reality is quite different. Green hydrogen is welcomed by governments, markets and industries, firstly as a means to make oil 'greener' by substituting the fossil-based hydrogen used in refineries, and secondly as an opportunity to integrate renewables in the energy commodity trade.[2]

1 IEA, Aviation, IEA, https://www.iea.org/energy-system/transport/aviation (accessed on October 15, 2024)
2 IEA (2024), Global Hydrogen Review 2024, IEA, Paris https://www.iea.org/reports/global-hydrogen-review-2024, Page 274.

This offers countries in the Global North a chance to import renewables in the form of green hydrogen (or even green ammonia) from Latin America and Africa, in order to meet targets for decarbonised energy consumption, with no regard for the discrepancy in energy use between richer and poorer nations. Production becomes commodity-based, as is standard in centre-periphery economic relations, while local communities and ecosystems are left with the negative impacts of these mega-projects, often powered by private capital alliances with the state, and turned into green sacrifice zones. This horizon is so desirable for countries in Europe, for example, that delays from technological deficits in green-hydrogen transportation are tolerated, in the hope that the technical issues will sort themselves out in the future, while the oil and chemical industries benefit from green hydrogen decarbonisation today. Similar situations, where the logic of energy commodities is combined with a hint of faith in illusory techno-fixes, leading to the creation of sacrifice zones, are discussed in this dossier and exposed as false solutions.

These false solutions are not errors, but pillars of the current paradigm of decarbonisation. From them we can see the unsoundness of the whole structure. While we should strive toward lower and zero carbon emissions in many sectors, we also need to consider other greenhouse gases and the industries that perpetuate them, such as agribusiness and industrial animal exploitation. This effort requires properly placing the energy transition alongside other sectoral transitions that are essential to the mitigation of climate change. This means a transition in agrarian food systems to favour a food sovereignty approach, integrated with climate priorities and the availability of healthy crops produced in economically just structures. It also means tackling the transportation problem seriously, by moving cities and entire regions into a model of sustainable mobility based on public systems of transportation and walkable environments, without falling into the trap of individual electric vehicles, which lower emissions but keep automobile corporations in control of how we move and the strategic minerals we extract. This, of course, requires moving away from the current paradigm of extractivism, where landscapes and ecosystems are altered to serve predatory supply chains, full of waste and labour exploitation, towards methods of territorial sovereignty that consider what kind of extraction is necessary, for what purpose, and the just socio-environmental conditions for those operations.

We must understand the material challenges and contradictions that arise when trying to fix problems whose root causes are traced to the deepest foundations of capitalism, colonialism, imperialism, and the various systems of oppression that threaten our livelihoods and lives.

For the energy transition to be just, and to go beyond diversification and false solutions, our approach to energy has to be transversal. Nature's metabolism is not sectoral and cannot be isolated and fragmented according to investment projects and commodity specifications. The ecological crisis affecting us today is due to worsen if we continue to reduce our tasks to carbon units so easily appropriated, distorted and traded in the markets. Already, this level of tunnel vision has been prejudicial to the point of allowing governments and corporations to normalise war and its effects of human and ecosystemic death, including by omitting military greenhouse gas emissions from annual totals, while promising to 'build back better' with renewables and green infrastructure. It is a perverse logic that sells green solutions to the catastrophes on which capitalism builds its foundations.

The task at hand requires rejecting the tunnel vision imposed on us and opening ourselves up to complexity as we build towards the conditions for multiple transitions. We must understand the material challenges and contradictions that arise when trying to fix problems whose root causes are traced to the deepest foundations of capitalism, colonialism, imperialism and the various systems of oppression that threaten our livelihoods and lives.

Among the contradictions facing us is the interaction between time and the fact that the conditions for transition are historical and contingent on current power dynamics. In one sense, we are racing against time to phase out fossil fuels, build renewable energy infrastructure, and adapt cities, coastal areas and entire countries before we reach (and then surpass) 1.5°C in global warming. At the same time, this cannot be achieved through practices that perpetuate the same inequalities that have accompanied us until now. Principles of global energy democracy are an essential defence against new waves of colonial approaches, understood as green colonialism, that threaten the just transition. The just transition must entail a political project capable of dealing with the power discrepancies and antagonisms, otherwise the element of justice will be lost, and the few places able to boast of their low-carbon status will have built it on deepened extractivism, overexploitation of labour and unequal supply chains, indebtedness, and perpetuated patterns of loss and damage in the Global South.

Considering that a one-size-fits-all transition impedes justice considerations, and that transition cannot be reduced only to energy, nor even to climate, but must weave the various strategic ecosocial horizons together to avoid catastrophic outcomes, this dossier builds on the debate of the energy transition to cover *multiple just transitions*.

The discussions covered by our authors tackle the geopolitics of transition, the politics of reparation from the Global North to the Global South, the differences in speed, the need to build immediate capacity everywhere, and the challenges of building powerful organisations and campaigns to advance transition projects. Regarding global divides, this dossier warns of the danger of letting the demand for rich countries to phase out fossil fuels faster outweigh the imperative for underdeveloped and poorer countries to catch up through transition. As Alameda's research programme has developed a strong focus on sovereignty, previous dossiers have made the case that the climate issue is completely connected to sovereign interests. Nations and territories in the Global South must acknowledge that letting Global North countries take the lead on transition, especially the energy transition, just on the basis of their historical liability for emissions, is a trap in itself. After all, the faster a country transitions, the more prepared it will be for the economic and environmental challenges brought forth by climate change in the next decades. To believe that a fast Global North transition allows the Global South more time to do so in the future, after having its own turn with conventional fossil-fuel pathways of development, is to promote development and sovereignty with an expiry date.

By then, the climate will have worsened for all, but the conditions for mitigation and adaptation in the Global South will be even more adverse, with the Global North having benefited from cheap extraction and technology without any reduction in its energy footprint or adjustment for energy sufficiency.

Thus, our dossier begins with discussions by Rodrigo Nunes and Breno Bringel on the nature of organising transitions within a just and internationalist paradigm, highlighting questions of power and capitalist capture of the transition, which is intended to perpetuate fossil fuels alongside profitable investments in renewables. Together, these articles help to frame the political project of multiple just transitions as both a tool and a horizon; that is, *transition* as both the means and the inspiration towards another possible world. Then we turn to the contributions of Katrin Geyer, Amir Lebdioui and Lala Penãranda who, from different standpoints and areas of focus, argue for immediate courses of action that could help to build conditions for bigger breakthroughs in the future, even as we acknowledge the challenges of creating policies, treaties and deals based on justice and real solutions, and even as green capitalism continues to thrive in the meantime. While Geyer and Lebdioui offer analyses of current disparities in how we measure climate contributions, from overlooking military emissions to the deeply unequal infrastructure of climate financing, Penãranda speaks of the alliances behind Trade Unions for Energy Democracy, and how workers can organise internationally to fight for their own needs and the planet's in unison.

In the second half of the dossier, we have case studies by Olena Lyubchenko, Bruce Baigrie and Julio Holanda, on Ukraine, South Africa and Brazil, respectively. These three countries offer windows into the dangers of neoliberal energy politics, which help us look for alternatives based on strong public institutions, community participation, and regard for fair systems of energy distribution. Finally, we end our journey with two important exercises in political imagination. Paris Marx offers a critique of the eco-dystopian thinking that blends green colonialism with mega-infrastructure ventures, while Erahsto Felício and Neto Onirê Sankara argue for territorial utopias fostered by a people's radical environmentalism.

Together, these articles navigate the differences of time and place that determine the conditions for *multiple* just transitions, ranging from policy adjustments to questions of power and revolution. They tackle the energy sector of the transition by applying a transversal and holistic vision, where energy is not separate from other emissions-heavy sectors, and climate change is understood as part of a larger ecological crisis that must be considered in every proposed measure, to avoid positing solutions that simply shift problems elsewhere or into the future. The energy transition is urgent, but it will ultimately fail if executed unevenly and by separating the problem of emissions from those of biodiversity, pollution, soil degradation, ocean acidification, and all other symptoms of the sickened metabolism of nature. No big solar park or wind turbine infrastructure can withstand the growing unpredictability of climate events and their destructive power, just as it is unreasonable to imagine a full transition in only one country, as though the climate might obey international borders. By weaving the matter of the energy transition into the great complexity of problems we face, we hope also to raise the tides of opportunity and contribute to the alternatives brought forth by those striving for multiple just transitions and building power around them.

OIL BUNKERING #4, NIGER DELTA, NIGERIA, 2016

COAL MINE #1, NORTH RHINE, WESTPHALIA, GERMANY, 2015

CHUQUICAMATA COPPER MINE, OVERBURDEN #2, CALAMA, CHILE, 2017

EDWARD BURTYNSKY is a renowned contemporary photographer whose work explores the impact of human industry on the planet. For over 40 years, his large-scale images have captured global industrial landscapes, highlighting environmental transformations. His photographs are held in major institutions worldwide, including MoMA, the Guggenheim, Tate Modern, and the National Gallery of Canada. His exhibitions, such as Anthropocene, Water, and Oil, have toured internationally. Burtynsky has received numerous accolades, including the Governor General's Award in Visual and Media Arts and the Officer of the Order of Canada.

SEE MORE OF HIS WORK AT WWW.EDWARDBURTYNSKY.COM

THE IMAGES ARE PART of the Anthropocene project, a multidisciplinary collaboration with filmmakers Jennifer Baichwal and Nick de Pencier, encompassing a major traveling exhibition, documentary film, and interactive website. Grounded in the premise that human activity has irreversibly reshaped the planet, these images capture the stark reality of environmental transformation on a geological scale. Edward Burtynsky's visual language contrasts beauty with destruction, revealing landscapes scarred by extractivism, industrial expansion, and ecological collapse. From vast mining sites set against the backdrop of distant wind turbines to industrial agriculture and soil degradation, they offer a haunting testament to the Anthropocene era. In photos as striking as they are unsettling, these images underscore the urgency of moving beyond a system built on resource depletion and inequality.

RODRIGO NUNES is a Senior Lecturer in Political Theory and Organisation at the University of Essex. He is the author of *Organisation of the Organisationless: Collective Action After Networks* (Mute, 2014), *Neither Vertical Nor Horizontal: A Theory of Political Organisation* (Verso, 2021) and *Do Transe à Vertigem: Ensaios sobre Bolsonarismo e um Mundo em Transição* (Ubu, 2022), as well as several articles in academic journals and media outlets around the world. As an organiser and popular educator, he has been involved in several initiatives and campaigns over the years, including the first editions of the World Social Forum. Rodrigo is a research associate at the Alameda Institute.

Rodrigo Nunes

Organising transitions in the climate emergency

WHY TALK ABOUT transition today? The answer hardly needs explaining. Five years ago, a report by the Intergovernmental Panel on Climate Change stated that humankind had essentially one decade left to cut CO_2 emissions by 45% relative to 2010 levels if it did not wish to see the rise in global temperature exceed the already potentially catastrophic 1.5° C mark.[1] The decade in question was, of course, the one that we are already almost halfway through; since then, a new report has indicated that the planet is already certain to hit a 1.5° C rise by 2030, there being only one scenario, that of global net-zero emissions by 2050, which would bring us back to 1.4° C by the end of the century.[2]

1 Intergovernmental Panel on Climate Change, 'Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C', 8 October 2018, ipcc.ch.

2 A recent survey among IPCC participants shows that, all things remaining equal, 80% predicted global temperatures to rise as high as 2.5° C, with almost half foreseeing at least 3° C; only 6% believe the 1.5° C limit could still be met. See Damian Carrington, 'World's Top Climate Scientists Expect Global Heating to Blast Past 1.5C Target', *The Guardian*, May 8 2024, https://www.theguardian.com.

It is in this context that we have heard a growing buzz in recent years around notions such as energy transition (narrowly understood as decarbonisation, i.e., the replacement of a fossil fuel-based energy regime with one reliant on renewable sources); just transition (the effort to ensure "no people, workers, places, sectors, countries or regions are left behind in the transition from a high-carbon to a low carbon economy"[3], as per the IPCC; trade-union movement institutions like Brazil's CUT tend to adopt a more ambitious approach[4]); ecological transition (broadly construed as a more far-reaching transformation of our relationship with the environment, encompassing energy, industrial and agricultural transitions, as well as what the original *Limits to Growth* report from 1972 dubbed "the transition from growth to global equilibrium"[5]); and ecosocial or socioecological transition (as advocated for instance in the 'Manifesto for an Ecosocial Energy Transition from the Peoples of the South'[6]).

As this short sample suggests, transitions may come in very different shapes and forms, primarily determined in each case by exactly what one is understood to be transitioning from and to. Is it just from one energetic regime to another, but broadly within the same social relations? Or are we referring to full-scale systemic change, with the substitution over time of one set of social, economic and political relations with another?

For those of us who believe that the ecological crisis is irresolvable within the coordinates of a global system that is premised on constant, infinite growth, it is obvious that the challenge today is to make sure that the first kind of transition – the replacement of fossil fuels by other energy sources – will not be severed from the more substantial transformation that is needed; or rather, that the urgent need for it can serve as leverage for the latter. And yet, it is reflection on this latter kind of transition that has, until recently, figured fairly low on the agenda.

3 Hans-Otto Pörtner and Daniel Belling (ed.) *Climate Change 2022. Impacts, Adaptation and Vulnerability: Working Group II Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2022), 2925.

4 See Central Única dos Trabalhadores, *Just Transition: a Trade Union Proposal to Address the Climate and Social Crisis*. São Paulo: Central Única dos Trabalhadores, 2021, https://www.ituc-csi.org/IMG/pdf/220411-_web-booklet-just-transition-cut-eng.pdf.

5 Donella H. Meadows, Dennis L. Meadows, Jürgen Randers and William W. Behrens III, *Limits to Growth* (Potomac Associates: 1972), 24.

6 Peoples of the Global South, 'Manifesto for an Ecosocial Energy Transition from the Peoples of the South', Foreign Policy in Focus, February 9 2023, https://fpif.org/manifesto-for-an-ecosocial-energy-transition-from-the-peoples-of-the-south/.

Whither transition?

When the Hungarian Marxist philosopher István Mészáros published his hefty doorstopper *Beyond Capital: Toward a Theory of Transition* in 1995, the book cut a lonely figure in the dominant intellectual climate of the time. At least since the Brezhnev era, it had become evident that the Soviet bloc was not in fact transitioning towards anything other than what it was, whereas the reforms adopted by China in the 1980s appeared in many ways to point in a direction that was contrary to the one adopted in the revolution's early years. The decline of social democracy from the mid-1970s onwards, the fall of the Berlin wall in 1989 and the sudden collapse of the majority of socialist regimes around the world meant that, in the 1990s, the word "transition" indicated, more often than not, something like the opposite of what Mészáros had in mind. That is, not a movement away from capitalism and towards a post-capitalist system but, rather, from so-called 'actually existing socialism' back to the supposed 'normalcy' of a free economy and a liberal political system into which one assumed – falsely, as would soon become clear – those countries would easily and naturally slip into.[7]

It is true that the word never went away entirely, and remained a touchstone, for instance, in ecosocialist debates. Yet the fact that the conditions on which systemic transition had for a long time been premised seemed no longer available – there were no longer any heroic 'workers' states' attempting that risky leap into the future, the left was in retreat and disarray in most of the world, and even national sovereignty appeared to be on its way out – unmoored those debates from any immediate applicability, making them tentative and abstract. As late as 2009, Michael Hardt and Antonio Negri sounded almost apologetic when they closed their book *Commonwealth* with an extended reflection on a form of 'democratic transition' that moved beyond the impasses that actually existing socialism had run up against to consolidate an 'insurrectional event … in an institutional process of transformation that develops the multitude's capacities for democratic decision making.'[8]

It is no doubt the pressure created by looming ecological collapse, rather than any major shift in the conditions noted here, that has been progressively pushing the problem of systemic transition back on the agenda.

7 Elsewhere, the word was used to describe the shift from apartheid to majority rule in South Africa and, in Latin America, the re-democratisation periods that followed the end of military dictatorships.

8 Michael Hardt and Antonio Negri, *Commonwealth* (Cambridge, MA: The Bellknap Press, 2009), 363.

For instance, Andreas Malm's recent analogy between 'ecological Leninism' and war communism, which on the face of it could be interpreted as a rejection of the problematic of transition, is in fact conceived as a way of speeding the latter up using every resource (not least the actually existing capitalist state) that social movements can lay their hands on.[9] Ironically, however, one of the most sustained theoretical engagements with the question of systemic transition in the last decade has taken the form of its ostensive negation in the current of thought that has become known as communisation theory. Since, for the latter, the communist content of a process of transformation is decided by the immediate 'application of communist measures within the revolution – as the condition of its survival and its principle [*sic*] weapon against capital',

> [a]ny 'period of transition'" [must be] seen as inherently counter-revolutionary, not just in so far as it [entails] an alternative power structure which would resist 'withering away' [..], nor simply because it always [seem] to leave unchallenged fundamental aspects of the relations of production, but because the very basis of workers' power on which such a transition was to be erected [is] now seen to be fundamentally alien to the struggles themselves.[10]

Such outright rejection is not without sense in the face of the 20th century's extensive record of failed emancipatory projects, which is what makes a somewhat niche intellectual concern like communisation representative of broader trends. For a long time, 'transition' became identified with the theoretically finite but in practice seemingly endless historical span in which the great disillusionment of actually existing socialism played itself out. No surprise, then, that ever since it started being clear that socialist countries were not in fact transitioning towards anything else, the notion should come to be seen with suspicion.

9 See Andreas Malm, *Corona, Climate, Chronic Emergency: War Communism in the Twenty-First Century* (London/New York: Verso, 2020). For a response that explicitly picks on this thread (and names transition 'the problem of our times'), see Kai Heron and Jodi Dean, 'Climate Leninism and Revolutionary Transition', *Spectre*, June 26 (2022), https://spectrejournal.com/climate-leninism-and-revolutionary-transition/. Another overt foray into the problem of systemic transition can be found In: Alberto Toscano, *Terms of Disorder: Keywords for an Interregnum* (Calcutta: Seagull Books, 2023).

10 Endnotes, 'Bring Out Your Dead', *Endnotes 1* (2008), 14.

This then leads, by the sheer weight of logical necessity, to the somewhat desperate conclusion that revolution will either be immediate or it will not be – and anything else in between will either be working towards revolution or will be counter-revolutionary. This is the case even if communisation theorists, such as Gilles Dauvé, state that the problem lies not in the 'obvious' fact that 'communism will not be achieved in a flash', but in that, in its history as a concept, 'transition' has come to imply not just a mere 'transitory *moment*' but 'a full-fledged transitory *society*'.[11]

Given this, it is maybe worth returning to the question with which we started: seriously, why talk of transition? This time, however, the query does not concern the topicality of the issue but rather the seemingly banal, yet perhaps not entirely trivial issue of where the problematic of transition – as a practical rather than exclusively theoretical challenge – arises from.

Why transition?

We can more readily grasp the meaning of this problematic if we conceive of social transformation as a problem of relative speed akin to what is known in celestial mechanics as escape velocity. Just as a body must be travelling faster than it can be pulled back by the gravitational force exercised by a planet if it is to escape the latter's orbit, social relations need to change faster than the existing order is able to absorb, co-opt or repress those transformations. If that is so, the solution seems perfectly obvious: to change as quickly as possible, to change everything at once. Hence the insurrectionist wager, but equally the faith in a revolution that takes over and wields the state apparatus as a lever from which the modification in social relations can be accelerated: since differences in speed amount to differences in gradient, the distinction between insurrection and the Leninist model appears from this perspective not as a difference in kind but merely as one in degree.

11 Gilles Dauvé, *From Crisis to Communisation* (Oakland, CA: AK Press, 2018), 29. Italics in the original.

Obviously, however, the problem is that such rapid change requires conditions that are almost impossible to obtain: enormous accumulated social energy, a social order no longer capable of reproducing itself, a high degree of clarity about the direction of travel, sufficient homogeneity across all the regions through which the modification must spread. The case could be made that, properly speaking, such conditions have actually *never* been given to the necessary extent; and that this, rather than subjective unwillingness on the part of revolutionaries, is the reason why a total historical makeover has never been seen. What we are left with, then, is a process of social transformation that does not happen all at once – and is forced, therefore, to strike a balance, however dynamic, between rupture and continuity, movement and stasis, conquest and caution, the new and the old; or, in other words, to pose itself the question of how to *transition* from one state to the next.

To underscore this somewhat obvious point – one transitions not because one does not really want to change things but because one cannot change them *all at once* – is to emphasise that we are dealing with something that cannot be confused with the reform versus revolution opposition. Whether its agents define themselves as revolutionaries or reformists, whether it is more or less radical, *whether it moves faster or slower*, a process of social transformation, in practice, will always involve the problem of transition. As a consequence, it will necessarily be open to the risk of 'internal decay or destruction from outside'[12] and, therefore, to something much thornier than subjective betrayal: the *objective* betrayal that consists in realising after the fact that the speed at which one thought it was necessary to move was too slow to escape the gravitational pull of the previously existing order or of a different, undesired new attractor. In this light, the wish to simply do away with the problem of transition – that is, to treat its objective necessity as a matter of subjective choice – can appear as an understandable attempt to pre-emptively immunise one's own action against the risk that it could fall short or turn against itself. That move, however, is ultimately vain, as the risk is the inevitable consequence of an inevitable temporal lag; in a certain sense, we are all reformists, or at least run the same risks as self-avowed reformists do.[13]

12 Ibid., 11.

13 As Rosa Luxemburg once put it, a revolution is like a locomotive traveling uphill: either it 'drives forward full steam ahead to the most extreme point of the historical ascent, or it rolls back of its own weight again to the starting point at the bottom'. Rosa Luxemburg, 'The Russian Revolution', *The Rosa Luxemburg Reader*, ed. Peter Hudis and Kevin B. Anderson (New York: Monthly Review Press, 2004), 298.

To underscore this somewhat obvious point – one transitions not because one does not really want to change things but because one cannot change them all at once – is to emphasise that we are dealing with something that cannot be confused with the reform versus revolution opposition.

Transition and the state

For as long as transition was understood as referring to the period of transformation that opened up after a revolutionary takeover of the state apparatus, *world* revolution could be broken down, for the sake of strategic expediency, into a sequence of revolutions *within nation-states*. When the Bolsheviks took power in Russia, they expected the German working class to soon come to their rescue, and then the French and other developed capitalist nations, until eventually the whole world had broken with capitalism. Much of the late 1910s and the 1920s was spent in anticipation of this succession of events, and it was the dawning realisation that it would not come to pass that led to the Stalinist fiction of 'socialism in one country'. Early 20th-Century revolutionaries understood that, from the inception of a world market, capitalism was a global system, and it was on that scale that it would ultimately be dismantled; still, even as late as the 1960s, it was still possible to imagine that such dismantling could take place piece by piece, as country after country delinked from that system and constituted an alternative bloc.

Our present predicament rather complicates this imaginary. To begin with, decades of neoliberal restructuring have severely curtailed the scope of action available to nation-states, not only by substantially reducing their capacity for intervention at the domestic level, but also by subjecting them to the yokes of transnational finance, trade and infrastructure, as well much more concentrated economic and political power at home and abroad, in ways that would make "transition in a single country" much harder to envisage. (The treatment of the Syriza government in Greece at the hands of the country's international creditors in 2015 offers some sense of what could happen to a country that tried it.)

Even more importantly, once we connect the question of transitioning to a different system back to the urgent question of the ecological emergency, two major differences become evident. Firstly, there is no Archimedean point such as a state apparatus at the global level: no single executive centre, no unitary deliberative and executive structure that could decide on a course of action and implement it. Secondly, the challenge of promoting a just ecological transition on a planetary scale is one that is *immediately* global in both the logical and the chronological senses.

The sort of action that is needed today requires a degree of coordination across borders, territories, communities and populations quite unlike anything we have ever known.

There is no delinking from the global climate, and hence no option of setting up a parallel system of allied nations to compete with the hegemonic one; not only is there no time for that kind of waiting game, there is no way to fully shield any part of the world from the direct, indirect and cumulative effects of what is done in any other part, nor any way in which different parts could entirely sever the ties that make them dependent on others from the point of view of resources, production, consumption, distribution and infrastructure. This means that the sort of action that is needed today requires a degree of coordination across borders, territories, communities and populations quite unlike anything we have ever known.

Following Erik Olin Wright's tripartite distinction between ruptural, symbiotic and interstitial logics of transformation – in short: smashing the state, working within and against it, building alternatives outside of it – it would be easy to see a favouring of transition over revolution as a choice for the latter two over the first approach. Yet, as we have seen, not only is it wrong to confuse transition with the 'reform' end of the reform versus revolution dyad, but it is also that very opposition that comes undone once we move from the national to the global scale, given that the crucial reference to the state apparatus is lost.

As a matter of fact, the situation with which we are faced today combines elements from three different contexts in which the problematic of transition has been at play: the practical and theoretical debates surrounding the transition from capitalism to communism that took place from the time of the Russian Revolution to the mid- to late-20th Century; the historiographical and conceptual arguments concerning the transition from feudalism to capitalism that roiled from the 1950s to the 1970s; and the efforts of cyberneticians and systems thinkers like Donella Meadows, in the context of an emerging awareness of to conceive of a path towards systemic change alternative to that advanced by the Marxist tradition.

On the one hand, the transition that we require must happen at a pace that is usually associated with revolutionary ruptures, and could hardly take place without a degree of coordination and planning similar to or even greater than the one once expected from a socialist economy. On the other hand, revolution does not seem to be on the cards, not only because the agency that could promote it appears to be missing, but also because, on the global scale at which the problem is posed, there is no apparatus of government to be appropriated for different ends (or even smashed).

The task therefore seems to be more akin to thinking how conflict, alternative-building and state intervention could combine to induce a 'spontaneous' process like the one that led from feudalism to capitalism through the identification of systemic leverage points (to borrow Meadows' expression[14]) and the promotion of negative and positive incentives that are adequate to modifying structural conditions as well as the choices of individual and collective agents.

Hollowed out and unfit for a challenge pitched at the global scale as it may be, the nation-state no doubt has a role to play in this process; this becomes clear when we contrast it with the market's signal failure to coordinate responses to climate change. What decades of negotiations that entrusted market mechanisms with that responsibility have proven is that there is no way the "spontaneous" interplay of economic interests can produce transformation as huge as we need in as tight a window of opportunity as we have. Without active intervention in order to change the parameters of what is economically viable and what is not – via direct investment in infrastructure, decommodification, de-risking, capacity-building, expanding protections and services, taxation, legislation and oversight – economic actors will just continue to look for gains where they are more easily found, to cut corners and to engage one another in a social and environmental race to the bottom. Even if we find it at a historical low, in other words, the state is still a far more effective instrument for the task at hand than the market could ever be, and it must be wielded as powerfully and consequently as we can muster. Using and expanding that capacity to act, however, will require not only overcoming the existing constraints that are placed on it but also facing the active resistance of sectors that stand to lose from it. And the strength for that fight, in turn, cannot come the state itself; it must come from shifts taking place elsewhere and from below.

Ecology against capital

The imaginary of seizing the state apparatus in order to implement a transitional programme was premised not only on a vision of the state as an immensely powerful lever, but on the idea of a historical subject (the proletariat) that could coalesce into a single collective agent with a unified strategy (the party).

14 Donella Meadows, *Leverage Points: Places to Intervene in a System* (Hartland, VT: Sustainability Institute, 1999).

Yet the material conditions on which this idea was in turn premised have changed substantially, probably forever. The majority of the 20th Century's great trade unions and mass workers' parties have long been in decline, sometimes terminally so; much of what lent the identity of the worker its power of interpellation and strategic clarity – large industry, a certain homogeneisation of living and labour experience, the economic and political circumstances of Fordism –has disappeared or been radically reconfigured in most parts of the world. What is more, it has since become evident that the passage from a socioeconomic position (worker) into a specific political subjectivity (proletarian, communist) was nowhere near as automatic and straightforward as it was once thought.

The resulting scenario is one of fragmentation, both social and political. For a long time, the two most common responses to this shift were to either celebrate the liberatory powers of fragmentation, which ensured that authoritarianism and bureaucratisation could not take hold, or to close one's eyes and pretend that, if only one insisted for long enough, the old certainties could come back –as if the change were only at the level of ideas and not also in material conditions.

More recently, however, some movements have started to pose this problem in a different way. It is clear, on the one hand, that there is only so much that fragmentation can do, especially in the face of a problem of the magnitude and complexity of the ecological crisis, which demands coordination and action at levels way above that of small-scale local interventions. Some unification is necessary, therefore; but this does not mean it need be conceived in the same terms as before.

Taking a lesson from nature itself, this approach considers diversity as not only a given, but potentially also an asset. It is not essential that everything be brought under the roof of a single organisation if a sufficiently vibrant ecology of organisations and initiatives exists that is at once internally differentiated and integrated enough to perform a variety of roles and pursue a range of at least partially convergent strategies. For a long time, the party was imagined as the structure that could concentrate witin itself all major functions that were necessary for a political process: leadership, deliberation, participation, training, cadre-building, strategy and policy formulation, protest, direct action, and so forth. (Reality, of course, was always more complicated than that.)

Those who celebrated fragmentation for its own sake often believed – or tried to convince themselves – that such functions had become redundant, or that a new way of doing politics would emerge that would make them unnecessary. The ecological approach to political organisation does not make the mistake of assuming that these functions could be done away with, but neither does it assume they need to be concentrated; what matters is that they are fulfilled at all times, even if they are dispersed across an ecology.

Whereas the pretension to be 'the true vanguard of the proletariat' leads to behaviour that is competitive and damaging (because it supposes that what is good for the ecology is what is good for one's own organisation), thinking organisation ecologically fosters an attitude of cooperation, in which people are looking for points of convergence and synergy even if they do not agree on everything, and ways of sharing resources instead of trying to be or do all things for all people. What is more, the fact that these functions are fulfilled by different actors, in different ways, with different constituencies, is potentially an advantage in a social world that is complex and fragmented, and when facing a problem like the ecological crisis, which is more complex and involves more moving parts than anything humankind has ever dealt with.[15]

An ecological approach is, in fact, key to any possibility of making something like the energy transition happen — let alone using it as leverage for systemic transition. This is because any such process can only be conceived as a mix of different strategies and tactics. Dismantling the system that produces climate change while simultaneously building another one in its place necessarily calls for the *obstruction* of attempts to expand commodification and extractive infrastructure with partial *disconnection* from the 'long networks' of capitalism and the targeted *destruction* or *refunctioning* of existing infrastructure and institutions. In other words: what directly causes climate change or feeds the imperative of endless growth must be *stopped*, dependency on energy and extraction must be *decreased* (gradually, so as not to endanger social reproduction, but by no means slowly, and in a just and differentiated way given diverse capacities across the globe); and everything else must be either *put to a different use* (if it can be) or *abandoned* (if it cannot). This, in turn, no doubt requires a combination of state intervention, direct action and the construction of autonomous infrastructure.

15 For a more in-depth exploration of what it means to think political organisation ecologically, see Rodrigo Nunes, *Neither Vertical Nor Horizontal: A Theory of Political Organisation* (London: Verso, 2021).

State intervention, as we have seen, can take several forms, but its general direction must always be: (1) to reduce the demand for and profitability of fossil fuels in the short run (through stricter regulation, taxation of profits and subsidies for alternatives, for example); while (2) lessening demand for energy in general, and distributing it more equitably, in the medium (through investment in energy efficiency and public transport, for instance, or measures to relocalise and delink commodity chains); and (3) expanding social control and shrinking the sphere of the profit motive in the long term (by relocalising energy production and universalising basic services, among many other things). All of this would, of course, run in parallel to measures towards mitigation and adaptation in the face of the effects of climate change that are already in place or locked in over the coming decades. The problem is that, while the interests of capital can align with the first goal, they run counter to the other two; and left-leaning administrations, generally seeing themselves as managers of the national economy, will tend to prefer to avoid that confrontation. They must be made to act in such a way that efforts towards the first will also contain an impulse towards the latter, and this is where direct action (stopping pipelines and airport expansion, for instance, or disrupting logistical chains) and the building of autonomous infrastructure (locally managed energy initiatives, environmentally responsible cooperatives, territorial governance structures etc.) come in. This is not just a matter of putting pressure on governments, but of putting it directly on capital, contesting the legitimacy of its interests and attacking its capacity to reproduce itself. In short: 'Green New Deals' are not just investment plans but, as Thea Riofrancos put it, battlegrounds.[16]

One thing that follows from thinking organisation ecologically is the idea that, since strategy is always the emergent outcome of different agents pursuing different courses of action, it is often possible to walk part of the way with people with whom we disagree, seeking to build upon and inflect their strategy rather than simply opposing it or refusing any collaboration. Once again, plurality can be an asset, and we must always calibrate between the correct line we have in mind at any one time and the overall ecology's health and capacity to continue advancing.

16 Thea Riofrancos, 'Plan, Mood, Battlefield: Reflections on the Green New Deal', *Viewpoint*, 16 May 2019, https://viewpointmag.com.

In the case of the kind of process we are discussing here, this is further complicated by the fact that it takes place across multiple locations that are potentially impacted by one another in various ways. The easiest thing to do, when faced with a puzzle of this magnitude, is to centre the interests of one's immediate constituency even if they come at the expense of others; this is how decarbonisation in the Global North can be used to justify green colonialism in the global South, or sustaining the material wellbeing of workers in cities warrant the growth of sacrifice zones in the countryside. Clearly this is not the basis on which the sort of transition we are talking about can be constructed. No doubt what will work or what social forces will be involved in making it work will vary considerably from place to place. But we can begin to establish the limits of our flexibility by setting two essential guiding principles: not only there is no solution to any question that is not also a solution to the climate question, no solution is acceptable if it prevents change or entrenches existing patterns of exploitation and oppression elsewhere.[17]

The struggle to defend the planet's ecology from the depredations capital must itself be understood in ecological terms; only this can give us the tools to envision the kind of transition we need.

17 Or, as Sabrina Fernandes has recently summarised it: 'just' must mean 'just' everywhere. Sabrina Fernandes, '"Just" Means "Just" Everywhere: How Extractivism Stands in the Way of an Internationalist Paradigm for Just Transitions', *International Journal of Politics, Culture, and Society* (2024).

The struggle to defend the planet's ecology from the depredations capital must itself be understood in ecological terms; only this can give us the tools to envision the kind of transition we need – one which, contrary to the connotations that the concept accrued through its connection with the 20th century's actually existing socialism, is non-linear, uneven and conflictual instead of continuous, homogeneous and managed from above. This is not a 'transitory society', if by that we understand a social formation instituted in the aftermath of a major societal break in order to mediate between the social formation to be destroyed and the one to be created by combining characteristics of both. Rather, it is a process involving a plurality of timelines and rhythms of change running at variable speeds, an irregular patchwork of continuities and discontinuities that do not miraculously combine to produce structural transformation but are the object of a *constant*, *deliberate effort* to play them both *in support of* (to reinforce) *and against* (to correct the course of) *one another*.[18] If, as suggested above, the challenge of transition is fundamentally that of managing the speed of transformation – not so slow that one cannot escape the reproduction of existing social forms, not so fast that social reproduction completely breaks down – the problem here becomes one of coordinating multiple temporalities. This means that the question of how to get to where we want to be from where we are is posed not once, about a single general mediation between two historical stages, but multiple times, and differently, by multiple agents. It is, so to speak, fractally distributed across strategies and scales, and is equally asked of the relations *between* strategies and scales so as to test their compatibility.

While evidently not all alternatives are compossible or even desirable, it is hard to imagine from where we stand today that any one tactic or strategy could single-handedly avert catastrophic climate change and create an egalitarian global system in the process. Rather than looking for one basket in which to put all our eggs or endlessly fragmenting action in innumerable individualised decisions and hyperlocal initiatives, our most reasonable bet appears to be maximising the structural impact that our limited capacities to act can have by combining them at different levels.

18 For a few recent debates on multiple temporalities in relation to the transition problem, see: Jodi Dean and Kai Heron, 'Climate Leninism and Revolutionary Transition: Organization and Anti-Imperialism in Catastrophic Times', *Spectre*, June 26 (2022), https://spectrejournal.com; Jason Hickel, 'The Double Objective of Ecosocialism', *Monthly Review*, September 1 (2023), https://monthlyreview.org.

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Breno Bringel

Energy and ecosocial democracy against fossil *gattopardismo*

FROM AZERBAIJAN TO GUANAJUATO, energy is at the centre of geopolitical agendas and conflicts. Global militarisation and inter-imperial competition are largely associated with disputes over critical minerals related to the energy security of the major powers. In addition, non-state actors – from organised crime, to corporations, to militia groups – drive other types of conflicts over energy. Meanwhile, the global rise of authoritarianism and the far-right has strengthened structures of capitalism, inequality, racism, and patriarchy, which have taken on the new forms of green extractivism and energy colonialism.

As I argued with Miriam Lang and Mary Ann Manahan in our recent book, *The Geopolitics of Green Colonialism*, green colonialism presents the global South as a subaltern space that can be exploited, destroyed, and reconfigured according to the needs of dominant regimes of accumulation. It implies today a new dynamic of extraction and appropriation of raw materials, natural goods, and labour, on behalf of what is portrayed as the 'green' energy transition.

Only a few decades ago, in the 1990s and early 2000s, the fossil fuel industry promoted climate-change denialism while promising jobs and prosperity. Later, it turned to extreme energies, while actively obstructing energy democratisation initiatives, trying to delay the energy transition as long as possible. Today, the industry seeks to become a major player in renewables by diversifying its business around solar, wind, and low-carbon energy bets, while effectively undermining the actual transition debates and opportunities. Dominant and emerging powers such as the European Union, United States, and China, together with large corporations and portions of the global capitalist elite, have linked themselves to the energy transition agenda by the construction of a new capitalist consensus, which Maristella Svampa and I term the 'Decarbonisation Consensus'.

Fossil gattopardismo

In the Italian writer Giuseppe di Lampedusa's classic novel, *Il Gattopardo* (The Leopard), *gattopardismo* refers to the practice of changing everything so as to ensure that nothing really changes. In the energy transition context, saving the climate and decarbonising the economy have now become mantras in the public debate.

The gravity of the climate emergency is recognised, and the traditional denialism of the industry is no longer dominant, even if it still has considerable weight. Increased investment in renewable energy is now posited as an answer to climate change. However, because that investment requires continued economic growth, the expansion of energy demand with an increase in the extraction of hydrocarbons is made to seem like a necessary part of the approach to energy transition, under the illusory umbrella of 'net zero' policies. In essence, fossil *gattopardismo* maintains the ideology of indefinite economic growth. Meanwhile, the policies and horizons that are accordingly constructed are insufficient to keep us under the 1.5°C threshold of warming. And severe socio-environmental impacts, especially through the exploitation of natural resources, are intensified. Fossil capitalism and decarbonised capitalism are not two different paths, much less two opposing projects, but rather two sides of the same coin.

The public-relations success of fossil *gattopardismo* has major implications.

Most importantly, the dominant approach to decarbonisation is not guided, as it should be, by de-concentration and de-commodification of the energy system, care for nature, and global climate justice. Instead, other motivations win out, such as attracting new financial incentives; securing – at any cost – the energy independence of some countries; or improving the image of polluting corporations. The effect is to intensify commodification and various forms of speculative investment.

Challenges to the construction of energy democracy

Faced with this scenario, in which the agents of the climate crisis come dressed in green camouflage, democracy, even in its liberal version, is under threat, while energy is increasingly concentrated and commodified. How, then, to build true energy democracy?

A true energy democracy consists of energy justice, sovereignty and a just ecosocial transition. To move in this direction, we must confront a double impasse: the restriction of democracy to the mere framework of political liberalism, and the limiting of discussions of sovereignty to the realm of state affairs.

Regarding the former, we must rethink our political communities and democracy as an instituting practice. Authoritarianism is gaining ground worldwide amid an intense democratic setback (including de-institutionalisation, loss of rights, threats to activists, normalisation of authoritarian value, etc.) and a closing down of political systems, which are increasingly oligarchised. In the face of a highly accelerated political life, in which genuine public debates are rare and where only a few actors make decisions that shape the lives of many, the demand to reclaim democracy implies a need to slow down the pace of politics and open new participatory spaces beyond the officially demarcated institutions, to channel the profound disaffection of citizens towards politics and politicians into revitalising democratic life rather than anti-politics. To this end, it is urgent to break out of the liberal trap that has caused in the contemporary world a cleavage of democratic institutionality *versus* authoritarian drift, with the radical right confronting the systemic pillars and the progressive forces defending the status quo and operating as a containing force, but never as a transformative one.

Regarding the second part of the impasse, we must continue working on redefining the meaning of sovereignty. The corporate capture of the state, and a lack of guarantees and rights, not only block a just transition but also urge us to think of sovereignty in a new, more decentralised, communal, and territorial sense. In the 1990s, rural movements worldwide forged the concept of 'food sovereignty', to show the limits of the hegemonic notion of 'food security' focused only on access to food.[1] Today, we need to strengthen a global movement for energy sovereignty, which lays bare the corporate logic on energy. To this end, we should bet on local politics as the most promising arena in which to advance the tenets of an ecosocial state, emphasising universal protection mechanisms and prevention instead of compensation. Ideally, this would form a transitory political organisation, which could be dissolved in the medium and long term into political communities of another type – hopefully, more biocentric ones.

In order to achieve this, we must influence the short-term concrete transition policies related to energy with a post-extractivist perspective, by strengthening local autonomy and more decentralised energy systems.

At the same time, as Sabrina Fernandes has argued in a previous Alameda dossier, we also need an internationalist conception of sovereignty to promote and sustain the relations of solidarity that can attend to the structural causes of polycrisis, rather than simply its localised effects.

The challenge lies in combining immediate policies of democratisation of the energy system, focusing on participation and governance, while maintaining the horizon of radical systemic change in relation to ownership, production, and distribution of energy resources. I propose thinking in terms of ecosocial transitions that work in parallel with complementary dimensions of energy democracy in its more radical sense:

- **As a mechanism** that can make possible, in the short term, the institutionalisation of practices of popular participation in decision-making on the energy sector and universal transition policies related to the provision of energy, the fight against energy poverty, environmental racism, and the increase in the cost of living. Binding popular consultations and other measures to ensure fossil fuels remain in the ground, such as the movement leading to the referendum in Ecuador, in August 2023, against oil exploitation in Yasuní, should be replicated worldwide.

1 Alameda Institute. "Seeds of Soverengty: Contesting the Politics of Food". *Dossier III*, 2024. <http://alameda.institute/publishing/dossier-food-sovereignty/>

- **As a process** that, in the medium term, can achieve the steady democratisation of energy. It is necessary to consider advances and setbacks, and the correlation of forces and mapping of alliances and opponents at different levels. This requires fighting against trends in the privatisation of public services, and strategic planning in a multi-scale, and multi-temporal process of opposition, to dismantle power relations while redefining social relations around energy.

- **As a horizon,** to move towards as we advocate systemic change in the long term, which can serve as an (eco) utopian guide for transforming the energy system as a whole. One set of 'horizon demands' has been articulated by Tatiana Roa and Pablo Bertinat: the decommodification of the energy system, which breaks with neoliberalism and the logic of privatisation, allowing the recovery of crucial energy sectors; participatory democracy, which includes popular and workers' participation in decision-making and more democratic control of the energy sector; energy de-concentration (currently in the hands of large corporations), in tandem with political decentralisation and distributed generation that strengthens local control, albeit in interconnected national and regional grids, prioritising the commons and the public as a way out of the public-private dichotomy.

The core principles of energy democracy in an ecosocial transition

In contrast to the Decarbonisation Consensus, energy should be conceived of as a right, and energy democracy should act as a mechanism, a process, and a horizon for sustaining life on our planet. Under the umbrella of the ecosocial transition, energy democracy requires a combination of socio-political arrangements and the protection of ecosystems, peoples, and nature.

Some overlapping principles are central to this process. We could divide them into three types:

Principles of political empowerment: self-government, self-management, autonomy, interculturality, reciprocity, and solidarity.

Principles of energy justice: the recognition and cancellation of ecological debt, redistribution, reparations, energy sovereignty, territorial and human rights and the rights of nature, the centrality of energy justice (in the intersection of racial, ethnic, gender, and socio-environmental justice).

Principles of sustainability of life: interdependence, eco-dependence, multi-species ethics, care, communalisation.

These principles are essential to expanding both sovereignty and democracy. They can also foster changes in culture and generate new political imaginaries. At the same time, these principles cannot be understood simply as a normative orientation and a horizon of desire. They are only nourished by concrete and pluriversal practices and transformative initiatives, which are in fact already present in diverse ecosocial alternatives in both the Global North and the Global South.

Examples of some of the thousands of local initiatives and experiences of energy communities worldwide include: community wind cooperatives run by neighbours, such as in Ulverston, England; public initiatives that offer alternative energy at no cost to low-income families, like the Solar For All programme in the United States; renewable-energy projects overseen by specific organisations, such as the one coordinated by women's organisations in Sirakorola in Mali, which has enabled thousands of rural villagers to gain access to energy through solar panels; or the communities in various parts of Colombia that build alternative energies using existing local knowledge (involving biodigesters, efficient wood cookers or solar dehydrators, among other technologies).

We cannot isolate energy alternatives to the local level, because our responses must be localised but not localistic.

These examples show, in different latitudes, the possibility of relating to energy collectively and respectfully of nature. However, while local energy alternatives are critical, three caveats are necessary:

I. We must maintain sight of a global outlook towards restructuring the world energy system, paying attention, for example, to unfair trade agreements and global supply chains.

II. We cannot restrict our conception of energy alternatives to matters of access and consumption, however important those areas may be. Instead, we should increase their transformative potential by connecting them to broader processes of ecosocial transition, such as food (agroecology and food sovereignty), production (de-localisation strategies and postcapitalist practices of social and solidarity economy), infrastructure (cooperative housing), and mobilities (ways of inhabiting, socialising and moving in the territories). Moreover, this articulation makes it possible to connect different struggles and strengthen transformational capacity at the socio-ecological convergences.

III. We cannot isolate energy alternatives to the local level, because our responses must be localised but not localistic. On the one hand, we must pay attention to the municipal, national, and regional scales. On the other, we need an internationalist approach to energy democracy that overcomes the usual dichotomy of localism-statism present in political debates. Platforms such as Trade Unions for Energy Democracy (2015) or meetings and declarations like Our Future is Public (2023) and the South-South Manifesto for an Ecosocial Energy Transition (2023), are the result of global articulation processes, involving advocates of energy democracy (such as environmentalists, ecofeminists, climate justice movements, peasant and indigenous leaders, trade unions, antiracist movements, among others) from different places of the world and with complementary perspectives. Together with other transnational spaces of convergence, they are the seed of a new type of eco-territorial internationalism, committed to just transitions in a transformative and global key.

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Katrin Geyer

A fossil-fuel phase-out is a requirement for a peaceful world

RUSSIA'S FULL-SCALE INVASION OF UKRAINE and the ongoing genocide in Palestine have exposed the undeniable connections between the climate crisis, fossil fuels, and war. This is not a new phenomenon: For decades, fossil fuels have shaped, exacerbated, sustained or prolonged conflicts across the world, unlike any other commodity. For instance, revenues from Russia's oil and gas exports continue to sustain its brutal war against Ukraine. At the same time, fossil-fuel powered conflicts and military activity accelerate climate breakdown. Large-scale ecological harm and skyrocketing greenhouse gas emissions are among the documented results of Israel's ongoing war in Gaza.

Because fossil-fuel use and war are mutually exacerbating, peace and climate justice activists have much to gain in developing joint strategies. Conflict prevention and resolution are necessary steps in cutting global emissions; and a fair and just phase-out of fossil fuels must be part of any strategy for building a peaceful world for all.

Fossil fuels as fuel of war

Fossil fuels interact with domestic and international politics in complex ways, but there are striking historical correlations between fossil fuels and war. No other commodity has shaped international wars more than oil. For instance, an estimated one-quarter to one-half of all interstate wars have been linked to oil since the 1973 Oil Crisis, the beginning of the modern energy era.

Disputes over the sovereignty of physical oil reserves have often led to war. Iraq's invasion of Kuwait in 1990, for example, was motivated by the expected profit from seizing Kuwait's oil fields (although the prospect of expanding Iraq's influence in the Organisation of the Petroleum Exporting Countries (OPEC) was also a factor.) More recently, disputes over territorial and national sovereignty have reignited between Venezuela and Guyana. Although Venezuela has claimed the Essequibo territory since 1811, the discovery of great oil production potential in the Guyanese region in 2015 added to its economic and strategic value. It is estimated that Guyana has the potential to produce at least 12-15 billion barrels of oil equivalent, overall – possibly as many as 25 billion BOE.

While the contested borders remained relatively quiet under the administration of the late Hugo Chávez, President Nicolás Maduro announced in early December 2023 that he had taken steps to formalise the incorporation of Essequibo as part of Venezuela, raising fears of possible military action and prompting actors such as Brazil to step in as diplomatic mediators.

The prospect of market-domination of the energy sector can be another incentive for foreign intervention. While the role of oil in the US invasion and occupation of Iraq continues to be the subject of debate, the sum of US military interests in Middle Eastern oil reserves is marked by what Jacob Mundy describes as 'oil for insecurity, a dynamic in which war, militarisation and autocracy in the region have been entangled with the economic dominance of North Atlantic oil companies, US hegemony and discourses of energy security'. Once Saddam Hussein was removed from power, the United States set up a provisional government that privatised the Iraqi oil industry.

The Global Centre for Climate Justice argues that this 'benefitted Anglo-American oil companies like Shell and BP, granting them 30-year contracts that allowed them to keep most of the profits from Iraq's oil extractions and export them abroad'.[1]

According to a study released in 2018, the US military spends $81 billion a year in monopolising global oil supplies.[2]

The evidence tying fossil-fuel extraction to war and military intervention keeps piling up: oil-exporting states engage in about 50% more international conflict than non-petrostates, on average.[3] Oil exporters tend to spend significantly more money on military and security forces than non-exporting countries. This trend is particularly prevalent among autocracies, such as Libya under Qaddafi or Iran under Khomeini, which tend to engage in what scholar Jeff D. Colgan has termed 'petro-aggression'. Qaddafi intervened in the Uganda-Tanzania War of 1978-79, sending Libyan military forces and equipment in support of Uganda, and changing the course of the war. In the 1980s, Libya provided substantial support to more than thirty foreign insurgencies and terrorist groups around the world.

Similarly, Iran's oil revenue has enabled its military and financial support to external actors such as Hezbollah, which played a significant role in opposing Israel's invasion of southern Lebanon in 1982.

The lens of 'petro-aggression' can also be applied to Russia's full-scale invasion of Ukraine. Between the invasion and November 2023, Russia accumulated more than €550 billion in revenue from fossil-fuel exports.[4] Global Witness has found that, in 2023 alone, Russian crude-oil exports to the European Union produced €1.1 billion in direct tax revenues: enough to buy over 1,200 Kalibr cruise missiles or 60,000 Shahed drones, both of which have been used to bomb cities and kill civilians across Ukraine. According to RAZOM We Stand, a Ukrainian organisation working for a ban on Russian fossil fuels and a global renewable energy transition, Russia seeks to allocate almost a third of its total state expenditures to the military and military-industrial complex in 2024, a 70% increase of national defence spending from 2023.

Fossil fuels do not only shape war and conflict through 'petro-aggression' or states' desire for market domination – they also provide the very lifeblood for powering conflicts and military activity worldwide.

1 Katya Forsyth and Frederick Kerr, "The Toxic Relationship between Oil and the Military," *Global Center for Climate Justice*, 2 March 2022
2 "The Military Cost of Defending Global Oil Supplies," *Securing America's Future Energy*, 21 September 2018
3 Jeff D. Colgan, "Oil, Domestic Politics, and International Conflict," *Energy Research & Social Science* 1 (March 2014)
4 "The Carbon War: Accounting for the Global Proliferation of Russian Fossil Fuels and the Case for Unprecedented International Sanctions Response," *Razom We Stand*, December 2023

Fossil fuels and militarism

Beyond the relationships between war and oil grabs, and between oil revenues and military spending, militaries are particularly dependent on fossil fuels as an energy source. The global military-industrial complex is among the largest institutional consumers of fossil fuels, even in the absence of active conflict. Conservative estimates suggest that military activity contributes at least 5.5% of global greenhouse gas emissions.[5] To put this into perspective, the global emissions of the civilian aviation industry account for roughly 2.5%. Increases in military expenditure correlate with rising emissions – in 2023, global military expenditures reached an unprecedented high of $2443 billion. Reporting these emissions is not yet mandatory under the agreements of the UN Framework Convention on Climate Change, despite civil-society pressure at the yearly COPs.

Military activity, conflict and war produce emissions through destruction, and also through subsequent reconstruction. The use of missiles and bombs and the resulting destruction of infrastructure and entire ecosystems, including carbon sinks such as forests, combine to create immense increases in emissions. For example, the first year of the war in Ukraine released additional emissions roughly equal to the annual output of Belgium.[6] More recently, the study *A Multitemporal Snapshot of Greenhouse Gas Emissions from the Israel-Gaza conflict* revealed that the first two months of the war in Gaza produced emissions comparable to the annual carbon footprint of more than 20 of the world's most climate-vulnerable nations – and 99% of these emissions come from Israel's military operations. Since the reconstruction of infrastructure and buildings also relies on fossil fuels and other emissions-heavy material, such as concrete, the same study estimated that reconstructing Gaza will entail total annual emissions that are higher than those of over 130 countries.[7]

5 Stuart Parkinson and Linsey Cottrell, "Estimating the Military's Global Greenhouse Gas Emissions," *Scientists for Global Responsibility and Conflict and Environment Observatory,* November 2022

6 Lennard de Klerk, Mykola Shlapak, Anatolii Shmurak, Oleksii Mykhalenko, Olga Gassan-zade, Adriaan Korthuis, Yevheniia Zasiadko, "Climate damage caused by Russia's war in Ukraine," *Initiative on GHG Accounting of War*, June 2023

7 Nina Lakhani, "Emissions from Israel's War in Gaza have 'immense' effect on climate catastrophe," *The Guardian*, 9 June 2024

Fossil fuels and the wartime-peacetime continuum

Fossil fuels also play a role in exacerbating violence, insecurity, and conflict within countries. They are implicated in civil wars and separatist movements, but also in systemic human rights violations, including gender-based violence. Feminist activists and women's civil society movements have argued that violence against women and girls operates on a peacetime-wartime continuum – where acts of violence are not standalone incidents but have their roots in existing peacetime inequalities and harmful gender norms.

In terms of civil wars and internal armed conflict, Global South countries producing oil are twice as likely to suffer from internal rebellion as non-producing countries.[8] The presence of oil resources increases the likelihood of civil war, such as in Sudan, or the emergence of separatist movements, such as in the Niger Delta. The risk of armed conflict is also increased when ethnic groups both live close to oil deposits and are excluded from national political systems.[9]

Some research has indicated that the presence of oil is correlated with intensification of violence during armed conflict, and influences the activities of armed groups, including the decision of armed groups to settle in particular regions or areas, as was the case in the Colombian municipality of San Vicente de Chucurí in the 1990s were paramilitaries forced peasants off their land to enable oil exploration.[10]

Internal conflicts and the activities of armed groups are driven by complex and context-specific factors, and are mediated by colonial legacies and an international financial and economic architecture that continue to disadvantage many Global South countries. Additional motivations for these conflicts include control of oil rents, the symbolic power afforded by control over such resources,[11] and grievances resulting from ecological destruction, human rights violations, and economic inequalities around fossil-fuel extraction sites.

Aceh, Indonesia, is a case in point: Disputes over oil revenues after the discovery of natural gas in 1971 intersected with grievances resulting from human rights violations and economic inequalities, as well as longstanding questions of sovereignty and self-determination.

8 Micheal L. Ross, "Blood Barrels: Why Oil Wealth Fuels Conflict," *Foreign Affairs* (2008)
9 Victor Asal et al., "Political Exclusion, Oil, and Ethnic Armed Conflict," *Journal of Conflict Resolution* 60(8), (2016)
10 Juan David Gutiérrez Rodríguez, "The connection between oil wealth and internal armed conflicts: Exploring the mechanisms of the relationship using a subnational lens," *The Extractive Industries and Society* 6(2), (April 2019)
11 Paul Collier and Anke Hoeffler, "The Political Economy of Secession" (2002)

The siphoning of oil and gas profits out of Aceh, along with the forced displacement of communities near oil and gas infrastructure, and the increased presence of Indonesian security forces around extraction sites, gave rise to Aceh's first separatist insurgency. The Free Aceh Movement waged a war of independence against the Indonesian military for approximately 30 years, from the mid-1970s until 2005. The Indonesian government sought to retain control of Aceh in large part due to its wealth in oil and gas. The armed conflict only came to an end after the 2004 tsunami, which killed almost 200,000 people in Aceh. The resulting peace agreement, the Helsinki Memorandum of Understanding, stipulated that 70% of oil and gas revenues should stay in Aceh.

In South Sudan and Sudan, the discovery of oil in the 1970s added decisive impetus to the existing North-South divide rooted in tribal, economic, religious, social, and political factors. The first export of crude oil in 1999 marked a turning point, becoming the principal cause of conflict. Communities in the oil-producing parts of South Sudan and Sudan did not benefit from this infrastructure and therefore developed grievances, resulting in attacks on oil infrastructure and hostage-taking.

The sharing of oil revenue was a key component of the 2005 Comprehensive Peace Agreement, and was again brought into the discussion after the split of the country in July 2011. In the same year, South Sudan invited international investments into a newly opened oil field expected to generate $1.3 billion in oil revenue per year. However, the majority of revenue from petroleum extraction and related value-additions accrued to the multinational corporations who controlled it, and since opening the oil field the government has lost more than $4 billion to oil companies alone, in unpaid taxes. The sudden wealth associated with the oil field compromised South Sudan's stability, and by 2013 the elite scramble for South Sudan's oil riches triggered a new conflict that may have killed as many as 400,000 people, while displacing millions. Despite a 2018 peace agreement, South Sudan's population continues to suffer from the lack of basic services, often on the brink of starvation, while oil revenues paid for 'off-budget expenditures, undisclosed debt payments, and allocations to its opaque state oil company Nile Petroleum'.

Another stark example of fossil-fuel extraction leading to militarisation and violence instead of prosperity is the case of Cabo Delgado in Mozambique. In 2010, offshore gas fields were found in Northern Mozambique, with multinational corporations from the Global North rushing to draw up extraction plans. Three large Liquefied Natural Gas (LNG) projects have been developed since, with most of the gas likely to be exported to Asian and European markets. The gas projects have had significant negative environmental impacts, and the development of onshore support facilities has displaced communities, costing farmers and fishermen their livelihoods. Many are still waiting for compensation for their forced resettlement. All of these changes exacerbated pre-existing discontent in the region, and led to violent insurgencies from 2017 onward. Islamic state (ISIS) militants, most of whom were initially motivated to join the insurgent group by perceived socio-economic exclusion, perpetrated horrific attacks on civilians and triggered a humanitarian crisis that has displaced close to one million people. The Mozambican government responded by bringing in private military and security companies, which have also committed human rights violations, further exacerbating violence and longstanding resentments.

The conflict has resulted in grave cases of sexual and gender-based violence against women and girls, from abduction by insurgents to rape and sexual assaults by government soldiers, as well as forced prostitution. The combined presence of Mozambique's army allied foreign troops, and private military and security companies (PMSCs) helped to reclaim significant territory from the insurgents and re-establish basic services, but military action won't resolve a conflict rooted in deep local grievances.

In Latin America, fossil fuels have played a key role in sustaining criminal activity by non-state actors, exacerbating violence and insecurity. In response to a government crackdown in 2007, Mexican cartels diversified their operations to include theft of hydrocarbons from oil pipeline networks. After 2009, one cartel, Los Zetas, monopolised hydrocarbon theft in the states of Puebla and Veracruz, while another, the Gulf Cartel, controlled illegal hydrocarbon extraction from pipelines running in the state of Tamaulipas. This led to a substantial increase of homicide rates in municipalities traversed by the oil pipeline infrastructure, with violence also spiling beyond those locations.[12]

12 Iván López Cruz and Gustavo Torrens, Hiddren drivers of violence diffusion: Evidence from oil siphoning in Mexico, *Journal of Economic Behaviour and Organization* (February 2023)

The peacemaking potential of renewable energy depends on a transition that is just and equitable, ensuring alternative economic opportunities for countries and communities currently reliant on fossil-fuel revenues. The transition must be based on energy democracy and decentralised energy-production systems underpinned by equitable public ownership

Certain groups of people at proximity to fossil-fuel extraction sites are uniquely impacted, depending on intersecting identities such as race, ethnicity, indigeneity, class, and caste, and suffer in different ways from the peacetime-wartime continuum of violence. Fossil-fuel extraction has been extensively demonstrated to facilitate systemic violence and human rights abuses, including gender-based violence, among marginalised communities. Indigenous peoples, for instance, have been and continue to be exposed to the negative impacts of fossil fuels. Oil infrastructure projects have often been sites of conflict, violence, and Indigenous-led resistance. In the northern Amazonian territory in Peru, for instance, 566 oil spills were registered between 1997 and 2021 in Indigenous ancestral territories. A resulting series of protests between 2019 and 2020, against the Canadian Oil company PetroTal and the Peruvian government, was met with extreme repression. The police fired on the demonstrators, killing 15. In North America, the peaceful resistance of Indigenous peoples at the Standing Rock Indian Reservation, against the Dakota Access Pipeline, was also met with excessive force by state officials, the North Dakota National Guard, and PMSCs — including pepper spray, strip searches, and one episode in which at least six people were bitten by attack dogs.

The militarised repression of Indigenous peoples, including around fossil-fuel infrastructure sites, has unique gendered impacts. In a study produced by the Expert Mechanism on the Rights of Indigenous Peoples, the group of experts stressed that conflict over Indigenous land has led to the sexual assault, gang rape, sexual enslavement, and killing of Indigenous women and girls in India, Kenya, Myanmar, Nepal, the Philippines, Thailand, and Timor-Leste.[13]

The Fossil Fuel Treaty – a climate tool for peace

Against this backdrop of harm, a swift and just transition away from fossil fuels is indispensable to the building of a peaceful and sustainable world. As well as alleviating the climate crisis, a phase-out of fossil fuels has the potential to protect communities from the many ways in which fossil-fuel exploration and extraction produce and re-produce inequalities, violence, insecurity, and conflict.

The peacemaking potential of renewable energy depends on a transition that is just and equitable, ensuring alternative economic opportunities for countries and communities currently reliant on fossil-fuel revenues. The transition must be based on energy democracy and decentralised energy-production systems underpinned by equitable public ownership – as covered by other articles in this dossier. Many proposals for mitigating economic losses for Global South petrostates, and for mobilising global public finance, already exist – from the Climate Damages Tax Proposal to debt cancellation and other innovative fiscal policies. These opportunities can prevent grievances and violence that often stem from the lack of benefits for communities near fossil-fuel extraction sites, while creating support for just transition efforts where workers and impacted communities are meaningfully included in setting the terms of a phase-out agenda.

However, there isn't yet a binding international instrument to end the expansion of coal, oil, and gas, and to ensure the transition.

13 Expert Mechanism on the Rights of Indigenous Peoples, "Impact of militarization on the rights of Indigenous Peoples," 8 August 2023

The Paris Agreement adopted in 2015 requires states to limit global warming to 1.5 degrees, but there is no roadmap for how this should be done, and governments and corporations are hiding behind false solutions such as 'net zero', and unproven technological fixes, in order to continue the burning of fossil fuels. As a result, governments around the world continue to approve new coal, oil and gas projects that are incompatible with the Paris Agreement's objective.

The Fossil Fuel Non-Proliferation Treaty proposal is one mechanism that can foster international cooperation and contribute to the roadmap that is missing from the Paris Agreement. The treaty proposal includes three pillars: 1) A global just transition away from fossil-fuel dependence and toward scaling up access to renewable energy; 2) Non-proliferation of fossil fuels, by ending all new exploration and production; and 3) Fair and equitable phase-out of fossil fuels, with the largest historical emitters to transition the fastest.

The Treaty proposal draws inspiration from other successful international treaties, such as the Anti-Personnel Mine Ban Convention, which has contributed to fewer injuries and deaths worldwide, and the Treaty on the Prohibition of Nuclear Weapons, which has increased nuclear weapons' stigmatisation and financial institutions' divestment from the companies that make them. The Treaty initiative is led by a growing network of Global South countries, including Colombia, Timor-Leste, Fiji, and Antigua and Barbuda, among others, as well as global civil society organisations, such as Amnesty International, Fridays for Future, Global Witness, and Greenpeace. It is endorsed by prominent figures from the climate justice movement, as well as academics, scientists, youth activists, health professionals, faith institutions, Indigenous peoples, and hundreds of thousands of other citizens globally.

Lowering dependence on fossil fuels and transitioning to renewable energy will not automatically lead to global peace. The geopolitical situation is also in flux due to global warming itself, as well as emerging economic incentives within the green-capitalist system. There are many unknowns, and the decline of petrostates is likely to cause tension and conflict, while the scramble to secure access to the critical minerals required to power renewable energy sources poses another risk.

While green colonialism, also discussed in this dossier, produces its own types of violence and displacement – such as in the case of Congo with the rush for cobalt and copper, or the impacts of lithium extraction in Chile's Atacama Salt Flat – there is also increased global competition for the land required for building megaprojects for the centralised production of renewable energy. To prevent dangerous competition and the likelihood of inter-state conflict over these resources, states should foster cooperation, disarmament, trust, and 'ecological diplomacy', focusing more intently on conflict and fragile zones and systematically shifting the geoeconomic, regulatory, trade, and multilateral powers toward efforts that advance socio-ecological peace and stabilisation instead of increased militarisation, competition, and mistrust.

The bottom line is clear: Not only must we move away from fossil fuels due to their environmental destruction and the militarisation that accompanies their exploitation, but a truly meaningful transition must also end the exploitative, patriarchal, and colonialist approach to extraction and exports, rather than let these also become the norm for renewable energy.

The development of the 'just transition' pillar of the Fossil Fuel Treaty is an opportunity to challenge and transform the structures and systems that have led to the grave impacts of fossil-fuel extraction and use, including human-rights violations, violence, insecurity, and war.

Renewable energy, therefore, can only bring peace if the extraction of critical minerals and the use of renewable energy is situated within demands from those at the frontlines of extraction, conflict, inequalities, and the climate crisis. This context also offers a timely opportunity to incorporate demands from other movements, such as degrowth proponents, who call for the reduction of global energy consumption, and advocates for agrarian reform and land justice, in order to address other sources of greenhouse gas emissions and ecological destruction in a framework for peace.

ECHAOES: Beyond the Void explores the echoes of chaos - of lands, ecosystems and histories that are being erased by catastrophe. The void isn't just empty - it's a manufactured absence, created by centuries of environmental destruction, land dispossession and the relentless expansion of capitalist development. It is the space left behind when territories of life are stripped of their people and their purpose, when nature is reduced to a commodity and when transitions reproduce the same extractivist logic they claim to overcome. The echoes of what once was reverberate in landscapes of loss, while the chaos of unchecked exploitation continues to reshape the world. Going beyond the void means recognising what has been erased, recovering what remains, and imagining ways to regenerate what has been lost. It's about the struggle between devastation and reconstruction, with the challenge of building a transition that is not just technological but territorial, social, and collective.

BELIZ BONI creates striking collages from photographs she has been taking for the past 15 years as a documentary and migrant photographer. With more than 30 exhibitions on several continents, her work explores social and political themes through the disruptive potential of collage – cutting through time to reassemble meaning. Mixing rural landscapes with imposing horizons, mass demonstrations, art, and macro photography, her compositions take shape like digital sculptures, influenced by surrealism and constructivist modernism.

'Cutting out the past to create the new – opening up spaces, discarding the debris, selecting what remains and repositioning it with purpose'.

Her work tackles themes such as displacement, cultural hybridisation, societal movements and utopian eco-futurism.

AMIR LEBDIOUI is an Algerian development economist and an associate professor of the political economy of Development, University of Oxford. He also serves as the Director of the Oxford Technology & Industrialisation for Development (TIDE) centre.

Amir Lebdioui

Five principles of an Internationalist Just Transition

THE GLOBAL DEBATE ON SUSTAINABILITY is being shaped by the powerful interests and trade agendas of already-industrialised nations. As a consequence, so-called 'green' policies are rarely motivated by environmental protection as much as by environmental protectionism. This prompts critical questions about who defines what is 'green', and for whose benefit. In a global context of environmental regulations increasingly serving as covert barriers to trade, perpetuating inequalities and geopolitical tensions, an internationalist framework for a truly just transition has never been so important.[1]

1 Breno Bringel and Sabrina Fernandes, 'Towards a New Eco-Territorial Internationalism', in *The Geopolitics of Green Colonialism* (London: Pluto Press, 2024).

It is strategic to reclaim the narrative on sustainability, and to promote a just transition framework that defends the interests of the Global South, in ways that can guide policy and action *today*, while building conditions for more robust action in the future. To leave no country behind, policy must address issues in multilateral governance, climate financing, global trade and carbon pricing, green innovation and technological transfer, and, of course, pathways for coordination that ensure different countries and regions can work in cooperation.

Inequalities in the transition and sustainability agenda and the rise of green protectionism

There are various sets of inequalities around the sustainability agenda, including: (i) inequalities of power in terms of agenda-setting; (ii) financing inequalities in terms of access to investment for the energy transition; (iii) trade/technological inequalities that reproduce an international division of labour that condemns developing nations to underdevelopment; (iv) and inequalities within nations, which are exacerbated when countries pursue green transition plans in the form of handouts to large corporations at the expense of labour. A full review of these different forms of inequality is beyond the scope of this article, but I will try to flesh out some of the important implications for a just transition.

In many ways, the global sustainability agenda is dominated by a form of carbon obsession. This 'carbon tunnel vision' reflects Western countries' sense of responsibility for climate change mitigation, while often overlooking other critical aspects of sustainability that also have implications for economic transformation.[2]

2 Chang, H. J., Lebdioui, A., & Albertone, B. (2024). Decarbonised, Dematerialised, and Developmental: Towards a New Framework for Sustainable Industrialisation. *UNCTAD*; Estevez, I., and J. Schollmeyer. 2023. 'Problem Analysis for Green Industrial Policy'. Toward AI-Aided Invention and Innovation. Springer Nature.

A narrow focus on carbon-footprint reduction, which will actually extract more resources from our planet, is incompatible with a broader view of ecological sustainability. The attempt to solve carbon emissions without reference to a socioecological perspective may generate higher material pollution and biodiversity loss while in effect worsening multiple crises. This can be observed in the case of green hydrogen, which presents considerable trade-offs in terms of ecological impacts, and the new forms of climate colonialism. This is why reclaiming the narrative on sustainability in a way that encompasses the various ecological issues that hinder human wellbeing across the world is a critical step towards a just transition at the international level (see principle 1).

There are also various economic inequalities that need to be addressed today, including on the financing front, even though their root causes are systemic and harder to tackle. It is obvious that clean energy technologies can help reduce the access gap for communities suffering from energy poverty. According to the International Energy Agency, in Africa close to 600 million people were without access to electricity in 2018. This situation reinforces existing socioeconomic inequalities and impedes the widening of access to basic health services, education, and modern machinery and technology.

In Latin America, businesses suffer 2.8 electrical outages on average per month, and nearly 40% of firms have identified the power sector as a major constraint on their potential, according to the World Bank. As is usually the case, power outages also tend to exacerbate inequalities, as low-income households tend to experience more blackouts and power surges than high-income households. However, despite clear needs and the potential for low-cost clean energy production due to its significant cost advantages in labour, land, and construction, those regions are not the main recipients of investments in renewable energies. As shown in Figure 1, even though 2021 was a record year for global renewable energy investment (with around US$420 billion invested), renewable energy investment was below US$1 per capita in sub-Saharan Africa, while over US$100 in the USA, Canada, Japan, China, and the EU. Indeed, developing countries must often pay more for renewable energy projects than countries in Europe and North America. In Africa, for instance, the cost of capital for renewable energy projects is even higher than for fossil-fuel investments, which implies that the continent may miss out on an additional 35% of green electricity production under a 2 °C transition pathway.

This of course leads low-income countries down carbon-intensive economic pathways, while constraining their ability to seize some of the 'green windows of opportunity'.[3]

The expansion of low-carbon technologies generates opportunities for industrial development. But, so far, countries with a revealed comparative advantage in low-carbon technology products and environmental goods tend to be industrialised, high-income nations (especially in East Asia and the EU, as well as the USA). The trade of low-carbon technologies is also highly concentrated. Three countries (China, Germany, and the USA) account for almost half of all low-carbon technology exports (see Figure 2). Furthermore, most of the value-creation in renewable energy sectors has not occurred in low-income and/or fossil-fuel-dependent countries, where renewable energy jobs are arguably most needed to ensure a just transition. If the transition to a low-carbon economy enables industrial development in already-industrialised nations while renewing the limited role of most developing countries as sources of raw materials, this is likely to exacerbate economic disparities within countries and cast doubt on the central promise of the UN's sustainable development goal of leaving no one behind.

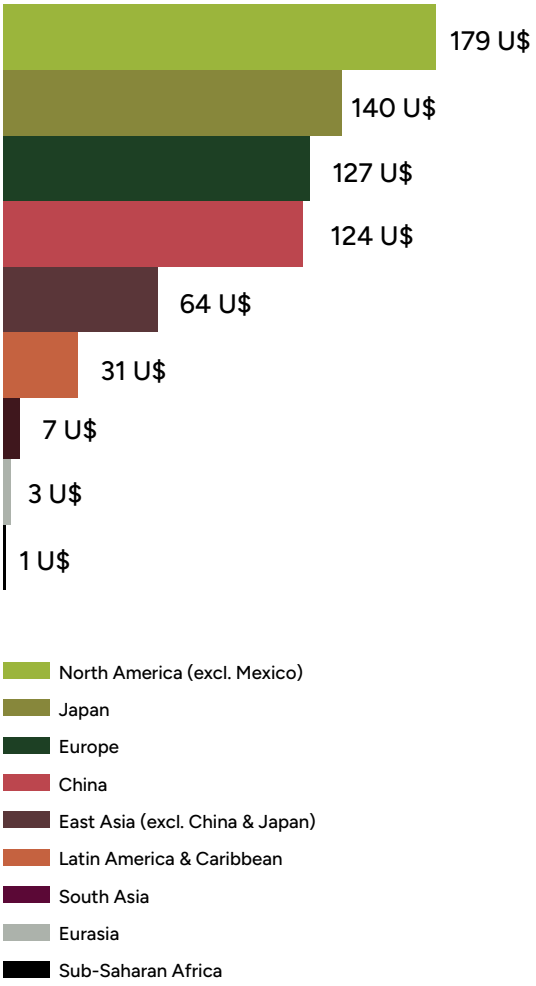

FIGURE 1. Renewable Energy Investment per capita in 2021. Source: author's elaboration based on Woodmackenzie, BNEF and IRENA data

3 Lema, R., Fu, X., & Rabellotti, R. (2020). "Green windows of opportunity: Latecomer development in the age of transformation toward sustainability". *Industrial and Corporate Change, 29(5)*, 1193–1209.

As the global low-carbon economy grows, a radical policy shift is needed for developing countries to avoid being left or pushed behind. Proactive public policies (and industrial policies in particular), which influence land, energy, capital, and labour costs, could shape the geography of manufacturing supply chains for low-carbon technology. Indeed, most countries that have become large exporters of low-carbon technologies are not the most endowed in terms of land and energy resources, nor do they have the lowest labour costs; instead, they have proactively used industrial policies to develop the capabilities required to produce those goods. Those nations have also relied on forms of green protectionism, making it very difficult for developing nations to use the same policies to fight poverty as well as climate change.[4]

Instead of honouring their liabilities and responsibilities, the world's major economies' response to climate change has focused on securing a competitive advantage for domestic companies in capturing the industrial benefits that arise from their own decarbonisation efforts.

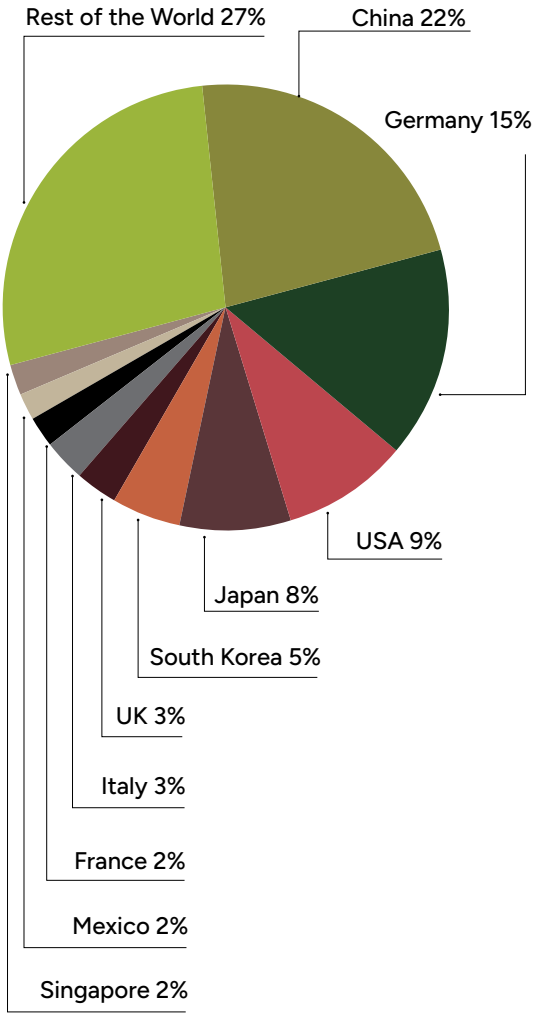

FIGURE 2. Export market shares of low-carbon technology products (average 2019-2021). Source: Author's elaboration based on data provided by the IMF climate dataset

4 Lebdioui, A. (2024) Survival of the Greenest: Economic Transformation in a Climate-conscious World. *Elements in Development Economics*, Cambridge University Press.

The US government has been particularly explicit regarding its geostrategic interests in reducing China's low-carbon technology dominance, and has therefore resorted to tariffs to protect its internal market from Chinese imports, but it is not alone in promoting green protectionism. Other governments have pursued green-protectionist policies in a more subtle way, often managing to circumvent trade rules by disguising their trade interests under the umbrella of climate action. For instance, the EU has also restricted the imports of goods that could enable it to meet its climate targets. A famous sticking point in the negotiations on the Environmental Goods Agreement (a multilateral effort within the WTO to liberalise tariffs on environmental goods) was the case of bicycles. While the Chinese government argued that a bicycle constitutes an environmental good, because it is an emissions-free form of transportation, the EU negotiators were reluctant to liberalise tariffs on bicycles for fear that a large influx of lower-cost, foreign-made bicycles would damage EU bicycle producers. The EGA negotiations have broken down as a result.

More recently, concerns have been raised regarding the legality of the EU's Carbon Border Adjustment Mechanism (CBAM), and its de facto role as an import constraint despite being framed as a climate-related action. The CBAM, which initially applies to imports of goods such as cement, iron, steel, aluminium, fertilisers, electricity, and hydrogen, could impose costs on developing-world exporters. In Africa, for example, it could cause a GDP loss of US$31 billion.

While green protectionism might seem like a reasonable attempt to safeguard domestic industries in their transition, the way 'green' industrial policies have been enacted by the world's major economies fails to address the fundamental challenge of just transition: the response to climate change cannot be constrained by international borders, since the effects of climate change will not be. Through their green protectionism, rich nations are hurting everyone's prospects of abiding by an emissions budget that can effectively keep us within the Paris Agreement targets.[5]

5 Ghosh et al. even argue that the insufficient actions by rich countries are leading to a new form of climate imperialism. Ghosh, J., Chakraborty, S., & Das, D. (2023). "El imperialismo climático en el siglo XXI". *El trimestre económico*, 90 (357), 267–291.

Reclaiming policy space for green transformation internationally

When the poorest nations access pathways for economic transformation in a global framework for a just transition, all countries will stand to gain from climate-change mitigation and shared adaptative progress. Thus, rather than seeing global decarbonisation as an economic race, rich nations must recognise the value of inclusive green-industrial policies in developing nations, and actively support those efforts. Here, I would like to outline five key practical guidelines, with concrete ideas compatible with the world's political conditions today, that can help to build an internationalist just transition agenda that is beneficial to *everyone*.

1. Inclusiveness in the multilateral governance of the sustainability agenda

The current narrative on sustainability and how to fight climate change is dominated by a few rich nations, marginalising developing countries. This has harmed the credibility of global governance institutions, with some critics arguing for deep reform and others demanding their dismantling. In the meantime, rather than seeing change brought forth by these critiques, we are actually witnessing an increasing duplication of efforts and forums by rich countries, as governments vie to set (or impose) their own sustainability agendas. Since the United Nations is still the preeminent global negotiating platform on climate and sustainability, it should be strengthened rather than reduced to just another among many venues.

For instance, the United States' payments to the UN have been systematically partial and late, which heavily impacts the UN's operations and ability to drive sustainability negotiations effectively. The UN should be strengthened with more funding, but also binding mechanisms to ensure compliance and prevent further unilateral and unconcerted efforts.

Meanwhile, multilateral processes (whether at COP or other UN platforms), also need to ensure equitable representation and participation in defining and implementing green policies. Too often, the 'real' climate negotiations take place before – and outside – the official negotiation table, excluding developing countries, whose endorsement is then sought after the fact. But it is difficult to ensure long term buy-in and full compliance without true consensus.

A global coordination of sustainable finance taxonomies could also help ensure that the 'environmental friendliness' of projects is not determined by a handful of countries pursuing their own interests, but by norms and labels agreed upon by an international variety of stakeholders. Currently, the EU's own sustainability standards are being pushed on other nations, notably leading to the stalled trade agreement with South American countries. This reflects the need for more universally agreed global baselines on sustainability. Given its complexity and social ramifications, such a process should not be driven by governments alone, but should also involve consultations with civil society, trade unions, and independent technical committees, as well as the private sector. It is also key to take the discussions on jobs, often siloed at the national level, to the international level. In many countries that heavily depend on fossil-fuel extraction as a source of jobs, global mobility and support for retraining will be essential in reducing popular resistance to low-carbon transitions.

Global cooperation is especially needed in contexts where the skills gap between labour needs in areas of decreasing and increasing employment is too great; where workers are not willing to be relocated; and where fiscal constraints prevent the payments of benefits or employment subsidies for workers affected by low-carbon transitions.

Labour-market policies will be critical in avoiding potential labour misalignments over time, space, and across differing education levels. Policies that ensure that workers can adapt and transfer to new industries through the provision of upskilling services can be complex to design and implement. This is why the ILO can play a stronger role in supporting peer-to-peer learning and capability-building, emphasising retraining programmes, social safety nets, and inclusive economic development strategies that leave no one behind.

2. Developmental quality and purpose in climate financing

We need investment capital to flow to where it is most urgently needed and where it has the highest ecological and developmental spillovers. This would imply tripling investments for energy transition in Africa, for example, which currently represents a modest 2% of total renewable energy investments worldwide. According to UNECA estimates, the African continent needs at least US$190 billion a year for renewable energy financing (it currently receives US$60 million). Rich nations have not kept their promise (made at the 2009 UN climate summit in Copenhagen) to channel US$100 billion per year to poor nations, beginning in 2020, to help them adapt to climate change and mitigate further rises in temperature. But beyond these missed targets, attention must also be drawn to the *type* of climate finance provision to date. Rather than supporting green economic transformation, most climate financing has consisted of non-concessional loans rather than grants, and focused on funding climate-mitigation initiatives over climate adaptation and resilience. One the key reasons that developing countries struggle to finance their own transition plans is because of their high debt levels and high costs of borrowing.

As such, climate financing with developmental purpose should help *reduce* debt rather than create more of it. Loans add to debts of developing nations, tending to foreground expected capital returns rather than other social benefits in the evaluation of projects. (Principle 1 could help to coordinate frameworks for debt amortisation through domestic green investment.)

Considering their economic needs and different responsibilities in the context of the climate crisis, developing countries need significant financing not merely to import low-carbon technologies but to support local climate-resilient economic transformations. The specific approaches and priorities are matters of domestic sovereignty, and should not be dictated by rich nations using financial power. How exactly to fund the investments and grants for transformative green projects in the developing world thus becomes a key question. One option would be for rich nations to share some of the income earned from levying carbon taxes with the developing countries that pay them. Another way could be to repurpose excise taxes on fossil fuels, so that funds raised actually have a proper climate and development destination, while understanding that carbon taxation should follow a progressive approach in the first place, as further argued in the third principle here.

3. Bold pragmatism in reforming global trade rules and differentiation in carbon pricing

The current trade rules often disadvantage developing countries in their pursuit of green industrial policies. We need to push for reforms within international trade frameworks to accommodate the developmental needs of these countries. This also implies a different role for the WTO, which, rather than shying away from the global rise of industrial policies, could help facilitate the global discussion on the internationally and ecologically responsible use of green industrial policy and carbon taxation.[6] The WTO, along with its international partners, recently unveiled its assessment of global carbon pricing measures, but has failed to account for the principle of shared but differentiated responsibility.[7] Indeed, an internationalist just transition also relies on moving beyond a universal price of carbon and towards differentiated carbon pricing that accounts for historic emissions.

Climate change is not caused only by existing carbon flows, but by the carbon stock already present in the atmosphere, which has been disproportionately produced by a handful of industrialised nations since the 19th century. To enable developing countries to continue developing, those countries must pay a premium for their continued emissions. As such, an incremental (or tiered) pricing of carbon (whereby newly emitted carbon would cost more than the previous ton emitted) would help to account for the principle of common but differentiated responsibility, providing poor nations some equity in time to plan for their transitions.

Incremental (or tiered) carbon pricing would be a far cry from the existing CBAM regime, which imposes unilaterally-assessed carbon pricing on the rest of the world. Achieving it will be no easy task, especially as estimations of historic carbon emissions are contentious. Again, Principle 1 will be critical in achieving a global consensus to pave the way.

6 The WTO could also use the example of the Doha Ministerial Declaration on the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement and Public Health to expand TRIPS flexibilities for developing countries to access climate-related goods (including technology, as outlined in Principle 4).

7 WTO, IMF, UN, OECD, & World Bank (2024). *Working together for better climate action*. The International Monetary Fund, the Organisation for Economic Co-operation and Development, the United Nations, The World Bank and the World Trade Organization.

International agreements should also further encourage cooperation with – and the accountability of – the private sector, to support low-carbon technology transfer and cooperation in innovation for developing countries.

4. Increased accessibility in green innovation through reorienting incentives towards greater technological diffusion and transfer

Developing nations need access to technology to enable both their climate resilience and their green economic transformations. To achieve this goal, low-carbon technology transfer needs to move from the status of charitable endeavour by the Global North to that of a pragmatic sustainability priority, whereby countries of the Global South are empowered to pursue maximal technology learning on their own terms.

This support for technology transfer can take various forms, such as technical and financial assistance for green productive capabilities, or further commitment to low-carbon technology transfer (at the core of the United Nations Framework Convention on Climate Change), especially by increasing support to institutions such as the Global Environment Facility (GEF), which, since its inception in 1991, has been financing the transfer of climate-related and other environmentally sound technologies to developing countries.[8]

8 Technology transfer can be referred to as 'a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst different stakeholders such as governments, private sector entities, financial institutions, non-governmental organizations and research/education institutions' (IPCC, 2000).

This agenda could also be supported by the creation of a new fund, under the UNFCCC and GEF, to remove the first-mover disadvantage in areas (especially long-cycle technologies) where innovation is critical but risky and unlikely to attract private investors (e.g. energy storage).

Using the model of Fundación Chile, such a fund could then make research and innovation publicly available and open-source, to encourage followers and technological diffusion. This might require changing the incentives for open-source innovation for environmental technologies, so that innovators do not have to rely on restrictive intellectual property rights as a form of rent-generation. From a purely monetary perspective, this could be achieved with prize incentives, whereby innovators receive an initial payment instead of holding intellectual property rights. Another possibility would be limiting the length of intellectual property rights for technology that contributes to planetary health.

International agreements should also further encourage cooperation with – and the accountability of – the private sector, to support low-carbon technology transfer and cooperation in innovation for developing countries. This responsibility can be added to the mandate of the United Nations Global Compact, a non-binding initiative to encourage businesses worldwide to adopt sustainable and socially responsible policies, and to report on their implementation.

It must be stressed that the above measures should not be considered a handout to developing nations. If we are to fight climate change successfully, developing countries (which represent 99% of projected global population growth, but have much lower responsibility for mitigating climate change) will need serious incentives to embark on more ecologically sustainable pathways.

5. Solidarity and cooperation in policy coordination at the regional and sub-regional levels

In light of the exclusionary nature of influential forums, as well as broader geopolitical realignments, developing nations need to build collective power in order to include themselves fairly within a common vision of green transformation. We need greater regional and South-South cooperation to identify common challenges, to find a unified voice in international forums, and to coordinate efforts to ensure the economic viability and resilience of renewable energy projects, which require economies of scale, complementary assets, and cross-border energy integration and transmission to allow for intermittency.

In small economies, where the domestic market demand is often not large enough to reach economies of scale, green economic transformation requires access to another country's larger market demand and also multilateral coordination towards regional developmental goals.

In regions like Africa, the Caribbean, and Central and South America, where individual markets may be limited (with the prominent exception of Brazil), regional integration is critical to ensure the coordination and perenniality of demand-side policies, and to build regional value chains that can foster industrial transformation, especially for small economies. Neighbouring countries must leverage their complementary assets (whether that is critical minerals abundance, manufacturing capacity, renewable energy potential, proximity to important trade routes, etc) to develop an efficient regional industrial ecosystem around climate-related technologies. This requires us to move beyond the linear approach of trade liberalisation, and focus instead on 'developmental regional integration',[9] which emphasises macro- and micro-coordination in a multi-sectoral programme embracing production, infrastructure, and trade.

9 Ismail, F. (2018) 'A Developmental Regionalism Approach to the AfCFTA'. TIPS Working Paper.

A socially inclusive, truly just transition at the global level cannot be achieved through policy alone: it will require an unprecedented level of political dedication at local, national, and global levels.

Developmental regional integration mechanisms span a wide spectrum: from knowledge-sharing on critical material supplies and region-wide certification for low-carbon products, to pooling limited R&D resources for joint innovation and shared challenges (such as high-altitude mining in the Andean region, or developing solar plant equipment that is resilient to the Sahara's extreme temperatures).

In practice, there are many challenges to green regional development: political and ideological differences, external influences, gaps in physical infrastructure connectivity, as well as disparities in economic development between neighbouring countries, can all generate resistance to integration. Despite these challenges, many regions around the world have successfully pursued various levels of integration (such as the European Union, ASEAN, and the African Union, among others), which can serve as guides. For instance, an important step towards regional integration in Africa has been taken with the signing of the African Continental Free Trade Area (AfCFTA) agreement in March 2018. The agenda of developmental green integration remains full of challenges – but also of opportunities – for some of the world's poorest regions.

As countries take part in the green industrialisation race, and vie for influence in the international convening spaces focused on sustainability, there are great risks of reproducing existing patterns of inequality, both within and among nations. This is why this article aimed to reflect what can be done under current political and economic conditions to advance a more internationalist just transition agenda, avoiding the developmental and ecological traps that are arising in the global 'green' economy. A socially inclusive, truly just transition at the global level cannot be achieved through policy alone: it will require an unprecedented level of political dedication at local, national, and global levels. But nor can the just transition be achieved without expanding policy space for green economic transformation in developing nations. A pragmatic approach to the just transition requires revisiting various policy domains, across trade, financing, intellectual property rights, environmental technology, carbon pricing, labour markets, and the multilateral governance mechanisms that underpin them. It requires policy reforms that look beyond short-term interests, adopting a long-term horizon – but which need to be developed and enacted immediately. It is by combining urgency with total commitment to the long game that we can really begin to set the conditions for a new era of prosperity for both current and future generations, on both sides of the equator.

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Lala Peñaranda

interviewed by Sabrina Fernandes

Trade Unions for Energy Democracy and a public pathway to energy sovereignty

RENEWABLE ENERGY is being implemented worldwide in a context of strong inequalities. The current state of government and private investment widens existent gaps by favouring investments in the Global North, where already industrialised countries have pushed for electrifying their energy-intensive grids through green growth programs reliant on extractivism and dependence abroad. This context has led to workers' scepticism about jobs and training in green industries, while decarbonisation plans for national electric grids do not necessarily offer the population the guarantee of reliable and affordable access to renewables. The effort to relocate the "just transition" debates within workers' organisations while connecting their demands to international sectors and concerns requires social movements, unions, parties and scientists to join together in drafting comprehensive strategies for a just international energy transition based on principles of energy democracy and environmental and territorial justice.

Trade Unions for Energy Democracy emerged in 2012 to counter business-as-usual policies that had taken over climate and jobs debates, especially due to the strong influence of fossil fuel and the private sector in general. Today, TUED represents workers in 47 countries through 120 trade union bodies and 4 global union federations. By bridging Global North and Global South debates, TUED strives to build a common vision and strategy, even though workers' situations and prospects differ from country to country. By promoting a public pathway for the energy transition, TUED handles difficult debates over energy ownership, technological development, the future of work and how to transform the energy sector when a few countries consume so much more than others. This interview with Lala Peñaranda, from TUED, was conducted in September 2024 and its content was edited for clarity.

SABRINA FERNANDES: Much has been said, including in official government statements and in global convening spaces about climate change, such as the United Nations, about the importance of including workers in the energy transition debates. Is this a response to the criticism by just transition advocates that corporations and policymakers are considering decarbonisation and electrification, for instance, without taking workers into account? How does TUED ensure workers are meaningfully involved in the Just Transition beyond superficial participation?

LALA PEÑARANDA: This is one of the most central questions in the Just Transition. I find it useful to employ the distinction made in a 2018 TUED Working Paper, "Trade Unions and Just Transition: The Search for a Transformative Politics". There are "social dialogue" and "social power" approaches that trade unions are taking in Just Transition spaces – not as mutually exclusive, but still as distinctly different approaches. A social dialogue approach argues that a productive dialogue between governments, workers, and employers can lead to the "ultimate aim of a Just Transition", as the ILO puts it, of providing decent work for all and leaving no one behind. Centring this approach pressures unions working at the international level to effectively endorse the main premises and perpetuate the main approach of the liberal business establishment and a market-based logic. Intentionally or not, this approach holds trade union debates and priorities captive to a very narrow and demobilising interpretation of Just Transition. Even more importantly, Social Dialogue will continue to fail in the delivery of a deep transformation because it fundamentally rejects any substantial challenge to current arrangements of power, ownership and profit, instead legitimising an uncritical endorsement of "win-win" solutions and "green growth" for all.

The Social Power approach is based on the analysis that power relations must be challenged and transformed within a Just Transition and that this requires a deep restructuring of the global political economy.

While TUED no longer uses the "Social Power" terminology, the basic criteria around building worker power in the just transition includes similar elements: independent and democratic trade unions, sectoral bargaining, de-corporatising and democratising board of directors (including having workers on state company boards). The latter is not just about voting power but also about being up to date on high-level decisions and politicising these spaces.

SF: Can you give us examples of this, of how to ensure that the energy just transition plans really involve workers' organisations and movements, beyond institutional rhetoric and limited social participation spaces? There are definitely challenges when it comes to involving governments in this conversation, no?

LP: One example of this approach can be found in Gustavo Petro's government in Colombia. Petro's government has changed the power balance within the board of the majority state-owned oil company Ecopetrol by including political allies that could help implement the Just Transition agenda as well as the Deputy Minister of Labour. The most important union in the sector, La Unión Sindical Obrera (USO) members are demanding that the union get representation as well. A lead advisor to the Ministry of Finance suggested that trade unions include worker representation in the Holding of state companies in order to help shape public policy.

Large global federations, such as our allied comrades at the International Transport Workers (ITF), are only as strong as the links between their affiliates. Building meaningful worker power would require playing a stronger coordinating role between affiliates, deepening coordination across the supply chains that the transport workers make possible. There are good examples of global federations doing this type of work: Industrial Global Union has held organising seminars for lithium workers across supply chains and Public Services International (PSI), one of TUED's main global trade union federation allies has organised for better bargaining coordination among ENEL workers in Latin America and Italy.

There are "no shortcuts" to building worker power, but there are some organising highways that supercharge trade union power. In the energy sector, coalition-building with energy users and housing organisations tends to be particularly effective. Organising outsourced workers across the energy sector, including the highly precarious renewables sector, into unions also has the potential to multiply membership and strategic power.

SF: It is interesting that you bring up Colombia, since the Petro government has been very vocal about a fossil fuel phase-out, leading the region in this topic. But, of course, there is also criticism from below and conflicts inside the coalition. What are the challenges for the TUED in building relationships with leftist and progressive governments?

LP: Whether in progressive or reactionary governments, trade unions and social movements know they must sustain movement pressure and struggle. Otherwise, even the best-designed policies will be twisted, watered down, eliminated or distorted by entrenched interests and the status quo.

In Latin America, labour and social movements work hard to get progressives into office, only to then find a lack of political infrastructure for streamlining union and movement demands into political programs and legislation. With some exceptions, trade unions globally lack permanent channels for discussing energy policy and demands with elected officials and public servants. In this context, Bolivia, Colombia, and Mexico offer limited but valuable experiences in creating semi-permanent channels. A particularly inspiring case is that of the Chilean labour movement's creation last year of a Confederation of State Enterprise Workers. The Confederation is seeking to reach a membership of some 45,000 workers and includes representation of unions from the oil, metro, copper, and port sectors.

Its goals include to reclaim and restore state enterprises that were privatised in the past and public ownership expansion into other areas of the economy.

SF: Is there a risk of depoliticisation and the marginalisation of workers when dealing with the state though?

LP: It is true that the vision of the Just Transition has been subject to widespread depoliticisation and the marginalisation of workers, but I think that focusing instead on alternatives and positive examples helps to counter it. TUED's involvement with progressive public servants in the energy sectors across Latin America has deeply informed how I see labour and climate strategy today.

SF: In the energy sector, it has become clear that it is important to involve both workers already working in renewables and those who might continue in the fossil fuel industry for longer. How can the workers in the fossil fuel sector help to push for the necessary fossil fuel phase out? Do you find that this is still a challenge with oil workers' unions, especially in countries where oil production is heavily associated with sovereignty and development?

LP: TUED supports unions in setting and meeting ambitious goals along a "Public Pathway" toward decarbonisation, demarketisation, democratic planning of the energy transition, and a broad societal transformation. Naturally, a particular country's trajectory reflects the reality of their energy mix, economy, colonial history, and geography.

From a strictly decarbonisation perspective, countries like Uruguay have achieved notable success by achieving a 95% renewable power sector for its 3.4 million people in just under 10 years.

For the workers of the state-run utility, advancing along a public pathway requires challenging the privatisation that accompanied this rapid expansion. The public utility, UTE, absorbed the risks, private companies pocketed the benefits, energy users footed the bill, and grid stability was compromised. The decarbonisation transitioned from a state-owned power generation model to one where over 80% percent of the installed renewable capacity is in the hands of private companies.

But the vast majority of energy unions that TUED works with in the Global South defend a 'managed decline' approach to decarbonisation and call on wealthier countries to accelerate their respective decarbonisation. This reflects an attempt to fight on several simultaneous fronts: social, economic, and debt justice, a planned climate and energy strategy, and opposing green energy liberalisation pressures and impositions.

In 2021, the global demand for electricity generation rose by 5.4%, and 59% of the new demand rise was met by burning coal. Union-led Public Pathway organising in the Asia-Pacific region, which accounts for 82% of the world's coal generation, has vastly different challenges and opportunities from South America, where hydropower provides 45% of its electricity supply.

SF: In the Global South, this is a context of struggle to decarbonise while ideas of sovereignty and development continue to be quite associated with oil operations and revenue. Any insights on how to connect decarbonisation with other social priorities that help to build coalitions and a more systemic way of thinking about alternatives?

LP: One notable example of a union fighting for phase out in a coal-reliant local economy is a coal workers union in Colombia, Sintracarbon. A confluence of factors contributed to this case, including a more trusting relationship with the Petro administration's Just Transition agenda and widespread community support for their demands for 'responsible mine closures' in the context of sudden multinational mines closures and resulting layoffs.

A robust and just energy grid requires planning and coordination across and between varying scales of generation. Trade unions have played a role in helping connect communities to the grid or to create their own communities. In Colombia, there is debate around the government's program of "comunidades energéticas" and the vision of "energía comunitaria" led by social and environmental movements such as Rios Vivos.

This cuts to the heart of coalition-building. I'm sympathetic to the argument that a transition exclusive to the energy sector is impossible

due to the nature of energy which embeds it into all sectors and forms of social reproduction. As a movement dedicated to working class liberation, why would we miss the opportunity to widen the reach and scope of our demands? The labour movement rises and falls with the strength of the larger health of the left and broader working-class movements.

On the surface, there are some urgent but more obvious and direct points of connection in struggle: organising outsourced and informal sector workers, building with energy users unions including neighbourhood and tenant associations.

While unions have a lot to gain from looking and building outward, in TUED we've really seen the dire need to also "return" to the basics of 'organise, organise, organise' through political education, direct action, rank-and-file mobilisation, and connecting with other unions within and across their sectors and borders.

SF: Energy democracy is an important element of just transition and it orients how labour organisations and those working to involve them in transition programmes view gaps in energy access and energy production. What defines energy democracy in the work done by TUED and why is it so important for preventing a corporate approach to the energy transition?

LP: In TUED, we discuss the need for trade unions to develop a "comprehensive reclamation strategy". This begins with reversing neoliberal energy policies. For example, the Andrés Manuel López Obrador (AMLO) administration seeks to reverse his predecessor Enrique Peña Nieto's energy reform. These are examples of energy democracy because they strengthen the public mandate of publicly owned companies. Enforcing a pro-public mandate includes having clear requirements for public power companies to meet the needs of the people and promote environmental justice within the energy transition. Another requirement of the pro-public mandate is to develop permanent dialogue tables with communities to obtain their consent for energy products, including free, prior and informed consent from Indigenous consent. TUED's analysis and research, shares successful experiences between trade unions in these steps along the 'public pathway' towards energy democracy. Secondly, we need to prevent further neoliberalisation of the energy sector. This is achieved by stopping one of the main forces pushing for market solutions, those of multilateral lending institutions' policies of green structural adjustment which have contributed to the corporatisation of energy across Global South countries. For example, 'policy incentives' for green energy project loans include the liberalisation of the energy market including 'take or pay' programs. TUED South, a platform within TUED that brings together Global South trade

unions, holds regional policy meetings dedicated to building common policy programs that address the challenges and opportunities within a region. We've three regional policy meetings for the regions of Asia-Pacific, Africa, and Latin America and the Caribbean, in which we've brought together trade unions as well as allied research centres and representatives from progressive governments in the region.

SF: The involvement of broad communities and energy coalitions also help to denounce the current trend in state de-risking for corporations, on? We know that in many countries, a rising proportion of renewables in the energy, primarily electric matrix, has come through private investment. Corporations promote themselves as green providers, but their operations and infrastructure may also be silently subsidised and de-risked by the state. Could you explain why this model is so counterproductive to energy democracy and to effectively leading the energy transition in the pace and direction necessary?

LP: The marriage between the derisking state and private capital is one of the top enemies of the energy transition today. On the left, poorly designed policy results in disillusionment and disappointment. In the liberal sphere, market-driven policy disguised as progressive generates confusion and resentment. This model is counterproductive for many reasons, including because it delays real solutions. For example, the Feed-In-Tariff policy widely implemented across Europe involved governments investing highly in subsidising initial community energy projects to 'get them started'. When the subsidies were removed, the projects faltered. This resulted in lost time, loss of public funds, and high ambitions for actions that proved misguided and unsustainable.

The investment deficit in the Global South poses a major threat to the ability of countries to meet their climate goals. Today, developing countries receive less than one-fifth of global clean energy investments. The IMF's "billions to trillions" initiative, intended to de-risk Global North investments in the Global South, has failed insofar as public funds have failed on their own terms in 'catalysing' private investment due to the latter perceiving unsatisfactory 'returns'. In terms of climate action, the de-risking strategy has led to a slower build-out of decarbonisation infrastructure while syphoning public funds away from the very type of public programs most needed to fund a Public Pathway approach to a Just Transition. Rather than 'complementing' or 'catalysing' one another, private sector investment conditions continue to drain public funds that could be used more efficiently and responsibly otherwise.

SF: How do you see lessons and approaches in public energy connecting to other sectors in the economy, strengthening public services in general, in the effort to fund a Public Pathway approach?

LP: One of the most direct advantages to a pro-public energy transition is removing the private motive from the equation and guaranteeing just tariffs, eliminating energy poverty, and fulfilling energy as a human right. However, public funding and ownership, while requisites for a Just Transition, are insufficient alone. A common example is the suburbanisation of life in the United States, funded by public dollars and made possible by public highway infrastructure. To avoid the individualisation embodied by suburban living (but which could apply to other infrastructure such as energy sprawl), public investments and projects must socialise the benefits they provide.

This lesson in public infrastructure can help inform the fight for strong public services in other sectors of the economy. Rather than legislating and funding public services in siloes, a bold vision understands how these services can collectively help transform the way we plan cities, organise land use, collect taxes, and progressively socialise benefits. A community's experience with its local public hospital powered by public energy can be further bettered by the coordinated provision of quality public transportation, public housing, public parks, and so on. Some of the best trade union campaigns for public services reflect this interconnection and the ambitious political vision of a better society emboldens organisers, workers, and all who stand to benefit from it. For instance, The Oil Workers Union of Colombia have popular support due to their participation in the civic strikes which fought for access to water, tax justice, fair housing, and alongside teachers' unions. There is a strategic component. But also, the reality that "there are no good jobs on a dying planet".

This is translated into the shared analysis we have with the Public Services International (PSI) on the notion that strong public services raise the bar for everyone and help coordinate the decarbonisation of our economy. We have also fought to create an intersectoral network, drawing from unions from the health, education, transport, retail and construction sectors precisely because the climate crisis is a cross-cutting issue for workers, and because trade unions are strategically positioned across sectors to pressure for decarbonization policies.

SF: As part of this intersectoral vision, I think that a big challenge behind building and implementing renewables is ensuring a just process in the territories impacted, since a transition can't be just if it creates green sacrifice zones. Because of this, communities impacted by wind and solar farms have shown their opposition to these projects, even if they agree with the necessity to expand renewables and phase out fossil fuel use in general. What are the various ways through which an energy democracy programme can help to reconcile demands for reducing the impacts of renewables while expanding the matrix?

LP: Around the world, indigenous groups and rural communities have clashed with green energy project developers who, they claim, have stolen land, misled local populations, and resorted to bribery and physical force to get their projects approved. Given the pressures to expand renewable energy infrastructure, it is very likely that conflicts between communities and projects will see a rapid increase in the coming years. For example, solar power requires far more space than wind to generate the same amount of power (approximately 1 hectare of land for 1MW of solar). In Latin America, indigenous groups and rural communities from Oaxaca in Mexico to Biobío in Chile have been mobilising against large wind and solar projects. Some have led to project cancellations, as in the case of the Italy-based energy multinational ENEL which called off a wind project after a three-year confrontation with local indigenous Wayuu communities in Northern Colombia.

However, this clearly does not mean that the well-being of communities or workers and decarbonisation is mutually exclusive. The fact that workers and communities often do share grievances and demands means that when they work together, they can inform more equitable forms of planning around renewable energy build-out. Investors and private developers are often the primary beneficiaries of projects while the social and ecological costs are absorbed by Indigenous and Black communities, workers, farmers, and the rural poor. Trade unions are strategically located to support the goal of expanding public renewables through equitable planning while reducing their worst impacts.

To increase unionisation campaigns in the renewable energy sector is not only about workers' rights but also about having potential allies in strategic positions within projects. The majority of trade unions in the TUED network are accountable to the social movements where workers' rights and community rights overlap and coalesce. One such movement space is the Mesa Social Minero-energética y Ambiental por la Paz in Colombia, a national coalition space of labour, environmental, and other social movements founded by the oil workers union to find and build alternatives to the dominant pro-market extractivist model. Many other examples can be found in the trade unions that have signed on to TUED's Trade Union Program, which commits to and calls for indigenous people to ensure their free, prior and informed consent in developing a vision and plan for their relationship to public energy systems that protect indigenous laws and treaties.

In the end, the fight for public renewables is necessary not only for reaching decarbonisation goals, but also because it creates another layer of accountability for projects to serve a "public", which includes Indigenous, Black, farmer, and worker communities as well as energy users more generally.

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Olena Lyubchenko

ReBuild Ukraine: powered by de-risking neoliberalism

ON APRIL 21, 2022, only two months after Russia's invasion, the President of Ukraine, Volodymyr Zelensky, issued a decree establishing the National Council for the Recovery of Ukraine from the Consequences of the War. As Russia was making rapid advances in the Donbas region and periodically shutting down the Nord Stream gas pipelines to place pressure on Europe, the first draft of Ukraine's National Recovery Plan was published in July 2022, with the slogan, 'a strong European Ukraine is a "magnet" for international investment'. That same month, Switzerland hosted the Ukraine Recovery Conference, in Lugano, as the international kick-off event for the recovery process. The Lugano conference emphasised that in the spirit of Europeanisation, Ukraine's recovery 'has to be inclusive and ensure gender equality and respect for human rights, including economic, social and cultural rights. Recovery needs to benefit all, and no part of society should be left behind. Disparities need to be reduced'.[1] At numerous official meetings and in the media, the reconstruction of Ukraine's war-torn economy has been celebrated as nothing short of a new 'Green Marshall Plan'.

1 Lugano, 2022

Since July 2022, Ukraine's post-war reconstruction has become a new global industry, with the World Bank estimating it could exceed US $486 billion over the next decade.[2] The devastating effects of Russia's invasion, coupled with the Zelensky government's labour and social reforms aimed at reducing social costs, has created favourable conditions for capital, particularly for the financial sector. The planned reconstruction effort will serve US and EU interests, including those of financial conglomerates like BlackRock, Ukrainian elites, and Western and Ukraine-based energy companies. As is usually the case, impoverished Ukrainian households will likely bear the costs of both the war and the recovery. Yet this is only part of the story.

The most underexamined aspect of Ukraine's post-war recovery is the reconfiguration of the role of the post-Soviet state as a 'de-risking' entity for predominantly foreign finance capital. While the original Marshall Plan was implemented in the context of comprehensive Soviet social citizenship, rooted in strong state intervention and offering an alternative to capitalist development, Ukraine's reconstruction today occurs in the context of what economist Daniella Gabor terms the Wall Street Consensus.[3] This paradigm assigns the state a new role: to de-risk investments on behalf of finance capital by providing extraordinary guarantees and securities to the multinational firms invited to finance, reconstruct, and manage public infrastructure, resources, and services. Ukraine offers an especially attractive target due to its lingering, if diminished, post-Soviet state capacity, economic landscape, and residual public assets. And the war provides a timely opportunity for restructuring. In war-torn Ukraine, de-risking neoliberalism arrives as a Europeanising agenda aiming to further 'de-communise' state structures through state-capacity grabbing. This implies not just neoliberal austerity for impoverished Ukrainian households, but also a political restructuring of the state-capital relationship, towards the interests of predominantly foreign finance capital.

Ukraine's energy sector, heavily damaged by Russian attacks, has become a prime area for de-communisation, capital accumulation, and EU markets. Though many Ukrainians have been experiencing energy poverty since the post-Soviet collapse and especially following February 2022, energy is listed as a highly investible, priority sector in the Ukraine Recovery Plan. Will domestic

2 The World Bank. 2024. 'Press Release: Updated Ukraine Recovery and Reconstruction Needs Assessment Released'. The World Bank, February 15.
3 Gabor, D. (2021) 'The Wall Street Consensus', *Development and Change* 52(3): 429–59.

public resources – or whatever is left of them – be directed towards ensuring predictable returns for investors? My analysis explores this question based on my observations at the ReBuild Ukraine Powered by Energy conference (Warsaw, November 2023). I posit that Ukraine's Soviet-era energy infrastructure – remarkably strong in gas storage, electricity generation, and green hydrogen potential – presents significant opportunities for capital. Under the logic of the Wall Street Consensus, applied in blended finance schemes and a political-advisory role for foreign finance capital, this infrastructure can support Europe's shift away from Russian fossil fuels while generating profits for energy conglomerates and investors. These gains, however, come at the cost of privatising Ukraine's energy sector, a remnant of Soviet-era subsidisation policies, and shifting the state's political role to one that delegates public policy objectives to private capital. We are witnessing a brutal war that has claimed hundreds of thousands of lives being turned into a speculative opportunity: one that promises enormous profits through the undermining of social rights, and obstructs the development of alternative political visions for a just transition in post-war Ukraine.

The post-Soviet state

To assess the post-war reconstruction industry in Ukraine, and how it is transforming the Ukrainian state, it is essential to start with the contours of the post-Soviet capitalist state in the context of neoliberal globalisation. Ukraine was one of the more politically and economically privileged Soviet republics, industrially developed, highly educated, and rich with natural resources.[4] In 1990s post-Soviet Ukraine, the Soviet state – its resources, institutions, infrastructure – was transformed into a support system for new capital. As Steven Solnick emphasises, the Soviet state did not just fall apart; rather, the former nomenklatura (state officials and Soviet enterprise managers) were 'stealing the state itself'.[5] The restructuring involved three processes: (1) state-owned enterprises and the public sphere were directly transformed into private sources of income; (2) Soviet state institutions, legal resources, and apparatuses formed the infrastructure for capital accumulation; and (3) Shock Therapy reforms, like elimination of price controls, introduction of flat tax, and cutbacks in social benefits and services, aimed to discipline the workforce into new dependence on the market. In this sense, the criminal-

4 Tony Wood, Matrix of War, NLR 133 134, January April 2022
5 Steven L. Solnick. 1998. *Stealing the State: Control and Collapse in Soviet Institutions*. Cambridge, Mass: Harvard University Press, 7.

political nexus that emerged in Ukraine attached to big industry must be traced back to the late-Soviet state, as Yulia Yurchenko has shown.

Ukraine's market-reform program really got going by 1994. Following Leonid Kuchma's election victory, his program was passed by parliamentary vote in October 1994. Between 1994 and 1999, under Yuriy Yekhanurov, who headed the State Property Fund of Ukraine, and with the help of the IMF, neoliberal reforms were passed that included trade liberalisation, price liberalisation by 72%, mass privatisation, pre-arranged tenders driven by political calculations, and grain liberalisation.[6] Kuchma,[7] like Yeltsin in Russia, passed privatisation through presidential decrees to circumvent stalling in parliament and political resistance. Over this period, the IMF provided US $3.5 billion to Ukraine, making it the third-largest recipient of USAID assistance after Israel and Egypt in 1995 and 1996. USAID assisted Ukraine not just financially, but also in the drafting of laws.

Neoliberal reforms were nothing short of a disaster for Ukraine. The country's official GDP collapsed by almost half between 1990 and 1994. During this period, Volodymyr Ishchenko and Yulia Yurchenko note, Ukraine became a neoliberal kleptocracy, characterised by the creation of special economic zones (SEZs) and priority development areas (PDAs), with priority sectors for industries and legislative reform on tender, state purchasing, and abuse of procedure. Two competing power blocs came to dominate Ukrainian politics, Dnipropetrovsk and Donetsk, both Soviet-era industrial centres. The Dnipropetrovsk (now Dnipro) bloc was composed of the aforementioned neo-nomenklatura, as well as capitalists in-the-making from the milieu of the criminal–political nexus and Komsomol, represented by Presidents Kravchuk, Kuchma, and Prime Minister Lazarenko in the first post-independence period. The Donetsk bloc, led by figures like President Yanukovych and Prime Minister Azarov, gained power by privatising state assets and concentrating capital. By the late 1990s, the Donetsk faction formed the Party of Regions to solidify its influence. What is often seen as 'two Ukraines' – pro-Western and pro-Russian – is better understood, as Yurchenko argues, in terms of shifts in power within and between social blocs and classes. This kleptocratic rivalry over the politics of post-independence Ukraine culminated in the 2014 financial crisis, EuroMaidan, and the separatist

6 Åslund, A. (2009). *How Ukraine became a market economy and democracy*. Peterson Institute for International Economics, Washington DC, March.

7 Leonid Kuchma's role as Director of the Yuzhmashe (Yuzhnoye Machine Building Plant) in Dnipropetrovsk was pivotal in shaping his connections to the Soviet military-industrial complex, and later his influence in post-Soviet Ukraine. The Dnipro oligarchs, including those with ties to Yuzhmashe, gained substantial economic power, as they capitalised on the privatisation of state assets, including the defence industry enterprises like Yuzhmashe.

movement in Donbas. The effect has been to further de-develop the country. In 2019, the GDP per capita in Ukraine remained below its 1989 level. As Volodymyr Ishchenko and Oleg Zhuravlev argue, Ukraine's EuroMaidan uprising responded to, reproduced, and intensified what they term the post-Soviet crisis of hegemony.[8]

The Ukrainian post-Soviet state is hollowed-out and fragile. It went through Shock Therapy reforms in the 1990s, the so-called 'de-communisation' reforms since 2014, and of course a war. Now, Russia's war potentially offers foreign finance capital a unique state capacity and economic landscape, with residual public assets such as energy. In this scenario, the state provides guarantees and securities to finance capital, and thereby increases returns relative to risks. As Daniela Gabo puts it, the state comes to 'de-risk' investment through instruments such as public-private partnerships. This development strategy, the Wall Street Consensus, is an update of neoliberalism. Gabor explains that it consists of 'long-term contractual arrangements through which the private sector commits to finance, construct and manage public services as long as the state, with multilateral development bank (MDB) support via blended finance, shares the risks by guaranteeing payment flows to PPP operators and investors'.[9] In the case of Ukraine, not only is foreign finance capital arriving to invest in new 'spaces', but it does so with state guarantees to take on the risks of investing during a major war.

Ukrainian energy

Historically, post-Soviet Ukraine's energy market was designed to maintain state control while subsidising household and public-sector energy consumption. In 2002, an IMF policy discussion report complained that 'the Ukrainian government continues to place a heavy bureaucratic and regulatory burden on the private sector… the tax authorities maintain wide powers'.[10] Governance issues in corporate management, as well as a number of enterprises being blocked from privatisation (such as regional energy-distribution companies and telecommunications companies like Ukrtelecom), led to rent-seeking behaviour that blocked some market-liberalisation reforms. In 2011, Ukraine became a member of the European Energy Community, which required major reforms as a condition of

8 Volodymyr Ishchenko and Oleg Zhuravlev. 2021. 'How Maidan Revolutions Reproduce and Intensify the Post-Soviet Crisis of Political Representation', PONARS: Eurasia Policy Memo No. 714, October.
9 Gabor, D. (2021a) 'The Wall Street Consensus', *Development and Change* 52(3): 429–59.
10 Elborgh-Woytek, K., & Lewis, M. W. (2002). Privatization in Ukraine: Challenges of Assessment and Coverage in Fund Conditionality. *IMF Policy Discussion Papers*, 2002(007), A001.

entrance, including the imposition of market prices for households. Coal, the only resource in which Ukraine was self-sufficient, is largely located in Donbas, in areas now controlled by Russia. After the 2014 Maidan and the separatist movement in Donbas, Ukraine became import-dependent in energy. Despite this, reforms towards a liberalised energy market with unsubsidised energy prices for households were stalled, due to popular unrest that threatened the government's legitimacy.

On the same day that Russia launched its invasion in February 2022, Ukraine disconnected from the Soviet-era power grid that linked it to the Russian and Belarusian electricity systems and began a three-day process to connect to the Continental European grid. By November 2023, Ukrenergo, the Ukrainian transmission system operator, achieved compliance with the key technical requirements for a permanent interconnection between the power systems of Continental Europe and Ukraine.

Russia's invasion has severely impacted Ukraine's electricity industry, including the renewable sector, since 30% of Ukraine's solar capacities and 90% of its wind power capacities are now in Russian-occupied territories.[11]

While Ukraine has banned the use of Russian energy domestically, it continues to facilitate the transit of Russian oil and gas to Europe, remaining committed to this as long as Europe needs. In The Ukraine 2023 Report, the European Commission on EU enlargement made the following demands of Ukraine:

- Advance green energy transition and green reconstruction: adopt an ambitious national energy and climate plan (NECP) in line with the 2030 Energy Community energy and climate targets [...] adopt and implement the electricity integration package; continue improving energy efficiency including in the residential sector through regulatory measures and via the Energy Efficiency Fund; implement policy measures to encourage investments in renewable energy production; launch reform of the district heating sector, and introduce mandatory energy efficiency criteria for public procurement

- Take steps to achieve cost reflective energy pricing, in particular by gradually phasing out public service obligations and replacing them with targeted support for vulnerable energy consumers

11 Andrian Prokip. 2024. 'The State of Ukraine's Energy Sector after Ten Years of War'. *Wilson Center, Focus Ukraine*, February 8.

- Improve the independent and effective functioning of the energy regulator, resulting in a track record of fair and transparent decision-making to enable the energy markets to function properly[12]

Abandoning subsidies for households, eliminating the state's role in the energy sector, and liberalising the energy market were proclaimed as central elements of a green transition and a necessary part of Europeanisation. In practice, for Ukrainian households, this could mean that electricity will be limited to only five to seven hours a day this coming winter – worsening energy poverty during the war.

ReBuild Ukraine Powered by Energy, Warsaw 2023

Ukraine's postwar reconstruction industry has its own elite international conference circuit, including the bi-annual ReBuild Ukraine Powered by Energy: International Exhibition in Warsaw.[13] This trade-fair-style event involves international financial institutions, donors and investors, Western governments and development agencies, as well as Ukrainian banks and local and regional governments that pitch and make investment deals.

Whether the conference itself is a place of important decision-making, or only a ceremonial performance, burnished with slick PowerPoint presentations, of deals already made behind closed doors, it is revelatory of the policies and investment strategies that will guide Ukraine towards a future envisioned by global financial elites.

The conference underscored that Ukraine's alignment with the European Green Deal is essential for European sovereignty. Its strategic value is rooted in the 'de-communisation' of the strong post-Soviet infrastructural and manufacturing capacity in Ukraine's energy sector. The 'Energy for the Recovery of Ukraine' discussion, organised by the Ministry of Energy of Ukraine, emphasised the need to leverage Ukraine's energy potential to enable Europe's delinking from Russian fossil fuels. As Lithuania's Minister of Energy, Dainus Kreivys, noted, Ukraine's energy resources like nuclear, wind, solar, and gas are of strategic importance to the EU because they can replace Russian resources. Ukraine's gas storage capacity is the third largest in the world after the United States and Russia, far exceeding that of any EU country. Its facilities, originally built during the Soviet era, are much larger than is required to meet Ukraine's domestic needs.

12 European Commission. 2023. Ukraine 2023 Report. November 8, 120-121.
13 See the exhibition's official website: https://rebuildukraine.in.ua/en/post-event-materials-2.0

This has made Ukraine a key player in storing gas for Europe in 2023, helping to stabilise prices and generate profits for over a thousand different companies. Ukraine's favourable customs regime for short-term storage, along with assurances that gas wouldn't be requisitioned under martial law, has provided additional incentives for traders. Both the EU and the Ukrainian government are eager to capitalise on this.[14]

With arable land of 33 million hectares (equal to one-third of all arable land in the EU), Ukraine can replace Russia's supplies of critical raw materials to the EU and can become Europe's energy storage hub and electricity provider. Ukraine's electricity sector was also discussed at length. Kreivys noted that the synchronisation of European-Ukrainian electricity grid signals to the Baltic states (still connected to Russia) that they could also implement this change. A US Bureau of Energy Resources official, Laura Lochman, emphasised that Ukraine's strong electricity-generation capacity makes it an engine for European growth. Decommunisation was invoked in a both a spatial sense – disconnecting from the Soviet grid – and in an economic sense, in terms of the liberalisation of prices and privatisation.

The war has accelerated the implementation of certain energy-privatisation projects that were already in the making before Russia's invasion in February 2022. For example, green hydrogen production had previously moved slowly due to the Soviet legacy of low retail electricity prices, which had limited investment in the power sector as a whole.[15] Now, however, Ukraine is poised to become a major supplier of green hydrogen to Europe, forming the core of the RePowerEU plan to delink from Russian fossil fuels, and strengthening the position of EU countries in the global race for dominance of renewables.[16] Germany's H2Global initiative, for example, is a financial instrument that promotes both hydrogen production in the EU and import partnerships with emerging producer countries, as far away as South America. Christine Toetzke, Germany's Minister for Economic Affairs and Climate Action, hopes Germany can provide enough incentives for the private sector to invest in hydrogen production in Ukraine.

The EU is counting on Ukraine to support a zero-carbon energy transition by developing zero-carbon power generation (nuclear and renewable energy sources) and the GH2 (gaseous hydrogen) system.

14 'The Ukraine war offers energy arbitrage opportunities'. *The Economist*, February 15, 2024
15 Marco Rudolf, Valentyn Bondaruk, Kilian Crone. 2021. 'Green Hydrogen in Ukraine: Taking Stock and Outlining Pathways'. German Energy Agency, June.
16 European Commission. 2023. 'Joint statement by Commissioner Simson and German Minister Habeck on energy issues'. News Announcement, May 31.

Together with increasing fossil gas – greenwashed by the EU – and biofuels production, these efforts are part of Ukraine's EU accession negotiations. On June 25, 2024, the Cabinet of Ministers of Ukraine approved the National Energy and Climate Plan (NECP) up to 2030. The NECP will serve 'as a blueprint for Ukraine's green reconstruction and rehabilitation, stimulating assistance from the international community'.[17] The investment needs of the NECP alone will range from US$41.5 billion to US$50 billion.

The de-communisation of Ukraine's energy sector and production of cheap green energy to support European energy sovereignty and a green transition requires a new relationship between state investment and private (mostly foreign) investment. Accordingly, the topic of attracting private investment, with blended finance and political-risk insurance, was a substantial preoccupation of the ReBuild Ukraine conference. Discussions at the 'Fit for Ukraine' Forum on Investment and Transformation, organised by Ukraine Invest, emphasised that Ukraine's reforms must aim at: (1) increased BPP structures; (2) market liberalisation in the energy sector; (3) public policies aligned to EU standards.

These reforms and investments ostensibly support the principles of 'building back better' and the institutional capacity of Ukraine's national and subnational authorities. As the CEO of Ukrenergo, Volodymyr Kudrytskyi, said: 'the war, of course, is a tragedy, but it depends on you, how you react to it […] You can say, "Okay, it's a horrible situation, and we are just victims" – or we can try to build back better, to come back in better shape'.[18] So far, 'building back better' has become synonymous with de-risking development, where the Ukrainian state steps in to safeguard and guarantee accumulation, a move towards a market-driven reconstruction that sidelines public welfare and state control in favour of private interests. As Gabor and Sylla explain, '(foreign) capital dominates in the state–capital relationship in de-risking developmentalism'.[19]

17 Ministry of Economy of Ukraine. 2024. 'Ukraine approves National Energy and Climate Plan on the day of the start of EU accession negotiations'. *Government Portal,* June 25s

18 David L. Stern. 2023. 'Russia destroyed Ukraine's energy sector, so it's being rebuilt green'. *The Washington Post*, July 5.

19 Gabor, D., & Sylla, N. S. (2023). 'Derisking developmentalism: A tale of green hydrogen'. *Development and Change*, 54(5), 1169-1196

Finance capital and the future of Ukraine

The EU and the US are facilitating the advisory role of foreign finance capital in shaping Ukraine's political and economic landscape. On February 1, 2024, the European Union set up a Ukraine Facility Plan, which will provide €50 billion to Ukraine by 2027.[20] Coordinated by the Ministry of Economy of Ukraine, the Ukraine Facility aims to implement structural and economic reforms in the public sector, enhance the business climate, foster entrepreneurship, and develop priority sectors for rapid economic growth. Of the €50 billion total, €39 billion will be allocated to the state budget to strengthen macro-financial stability. It further provides for a special investment instrument to cover risks in priority sectors, which will amount to €8 billion. Private investors will be able to receive funding under this instrument through the EBRD, the EIB and other international institutions.[21]

It was not at all surprising that, in his presentation at the 'Fit for Ukraine' forum, Christian Syse, Special Representative for Ukraine from the Norwegian Ministry of Foreign Affairs, reminded the audience that this war was being fought in part to defend the interests of international financial institutions. Matthias Wyrwoll, the Managing Director of the Financial Markets Advisory (FMA) Group at BlackRock also made a revealing presentation, in which he noted that BlackRock won an award for best support on investment in Ukraine for their new 'Ukraine Development Fund' (UDF), promising a new era of development.

In November 2022, BlackRock, JPMorgan and the Ministry of Economy of Ukraine signed a Memorandum of Understanding, according to which BlackRock will provide advisory support in the designing of an investment framework for Ukraine's reconstruction.[22] The UDF is set up as a reconstruction bank, to attract private and public capital for implementing large-scale business projects in Ukraine, with over US $500 million in commitments and an estimated future US $1 billion in commitments in 'catalytic capital', or investments with higher levels of risk – or as Wyrwoll put it in his presentation in Warsaw, 'higher risk appetite'. It is important to note here that the Ministry of Economy appointed BlackRock to advise on the launch of the fund free of charge. Clearly, however, that donation is a worthwhile price to pay for the strategic value of a coordinating role. Wyrwoll outlined the five priorities of interest to BlackRock: Ukraine's infrastructure, energy, manufacturing, agriculture, and IT sectors.

20 Ministry of the Economy of Ukraine. 2024. 'News: European Council backs EUR 50 billion financing for Ukraine, paving way for further approval of Ukraine Facility'. Government of Ukraine, February 1.
21 Ministry of the Economy of Ukraine. 2024. 'News: European Council backs EUR 50 billion financing for Ukraine, paving way for further approval of Ukraine Facility'. Government of Ukraine, February 1.

The UDF will be based on blended finance, where public capital will ensure de-risking for private capital to support the reconstruction of Ukraine.

Conclusion

The reconstruction industry gathers pace at a time of great uncertainty, as the war continues to drag itself out. Social despair has set in among much of the population – observed in the resistance to forced mobilisation at home and abroad – and debt-service obligations are coming due, with a potential default on the horizon. As talk of peace negotiations with Russia begins to grow, Ukraine's energy is becoming a central bargaining chip in its negotiations with Europe and the US, as it attempts to secure continued Western military support and NATO membership. In his recent 'Victory Plan', Zelensky announced that the joint protection, investment in, and use of Ukraine's rich energy resources by its Western partners will provide a significant advantage in global competition. This fourth strategic point in the document contains a secret annex only shared with US and European leaders. It is not coincidental that this Victory Plan was announced three weeks before the 2024 US elections, which will decide Ukraine's future.

At the conference in Warsaw, Kaare Andreasen, Finance Director at the Export and Investment Fund of Denmark and Counsellor at the Embassy of Denmark to Ukraine, proclaimed from the stage of the 'Aid and Development Meetup' that the two major risks to private investment in Ukraine were 'Russian missiles and nationalisation'. In this scenario of reconstruction as de-risking, the prospect of realising an 'inclusive' Ukraine – as pledged at the Lugano conference the previous year – appears highly doubtful. Instead, we are witnessing a structural transformation of another kind. The de-communisation of the Ukrainian energy sector, among other areas of the economy, becomes a form of public-sphere and state-capacity 'grabbing' by invitation, involving new 'development' projects based on public-private partnerships, which ultimately hinder the formulation of politicised, alternative, progressive strategies for post-war reconstruction. When finance capital drives structural transformations like the green transition, its primary focus remains on profit rather than human welfare or development, even when framed as a 'Green Marshall Plan' amid the largest conflict in Europe since World War II.

22 This was an initiative announced at the Ukraine Recovery Conference, London, on the 21st and 22nd of June, 2023.

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Bruce Baigrie

Deadlock in the dark: breaking out of the South African electricity crisis

Deadlocked in the dark

In 2023, South Africans endured 6,947 hours of electricity outages, nearly double the figure from the previous year. While early signs suggested 2024 would be similar, as of October, South Africa has avoided scheduled blackouts, known as 'loadshedding', since March. Contributing factors include a maintenance drive, the addition of an 800MW unit of coal power, and a rapid increase in rooftop solar installations, primarily by wealthy homeowners. Although the worst loadshedding – up to 11.5 hours daily – may not return, ageing coal plants will inevitably break down, as one recently did, prompting expensive and dirty diesel turbines to come to the rescue. The pause in loadshedding was also seen as a tactic to charm understandably cynical voters before the national election in May. However, those election results were disastrous for the ruling African National Congress (ANC), forcing it into an alliance with its rival, the Democratic Alliance (DA), and several smaller parties as a 'Government of National Unity' (GNU). Consequently, political pressure on the fragile GNU to keep the lights on will remain.

Additionally, demands to decarbonise a coal-dominated electricity grid have intensified due to a Just Energy Transition Partnership (JETP), according to which the US, UK, Germany, France and the EU have promised USD 8.5 billion in global finance (naturally, with various strings attached). As a result, those overseeing the energy sector must simultaneously navigate decarbonisation, immense technical challenges, and the factors that crippled the electricity grid in the first place.

The South African case illustrates that a just energy transition is not merely a technical task, of replacing coal with renewables, but a convoluted process in which the politics of public ownership present various contradictions. Nonetheless, as pressure heightens on all sides, class compromises become more likely. The possibility of such a compromise, has been posited by retired trade unionist Dinga Sikwebu. The historic weakness of the left suggests any such compromise will be limited, yet I maintain one can and must be produced in the electricity sector. On the one hand, at least over the coming years, private investment in renewables will be required. However, the viability of such investment relies thoroughly on a state in which organised labour retains a level of structural power. From this position, it is possible to imagine a pathway that broadly retains public ownership, while kickstarting South Africa's transition.

Eskom and the ANC

South Africa's energy sector revolves around Eskom, the state-owned electricity utility mired in prolonged operational and financial crisis. Remarkably, loadshedding is not a case of South Africa struggling to construct a functional electricity grid; instead, it is the stunning decline of a utility that the Financial Times rated in 2001 as the best in the world. Eksom's crises largely stem from its position as a central battleground for factions within the ANC. Understanding these factions is crucial. Broadly, the ANC consists of three tendencies: The closest to capital is an 'economic moderate' faction: Often vacillating toward austerity policies, this faction has controlled the finance ministry almost continuously, and recently oversaw Eskom through the Department of Public Enterprises. While the apartheid government initiated plans to restructure Eskom and the South African energy sector during the economic turmoil of the late 1980s, this faction of the ANC adopted these reforms as policy in the late 1990s and early 2000s. Thus, initial plans to restructure Eskom, despite its excellent performance, were overwhelmingly rooted in neoliberal ideology. (Restructuring in this case involved separating Eskom's generation, transmission, and distribution divisions, and moving toward private ownership of the first.)

The 'moderate' faction, then, has been in open conflict with the ANC's left, which is primarily rooted in a tripartite alliance with the Congress of South Africa Trade Unions (COSATU) and the South African Communist Party (SACP). However, neoliberalism alone cannot explain today's crisis; understanding it requires consideration of the ANC's third faction.

Also in conflict with the economic moderate faction is a loose coalition under the banner of Radical Economic Transformation (RET), where radical transformation principally means increased rent-seeking through state procurement, justified as post-apartheid redress. When in power, this faction has made various overtures to the owners of South Africa's coal mines. These mines were once dominated by international conglomerates; today, they are increasingly controlled by domestic players that have benefitted most from the Broad-Based Black Economic Empowerment (B-BBEE) framework, from whom Eskom purchases the bulk of its coal. The (literal) fortunes of coal mine owners are thus intricately tied to Eskom and the future of the power sector. President Cyril Ramaphosa, firmly within the economic-orthodoxy faction, is the arch-nemesis of RET, which is symbolised by former President Zuma, who recently made a stunning electoral comeback with the new uMkhonto weSizwe Party (MK), winning 14.6% of the vote.[1] Ramaphosa's relationship with the ANC's left, where he began his political career, and which still supports him, had been strained even before he was forced into coalition with the Democratic Alliance (DA) in order to keep RET and Zuma out. Early indications concerning the GNU have been quite positive; nonetheless, the DA's positions against organised labour and state ownership may still push the government to the brink. The fragility of Ramaphosa's coalition and factional infighting map onto Eskom, where credible reports of sabotage illustrate the intensity of these struggles.[2] Consequently, the threat of RET makes anti-austerity politics on their own insufficient to tackle the crises at Eskom. Yet the left cannot abandon public ownership, which now also serves to address the ongoing climate crisis.

1 Benjamin Fogel, 'Who Will Govern South Africa?', *The Nation*, June 4, 2024, https://www.thenation.com/article/archive/south-africa-elections-jacob-zuma-mk-anc/.
2 Shaun Jacobs, 'Eskom Sabotage of 'Catastrophic Proportions', *Daily Investor* (blog), June 12, 2023, https://dailyinvestor.com/energy/19877/eskom-sabotage-of-catastrophic-proportions/.

Decarbonisation and the public approach

In 2017, Trade Unions for Energy Democracy (TUED) published a report, 'Preparing a Public Pathway', that sounded a dire warning.[3] Despite dramatic declines in production costs, investment in renewables was flatlining.[4] The authors argued that, under capitalism, investment depends primarily on profit, not price. Amid claims that the transition was inevitable because renewables are 'just so cheap', the profit motive had been largely overlooked. This conflation of production costs, price, and profit is a central subject of Brett Christophers's book, *The Price is Wrong* (2024). Analysing electricity sectors in countries around the world, Christophers concludes, seven years after TUED's report, that investment in renewables and progress toward emissions targets are still 'utterly failing'. TUED proposed an obvious alternative: the transition must be driven by unprecedented public investment, free from the necessity of profit, under a publicly owned energy system. This thesis is further supported by Christophers's book, which reveals that the market-led transition relies on markets that are far from free.

Electricity, unlike most commodities, requires a constant balance of supply and consumption, with limited storage options. Intermittent renewables present additional challenges, but, even without these, competitive electricity markets have historically depended on state rules and regulations. As Christophers states, private electricity generation is 'stuck on support'. Additionally, evidence suggests restructuring has failed to deliver on its promise, with consumers in restructured sectors now paying more for electricity. Thus, advocating for a public pathway involves removing the influence of capital through class struggle, rather than merely reinserting the state. However, while markets have caused blackouts elsewhere (such as in Texas, USA), South Africa's unprecedented blackouts occur under state control. The greater priority is not removing the marginal influence of the market from electricity provision, but repairing the state that oversees it. This logic also extends to collapsing state water and sanitation infrastructures, which are both vulnerable to and required for the mitigation of recurring droughts and storms, intensified by climate change.

3 TUED have partnered with various unions and movements in South Africa. The report was produced by Sean Sweeney and John Treat, 'Preparing a Public Pathway: Confronting the Investment Crisis in Renewable Energy', Working Paper (CUNY: Trade Unions for Energy Democracy, 2017), https://unionsforenergydemocracy.org/resources/tued-working-papers/tued-working-paper-10/.

Unfortunately, in South Africa and much of the world, climate change is a low priority for the population. This doesn't mean renewables can't play a crucial role in alleviating the power crisis, especially given how quickly they can be built.

Nine wasted years

When Ramaphosa came to power, he lamented the 'nine wasted years' under his predecessor Jacob Zuma. The description was charitable, if anything. Zuma assumed office in May 2007, shortly after South Africa's first experience with loadshedding. At that time, construction had begun on a new coal-fired power station, Medupi, which was expected to restore Eskom's reputation for building world-class power plants. Medupi, with its supercritical boilers, was slated to supply 4,800MW of power by 2015. In 2008, work began on an even larger plant, Kusile, set to be fully operational by 2017. However, by 2015, only one of Medupi's six units was operational, and, unsurprisingly, loadshedding returned with force. The final unit only began generating power in late 2021, but Unit 4 exploded under mysterious circumstances a week later. Kusile's Unit 5 has recently provided some respite from loadshedding (the 800MW mentioned at the beginning of this article), but, at the time of writing, its sixth unit is still incomplete. The combined budget for the two plants was around US$8.75 billion, but final costs are nearing triple that amount. For South Africans, it became clear: something was very wrong at Eskom, and RET was at the heart of it.

Reforms to restructure Eskom initiated the crisis, but they were largely abandoned after the infamous Polokwane conference in 2007. At Polokwane, the ANC launched a developmental turn, with Zuma, supported by the left, expected to oversee it. In reality, Zuma's tenure and the rise of RET were anything but developmental. By the time Zuma was removed by his own party, Eskom's procurement budget had tripled, its debt had quadrupled, yet it was generating less electricity. As Andrew Bowman describes in an paper for *African Affairs*, Eskom was at the centre of 'economy-wide, industrial decline… alongside massive parastatal investment increases'.[5] While Ramaphosa and his allies have made statements supporting industrial policy, their 'renewal' project has primarily focused on restoring good governance after Zuma's period of 'state capture', with relatively little effect. Regarding Eskom, Ramaphosa's administration has aimed to complete the promised reforms: restructuring Eskom towards privatisation in generation, largely in renewables. However, the deadlock has continued. South Africa's first private renewables generators began operations in 2013; when Ramaphosa became President in 2018, they accounted for just under 7% of power capacity. Six years later, their share increased to just 13%. As things stand, there are many reasons to doubt a significant renewables rollout will happen anytime soon.

This May, Eskom announced plans to extend the operation of its coal-fired power plants beyond their scheduled retirement dates. From a climate perspective this is grim, but promises of reliable electricity often outweigh environmental concerns, as well as any geopolitical pressures like the Just Energy Transition Partnership. Part of South Africa's significance as a case study lies in the challenge of balancing decarbonisation with a reliable and affordable power supply. Unfortunately, in South Africa and much of the world, climate change is a low priority for the population. This doesn't mean renewables can't play a crucial role in alleviating the power crisis, especially given how quickly they can be built. While discussing the specific challenges renewables bring to electricity sectors is beyond the scope of this article, it's worth noting that those technical challenges generally only become significant when renewables account for at least 20% of capacity.

4 South Africa's renewable-energy sector consists of wind and solar power.
5 Andrew Bowman, 'Parastatals and Economic Transformation in South Africa: The Political Economy of the Eskom Crisis', *African Affairs* 119, no. 476 (July 29, 2020): 395–431, https://doi.org/10.1093/afraf/adaa013.

This chimes with arguments made by renewables advocates, who cite political interference and entrenched coal interests as the only barriers to the rollout of renewables. (A recent commentary on additions to an energy regulation bill suggests that such interference remains significant.[6]) Sadly, the problem is not so simple, and removing barriers is only one part of the solution.

South Africa is not unique in what drives private investment. For both international and domestic investors, the profit motive reigns supreme. Hence, removing 'red tape' or interference will not prove sufficient for the rollout of renewables. The first Independent Power Producers (IPPs) of 2013 required substantial subsidies from Eskom and the South African public through long-term price guarantees. Investors in these projects enjoyed returns above 17%. However, South Africa cannot escape Christophers's thesis: the price is no longer right. As one financial advisor recently lamented, under a competitive market structure the current expected returns are 'a far cry' from previous levels.[7] Even with various measures to 'squeeze additional returns', the sector will not 'satisfy international equity return requirements'.

This implies that if private renewables are to play a meaningful role in South Africa's energy mix, the state will need to provide significant support. This raises the question: if the state is going to bankroll renewables for profit, why not build them itself? That would involve immense challenges, but any hope of ending loadshedding while catalysing the transition will require the state every step of the way.

Letting the market in

Given Eskom's condition, there remain enormous obstacles to the utility's viability as leader of South Africa's transition. Financially, Eskom's latest report put its debt at almost US$23 billion, a figure which would be significantly higher without past government support. Unless vast concessionary funding is made available, Eskom will be unable to finance the construction of renewables. And the levels of mismanagement and corruption that have plagued the utility make such funding now hard to come by.

6 Alexander Parker, 'Murky Amendments Raise Questions about Draft Energy Law', BusinessLIVE, May 20, 2024, https://www.businesslive.co.za/bd/opinion/columnists/2024-05-20-alexander-parker-murky-amendments-raise-questions-about-draft-energy-law/. The author claims that if these barriers were removed, the unbundling of Eskom and the creation of an energy market would 'not only fix our energy crisis but also reduce prices, removing a millstone from around the neck of our beleaguered economy and creating hope for the one-in-three South Africans who cannot find work'.

7 Enriko Fourie, 'South African Renewable Energy IPP Project Equity Returns – Are They Still Attractive?', *Engineering News*, March 6, 2024, https://www.engineeringnews.co.za/article/south-african-renewable-energy-ipp-project-equity-returns-are-they-still-attractive-2024-03-06.

The disasters of Medupi and Kusile make objections to any Eskom-led renewables build-out difficult to dismiss. Certainly, the billions promised through the much-hyped JETP agreement are conditional on Eskom ceding its position in generation.[8] Nonetheless, the political costs of loadshedding have forced the ANC to shelter the utility from outright looting. And while its coalition with parties like the DA will foreclose a push for Eskom to lead a build-out, state managers will have additional cover to restore the utility and drive out RET. It is for this reason, I contend, that that the only viable public pathway is a medium-term strategy that, instead of agonising over letting the market in, considers *on what terms*. The costs of obsessing over the former are already apparent.

While renewables at utility scale, the kind that South Africa and the world require, are 'stuck on state support', the parallel development of distributed solar (mainly on rooftops), is much less constrained. It is quite staggering that in just a few years, such solar installations in South Africa have reached almost the same capacity as utility-scale solar. Despite the fanfare, the implications of this development are dire, as I argued when the new regulations were published.[9]

The costs offset by distributed solar do not nearly cover Eskom's fixed costs of running and maintaining the national grid. Distributed solar users still need to access this grid for most of the day. Either distributed solar users pay for these costs, or they are passed on to Eskom, further driving its 'utility death spiral'. To prevent this, Eskom will attempt to pass these costs on in turn, in the form of increased rates for those who don't have distributed solar, overwhelmingly the poor. If their electricity prices go up, many South Africans will have no such recourse to adequate roofs, let alone advanced solar systems. At least utility-scale renewables would stay within Eskom's orbit, benefit from economies of scale, and could be better regulated. They could also, under different political conditions, be nationalised. Despite its malaise, Eskom is not going anywhere, and its debt must be dealt with in one way or another. So long as the utility is progressively restored, allowing IPPs to continue to build renewables in the medium term is by no means an abandonment of a public approach. Unlike the market ideologues in the business press and think tanks, investors support competitive markets primarily because, and insofar as, those markets enable them to grow their profits.

8 Sean Sweeney, 'Just Energy Partnerships' Are Failing', *Jacobin*, May 5, 2024, https://jacobin.com/2024/05/just-energy-partnerships-climate-finance.

9 Bruce Baigrie, 'Power Struggle: The 100MW Exemption Is Likely to Be a Monumental Step towards Privatisation — Not Necessarily for the Good', Daily Maverick, July 5, 2021, https://www.dailymaverick.co.za/article/2021-07-05-power-struggle-the-100mw-exemption-is-likely-to-be-a-monumental-step-towards-privatisation-not-necessarily-for-the-good/.

However, the power of Christophers's analysis is to show that, concerning electricity, open markets do no such thing. Price stability, through existing long-term PPAs, is a far more effective carrot. Given the cost overruns at Eskom and the current difficulties in raising capital, such price subsidisation may be better for Eskom's finances than boldly embarking on its own build-out. What is crucial here is that, if investors are drawn in through such means, rather than through the promise of a 'competitive electricity market' and all the uncertainties that come with it, there is no need to unbundle Eskom. Instead, as Eskom is revived, another parallel process can begin, of the utility commissioning its own renewables projects. Once IPPs have delivered utility-scale solar, the South African government can either buy out private generators (as its Mexican counterpart did to Iberdrola last year) or wait out the PPAs. Allowing limited private generation would be a small price to pay for reviving Eskom while retaining its central position in generation and control of transmission. Transforming Eskom and resolving the contradictions of such a public pathway in this manner would not amount to a defeatist concession, but an immense challenge. Who might be up for it?

If the state is going to bankroll renewables for profit, why not build them itself? That would involve immense challenges, but any hope of ending loadshedding while catalysing the transition will require the state every step of the way.

Qualifying community ownership

Advocates for public ownership and energy democracy often champion 'communities'. The focus on communities is usually justified by the perception of their members as the most marginalised or impacted by matters relating to energy. Certainly, there is no shortage of communities in those predicaments (consider the health crises many communities around South Africa's coal plants face). However, some discourses on communities flatten highly varied contexts and interests. When it comes to policy, communities could be anything from rural subsistence farmers, members of vast urban townships and slums, or even residents of wealthy enclosed estates. Wealthy communities have adopted distributed solar throughout the world, and would need to be deliberately excluded if capacity is to be taken up elsewhere. Defining a community, and therefore ownership, is essential. In the context of South Africa's urban communities, characterised by dense population, informal housing, and land struggles, there is also the question of where renewables infrastructure will be built. Even with the benefits of scale, Bhadla Solar Park in India, the largest in the world, requires 56km2 of land to provide half the capacity of Medupi. There is greater potential for poor rural communities, but similar challenges remain.

In the context of rural poverty in South Africa, community ownership of renewables will be even more reliant on state support, especially if such undertakings must compete with a ruthless private sector. Even in a fully public model, these poor communities would have almost none of the capital or expertise needed to build and run significant solar operations. Even if these challenges were surmounted, without leading to undesirably high electricity prices, the costs of Eskom purchasing surplus energy from community generators would need to be offset somewhere else. Unless covered by a new tax on the wealthy, passing these costs onto Eskom or the fiscus would be regressive. The economic reality of electricity provision is made clear in another TUED report titled 'The Rise and Fall of Community Energy in Europe'. The authors point out that the community-ownership model continues to rest on the faulty assumption that, in the absence of state support, localised power-generation resources will be able to 'provide us not only with affordable electricity but with revenues as well'. Especially in the context of an impoverished population (and decarbonisation targets), energy provision is a costly endeavour. Democratic control toward equitable ends does not alter this.

Nonetheless, community-ownership initiatives continue elsewhere in the world. Where the state has failed in delivering electricity, or where communities face violent repression, the benefits of electricity autonomy are obvious. It also cannot be discounted that powerful rural movements, in Latin America and elsewhere, might eventually develop a model that overcomes the challenges described above. For South Africa, however, without a strong presence of such movements, it is difficult to see where such initiatives might emerge at the scale we need in economically devastated regions. Utility-scale renewables are required urgently, and I have suggested that a level of private capital can be accepted in the process of transforming Eskom. It is Eskom, as an existing public entity, that can best balance an array of power resources to absorb and distribute the costs and revenues the electricity system produces. Such a scenario need not prevent a significant role for communities. Large utilities have historically overspent on unnecessary capacity and side-lined efficiency measures, but a degree of overcapacity is required for a resilient grid and can be a tenet of progressive industrial policy and long-term planning.

A more forceful role for public engagement in energy-related decisions can help to guide public utilities along this path. But transforming Eskom must remain the priority, and South Africa's labour movement, battered but not broken, remains the social force best placed to do so.

Unlocking labour

Organised labour in South Africa – the force that brought the apartheid state to its knees – is a shadow of its former power. Much of its malaise tracks with the global decline of labour, but most alarming in the South African case is the nascent alignment with the RET faction. Where, as many have asked, was organised labour when Eskom was plundered? The leader of one of South Africa's largest unions, NUMSA, openly supports a disgraced former Eskom CEO who forced the sale of a coal mine to a family with political connections to Zuma.[10] There have been similar developments elsewhere, but these alignments cannot be separated from the genuine threat that unmitigated unbundling poses to workers' interests.

10 Jessica Bezuidenhout, 'Matshela Koko and the Guptas' Brakfontein Coal Mess', Daily Maverick, February 26, 2019, https://www.dailymaverick.co.za/article/2019-02-27-matshela-koko-and-the-guptas-brakfontein-coal-mess/; Irvin Jim, 'Call for Return of Former CEO Koko Matshela', Tweet, *Twitter*, August 30, 2021, https://twitter.com/IrvinJimSA/status/1432424906461941761.

It is not even entirely irrational to side with the looters, who would maintain a favourable status quo versus the unimpeded unbundling that would lead to Eskom's relegation. This calculus speaks to the wider problem of *why* Eskom workers, and their comrades in the coal-mining sector, would ever champion a transition from coal. A labour-led transition would be an immense challenge.

However, key labour leaders, including these in federation of COSATU, who once backed Zuma, did eventually become some of his most vocal opponents, playing a critical role in his removal. NUMSA has in the past adopted impressive climate resolutions, and COSATU has also recognised the urgency for change at Eskom, at one time taking up a promising proposal offered by the Alternative Information and Development Centre to resolve Eskom's financial woes.[11] Finally, the attachment to coal is overwhelmingly the result of the economic considerations.

Given that Eskom and coal workers both stand to be greatly impacted by environmental harms, there is reason to believe they might abandon coal for a *credible* clean alternative – whether this be renewables or other sources of low-carbon power – if the new source could afford them the same wages and benefits, or if workers who would lose their jobs were offered free tertiary education or supported into retirement. The essential point is that the alignment of organised labour with the RET faction is the result of consent, or even resignation, rather than active support. The power of trade unions in South Africa is not what it once, was but in terms of structural power it remains unmatched by the other social forces of the South African left. The unions must now force a compromise.

11 Dominic Brown, 'The Critics Are Wrong about Cosatu's PIC Proposal to Save Eskom', Daily Maverick, February 16, 2020, https://www.dailymaverick.co.za/article/2020-02-16-the-critics-are-wrong-about-cosatus-pic-proposal-to-save-eskom/.

The new GNU, by integrating the DA into the executive (including on energy matters), poses a threat to organised labour. However, COSATU remains a key ally to Ramaphosa within a divided ANC, while the DA faces pressure to maintain the GNU to keep RET out. During a recent, highly charged cabinet negotiation over the department responsible for trade and industry, the DA eventually relented. According to the *Financial Times*, it was COSATU that put its foot down with the ANC, suggesting that it will be difficult to ignore going forward. If compromises are the politics of the day, it's up to organised labour to ensure that the working class is part of the equation. This paper has tried to outline what such a class compromise for Eskom could look like, where the current necessity of private investment does not alter profitability's dependence on Eskom and the state. For its part, COSATU and other labour organisations can demand enforcement of labour standards on IPPs, while ensuring other mechanisms exist to maintain their political power in the energy sector and over the future transition.

Nonetheless, the scale of what is required, at Eskom and beyond, still entails stepping into the unknown. On its own, organised labour may still refrain from taking the initiative. Indeed, the government has now announced the unbundling of Eskom's transmission division, to seemingly little union resistance.[12] Here, the patchy but radical politics of various communities and movements across South Africa can give organised labour a push. Certainly, in the context of utility-scale renewables in rural areas, alliances between communities and trade unions could be powerful indeed. But all of this will be wishful thinking without sober consideration of both the multifaceted interests involved, and the technical constraints of electricity provision. Only by carefully navigating these dynamics can South Africa break out of its own power crisis, while beginning to address the crisis of the global climate at the same time.

12 Lisa Steyn, "SA Grid Crisis: New National Transmission Company to Open Door for Private Sector," News24, October 8, 2024, https://www.news24.com/fin24/economy/sa-grid-crisis-new-national-transmission-company-to-open-door-for-private-sector-20241008.

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VISCERAL ECOLOGIES

How do we truly imagine the worlds we inhabit? What would it mean to properly describe the feeling of its colour? How might our thinking of the world change should it to be framed by its blues, greens, reds and blacks? Just as much as we can write of ecologies of meaning and ecologies of thought, so we must also consider ecologies that make us feel every range of emotion. The trees we walk through, the air we breathe, they are part of the visceral ecologies of life. And just as the abstract teaches us, such ecologies are defined by the complexities and poetic movements they reveal. They belong as such to the spirit of the world.

Visceral ecologies always touch us, just as they are always traversing landscapes of hope and neglect. Yet what appears in the colours we see today are also disappearing life-world systems. Hence, while visceral ecologies continue to invoke within tremendous feelings of wonderment as the sublime touches something deep within as the magisterial and the intimate, the eternal and the finite collide, what we are witness today are wounded landscapes that seem to be bleeding before our eyes turning what falls from the heavens into a chorus of tears.

Moreover, as the ecologies that sustain life are now subject to a slow catastrophe – a new kind of witnessed disappearance is occurring, which we can barely make sense of with theorems and words. So how might we learn to feel this worlds beauty and pain? This series of artworks are inspired by this very question, as the challenge of reimagining our complex relationship with ecology is considered and the liberating potential for art in the face of devastation explored.

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Júlio Holanda

Alternatives to conflicts over wind and solar megaprojects, and pathways towards energy democracy in Brazil

Introduction

The challenge facing the world since the Paris Agreement in 2015 is gigantic: to limit the increase in global temperature to 2.0°C, preferably 1.5°C, above pre-industrial levels. To reach this target, according to IPCC data, world emissions will have to be halved by 2030, and full carbon-neutrality achieved by 2050.

Countries have been implementing actions in the three areas recommended by the IPCC: the carbon market, energy efficiency, and new technologies. Like many countries, Brazil has seen a significant increase in the installation of so-called energy-transition projects, especially large wind and solar power plants. However, in addition to actions taken by state agents and the business sector, alternative projects, of a popular and territorial nature, have also emerged.[1]

1 Since 2003, social-environmental struggles have begun to prioritise the defence of land and territory, referred to by Svampa as the ' ecoterritorial turn'. Svampa, M. *The frontiers of neo-extractivism in Latin America: socio-environmental conflicts, the ecoterritorial turn and new dependencies*. Trad. Lígia Azevedo, São Paulo: Elefante, 2019

These projects have sought to counter the dominant model of energy production through greater decentralisation, participatory and democratic processes, transparency, lowered environmental impacts, and guarantees of employment and income for the localities where the projects are installed. They offer a qualified alternative to community management, especially in the face of a history of state energy investments that has largely favoured megaprojects and public-private partnerships, despite the negative socio-environmental impacts those approaches have consistently entailed.

The myth of the energy transition

Despite the accelerated growth of renewables in Brazil in recent years, it should be noted that the incorporation of these sources into the energy matrix has been complementary to, rather than a substitute for, fossil fuels. Oil and gas production in Brazil have grown and are projected to continue growing over the coming years, with new exploration frontiers announced, in the Amazon and pre-salt oil fields, as well as moves towards advanced technologies such as fracking.

According to the Energy Balance (EPE) 2023, 47% of Brazil's energy use comes from renewables, compared to the world average of 14%. If we consider only the electricity matrix, the share is even higher. According to data from the Brazilian Electricity Regulatory Agency (ANEEL), in May 2024 renewables accounted for 85% of the matrix, with hydroelectric (54%) and wind (15%) the main sources, against 15 % from non-renewables, mainly natural gas used in thermoelectric plants.

As far as wind power is concerned, Brazil ranks 6th in the world in installed capacity, at approximately 30 gigawatts (15%).[2] The Brazilian Wind Energy Association estimates that the installed capacity of wind power will reach around 55 GW by 2030. The big news in the wind sector is the expected start of offshore energy generation. In April 2024, 97 projects were being analysed by the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA). If all of these are approved, there will be approximately 15,500 new wind turbines off the Brazilian coast, providing 234 GW of installed capacity. Thus, the energy-generation capacity expected from offshore plants alone is greater than the entire installed capacity in Brazil as of January 2024 (approximately 198 GW, from all energy sources, including hydroelectric plants).

2 Brazilian Wind Energy and New Technologies Association (ABEEOLICA). *Infovento - Data bulletin*. Issue 34, March 2024

Solar energy exists in Brazil under the centralised model of large plants (12.8 GW), but also through small power stations installed close to consumer units. This mode is called decentralised generation and has seen significant growth in recent years, with around 28.9 GW of installed capacity by May 2024.

These figures are significant; if we analysed them out of context, we might infer that a major energy transition was underway in Brazil. However, in the last five years, R$334.6 billion in subsidies have been granted to fossil fuels. Renewable energies, on the other hand, received only R$60.1 billion in the same period.[3] In 2022, for example, only R$2.8 billion was provided to incentivise the installation of photovoltaic panels through subsidies associated with distributed generation (DG), according to data from the INESC survey. After strong pressure from large energy companies, which saw themselves as disadvantaged by the significant increase in decentralised generation, the government approved the Legal Framework for Distributed Microgeneration and Mini-generation and started charging, from 2023, for the use of the distribution infrastructure from the concessionaire to the final destination, making that approach more expensive and discouraging its use by small energy producers.

Also in 2023, the current Brazilian government announced the "New PAC" (Growth Acceleration Programme), with around R$1.7 trillion in resources for a range of projects throughout the country, including an 'energy transition and security' category. The New PAC's resources for renewables are considerable: R$22 billion for wind power and R$39 billion for photovoltaics. However, these are derisory compared to the investments planned for the 'oil and gas' category of the same programme, which are approximately R$387 billion, around five times more than the amounts planned for renewables. Public policy only aims to diversify the matrix, increasing the use of wind and solar power, but also of non-renewable resources. In fact, the forecast in the National Energy Plan 2050 is to 'maintain Brazil as a major producer of hydrocarbons', with a production target of 5.5 billion barrels per day (almost double current production).

To make a radical transformation of the energy matrix viable, something more than just the goodwill of the business sector is needed: direct action by state agents, with policies to incentivise renewables and discourage non-renewables. This is not what we have seen. We need a change of perspective in public policies and bolder and braver actions: *reducing* incentives for the hydrocarbon industry, with an equivalent and gradual increase or the renewable industry.

3 Institute for Socio-Economic Studies (INESC). Subsidies for fossil and renewable sources (2018-2022). Executive summary. Brasilia, December 2023.

Renewables and their territorial implications

In addition to the contradiction of expanding fossil fuels alongside a stimulus for renewables, the Brazilian case has other characteristics that can help us understand challenges related to renewable-energy infrastructure around the world. In some European countries, such as Portugal, Spain, Germany, France and Belgium, there is concern about the installation of renewable-energy projects and impacts such as changes to the landscape, the death of birds and bats, and possible effects on human health due to noise from wind turbines.

This is also the case in Brazil, but with some specificities. The majority of wind and solar mega-projects in Brazil are installed in sensitive socio-environmental regions, either close to or overlapping Permanent Protection Areas (PPAs), such as dunes, sandbanks, mangroves and Conservation Units, as well as in Indigenous, *Quilombola*,[4] and traditional communal territories. What's more, unlike some European countries, there is no specific legislation or standard regulating the minimum distance between homes and wind turbines to ensure the safety of local populations, which further increases the vulnerability of the communities located near these large projects.

As a result, the construction of wind farms in the Northeastern region of Brazil (comprising over 90% of the national total) has significantly altered the ecological and morphological characteristics of coastal ecosystems such as sandbanks, mangroves and dune fields. In addition to the negative impacts on the environment, the socio-cultural reproduction of local populations is deeply affected, jeopardising their way of life, their sources of income, subsistence and leisure.[5]

The constant process of labour migration during the installation phase of the projects and its subsequent effects also poses major problems, according to residents. During the period when the plants were installed, social problems in the communities worsened, such as drug abuse, an increase in sexual exploitation, violence against women, and unwanted teenage pregnancies. The children born to young people in this context have been dubbed 'children of the wind' by the locals, in reference to cases in which temporary workers have returned to their hometowns without assuming paternity.

4 Quilombolas are Afro-Brazilian residents of quilombo settlements, settlements first established by enslaved Afro-Brazilians who escaped from the slave plantations that existed in Brazil until abolition in 1888.

5 LIMA, J. A. G. A natureza contraditória da geração de energia eólica no Nordeste do Brasil. Fortaleza: Editora da Uece, 202; Ramirez, J.; Gorayeb, A.; Nascimento, J. L. *Winds of Change: Conflict, Culture and Sustainability in the Cumbe Community*. Copenhagen: Copenhagen Business School (CBS), 2023. Araujo, J. C. H; Souza, W. F.; Meireles, A. J.; Brannstrom, C. "Sustainability Challenges of Wind Power Deployment in Coastal Ceará State, Brazil", *Sustainability*, v. 12, n. 14, 2020.

There is also opposition to offshore wind farms. Research shows that offshore wind farms can cause economic damage to fishing activities for various reasons, such as spatial exclusion, difficulty in navigation, and a reduction in fish stocks.[6] Effective action, with reference to concepts of energy justice, is needed to mitigate these losses, especially in the context of environmental licensing.

Solar energy involves similar risks. In the state of Ceará, for example, 17 projects for concentrated photovoltaic energy generation were being analysed by the environmental agency in January 2023. The suppression of vegetation from these projects totalled almost 11,000 hectares of Caatinga, the region's main biome, exclusively Brazilian and already heavily threatened by mining and de-forestation activities.

It is essential that public policies for energy transition take into account aspects beyond the economic dimension or the simple reduction of greenhouse gases. State planning for the sector must consider, above all, the social and environmental impacts of these new infrastructures and undertakings, and must ensure the protection of ecosystems and biomes, as well as guaranteeing the effective integration of communities in decision-making processes, and the promotion of environmental justice in the territories.

Distributed Generation of Social Interest: Brazilian examples

The Distributed Generation of Social Interest (DGSI) model is one response to a status quo that tends toward false solutions and unfair approaches to energy transition. Such initiatives recognise the role of state planning in coordinating the transition and promoting investments and are intended as complementary to large-scale renewable infrastructure that generates more social and energy gains at a lower cost. But distributed generation is also a method of denying and counteracting the privatisation of electricity management, even as the political horizon of reverting to a totally publicly owned electricity system remains distant. These programmes question the logic of public-private partnerships that still dominates the world's energy production sector, by enacting the perspectives of energy democracy and community empowerment.

Distributed generation offers a number of benefits, such as a reduction in energy losses, quicker implementation times, a low environmental impact, a reduction in network load, greater reliability, and an increase in energy diversity.

6 Xavier, T. W. F.; Gorayreb, A.; Brannstrom, C. "Offshore wind farms as an energy frontier? Impacts and synergies with socio-environmental aspects and fishing activity in Northeast Brazil", *Revista Brasileira de Energia*, v. 29, n. 3, 3o trim. 2023

It is positive for the local economy and the population, encouraging a more sustainable attitude and promoting the empowerment of the end consumer.[7] Despite these advantages, this model does not seek to completely replace concentrated energy generation. Large plants will still be needed to guarantee energy security and stabilise grid production, especially to supply large urban centres, industries and the transport sector. The concentrated mode is important because it guarantees the contracting and subsequent distribution of a large amount of energy at a given time, which would be technically unfeasible with decentralised projects alone. However, it is up to the state to regulate the sector more, with the aim of increasing the contracting of renewable sources in the next energy auctions and reducing the contracting of fossil fuels.

Current regulations in Brazil give energy consumers who have the financial resources the freedom to opt for distributed generation. To avoid further entrenching inequalities, however, it is necessary to go one step further and allow this energy source to reach the most precarious population and those most threatened by energy poverty.

With this in mind, RevoluSolar has established the term "Distributed Generation of Social Interest" to designate the application of this type of energy generation under certain conditions, specifically for low-income populations, families and consumers, with a view to social and environmental justice. Below are three cases of solar energy generation in Brazil from the perspective of DGSI.

1. RevoluSolar – bringing solar power to Rio's favelas

RevoluSolar is an NGO set up in October 2015 with the aim of producing electricity from photovoltaic panels and to guarantee low-income people access to sustainable electricity at a lower cost. The first installations were made in 2016 in Morro da Babilônia, a favela located in the South Zone of Rio de Janeiro, in two commercial developments. In 2018, a community school received solar energy installed by the residents themselves, who were trained as solar electricians. In addition to installing photovoltaic plants in the communities, the project seeks to provide professional training for the local population, training installers and electricians, as well as organising workshops and cultural events with the aim of raising awareness and engaging the community in the issue of climate change.

7 Walker, G. What are the barriers and incentives for community-owned means of energy production and use? *Energy Policy*, v. 36, n. 12, p. 4401-4405, 2008.

The co-operative and associative nature of RevoluSolar is able to guarantee the technical and economic viability of its projects, as well as galvanise communities. These characteristics guarantee a reduction in the price of the equipment and the shared utilisation of the installation surface, since not all residents have adequate surface area, among other advantages. In 2021 a shared solar energy generation system was installed on the roof of the Babilônia Residents' Association, and new installations were made in nearby Morro do Chapéu Mangueira. Since then, the project has expanded to favelas in other parts of the city, such as Complexo da Maré, and also to São Paulo, Amazonas, and other states.

2. Veredas Sol e Lares – MAB and the first floating solar plant

In March 2023, the Veredas Sol e Lares project completed the implementation of a floating solar power plant in the semi-arid region of the state of Minas Gerais. The initiative was conceived by the Movement of People Affected by Dams (MAB), together with university research groups, local companies, and NGOs, and made possible through a project with Aneel (the National Electricity Agency). The floating photovoltaic plant, considered to be the largest in Latin America, is installed in the reservoir of a Small Hydroelectric Plant (SHP), and produces energy to reduce the cost of electricity for approximately 1,250 families. In addition, the plant is managed by the Minas Gerais Distributed Generation Prosumers Association – Veredas Sol e Lares,[8] which made up of families impacted by the hydroelectric dam. The association's focus is the popular and social management of the plant, within the shared generation mode. It has been able to deliver energy to many consumer units in the territory it covers, and also to change the meaning of the reservoir of the dam itself, from a space of marginalisation to one of support.

The conclusion of the project was the result of MAB's historic demands, representing an important victory for the movement. In 2018, MAB negotiated a term of commitment with the government that defined the details of the project, including social research and a local and regional development plan, based on broad popular participation.[9]

8 The term "prosumer" means that members are both producers and consumers of the generated electricity (Silva & Queiro, 2022). Silva, N. G; Queiroz, T. B. (coord.). *A Usina Solar Veredas Sol e Lares*. Minas Gerais, 2022.

9 Movement of People Affected by Dams (MAB), 2023. Veredas Sol e Lares brings unprecedented progress in building a popular energy model for Brazil.

3. The Solar Bakery in Paraíba – cakes and breads powered by the sun

The semi-arid region of the Northeastern state of Paraiba has seen a number of solar energy initiatives implemented for family farming, agro-industry, food production, water pumping, buildings and public lighting, among uses. These activities are the responsibility of the Semi-Arid Renewable Energy Committee (CERSA), which was set up in 2014 with the participation of civil society organisations, academics and government representatives. One of the projects supported by CERSA is the 'solar bakery', started in 2016. This enterprise is managed by a group of around women, who are in the process of achieving social and economic autonomy. As well as empowering these women and generating income, the Solar Bakery has been a space for political organising in the areas of climate, nature, and energy production.

According to researcher Fabrina Furtado, the Solar Bakery's system (currently of 12 solar panels) generates enough energy to supply all its activities and even produce an energy reserve.[10] This reserve is fed into the state grid and the positive balance is either used to offset consumption in subsequent months, or kept as a credit, following Aneel's regulatory guidelines. This directly benefited more than 100 families of rural workers, forming the beginning of a community agro-industry. The enterprise produces cakes, biscuits, bread, toast, among others, with a weekly production of approximately 600kg of products, 400kg of which are passed on to the municipality through the National School Feeding Policy (PNAE), the rest being sold in the community and at local fairs.

10 Furtado, Fabrina, *Renewable energy in communities in Brazil: conflicts and resistance*, Fabrina Furtado. – 1. ed. – São Paulo: Rosa Luxemburg Foundation, 2021.

11 In this article I have adopted the term 'TEJIP', which comes from social movements in the energy sector. In order to be just, the transition must not generate more poverty, social or environmental injustice, or violate the rights of people and nature, but must function as an instrument for eradicating poverty and promoting social, environmental and energy justice. In order to be inclusive, it must include women, young people, and traditional and peripheral urban populations in decision-making and management spaces, in order to avoid projects, works and actions that have an unfavourable impact on them. And it must be carried out in a popular way, with decisions supported by the participation of civil- society groups and organisations working on the energy issue. For more information, see the letter from the National Seminar 'The Energy Transition We Want: Fair, Popular'.

For a just, inclusive and popular energy transition (TEJIP)[11]

The factors that produce social inequalities are the same as those that generate environmental degradation; both are related to the capitalist mode of production, with the harm falling more directly on vulnerable populations.[12] The 'energy transition' underway in Brazil, based on large wind and solar projects, exploits people, especially women, people of colour, indigenous people and traditional populations, as well as nature itself. Civil- society organisations, trade unions, political parties, researchers and other groups need to take a firm stance in favour of an energy transition that is fair, inclusive and popular. This transition must be democratic and based upon the direct participation of the populations affected by the projects, the protection of ecosystems, and the guarantee of human rights. It is not enough just to have more renewable-energy projects in the matrix, if these projects are installed under the same conditions of environmental racism as non-renewable energy projects.

In addition to the expropriations, conflicts, and losses involved in the energy transition, there is also resistance and collective struggle. The challenge is enormous but involves a great opportunity for promoting popular participation in decision-making about the country's energy future. The Distributed Generation of Social Interest experiences described here help to combat climate change while at the same time supporting the social interests of local populations, and the maintenance of living ecosystems. They also encourage us to think about electricity production in a way that goes beyond emission substitution metrics, towards a broader and more radical transition – because preventing a planetary climate collapse requires a transformation in the way we relate to the world, in the way we interact with each other as humans, and in the way we relate to non-human beings and nature.

12 Bullard, R. D. *Confronting Environmental Racism: Voices from the Grassroots.* Boston: South End Press, 1983.

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Paris Marx

Dystopian Urbanism: Smart Cities in the Time of Catastrophe

THERE ARE VARIOUS VISIONS OF ECOLOGICAL TRANSITION competing for our attention, not all of which will deliver on what they claim. Too often, companies, governments, and other political groups use utopian ideas and stunning visuals to greenwash projects that would have profound and troubling consequences. These campaigns seek to distract us from consideration of whether the futures they offer us are materially possible on a planet with finite resources; would entail deeply dystopian outcomes of systematised and enhanced social control; or would even be desirable in the first place. But those are the very questions we must ask when we consider how to transition from fossil fuels to renewables, and what kinds of communities we want to inhabit in the future.

Saudi Arabia isn't a place that typically comes to mind when we think of the future, let alone a sustainable one. Ruled by an authoritarian monarchy sustained by vast oil wealth, the country is better known for human rights abuses, the suppression of women's rights, and the dismemberment of journalists.

But if the architectural renderings and exceedingly well-funded advertising campaigns are to be believed, Saudi Arabia is about to reinvent itself by establishing an economic region in the desert that will demonstrate its supposed technological and ecological credentials.

Announced in 2017, NEOM is at the forefront of that vision. It's supposed to be an urban megaproject in the northwest corner of the country near the border with Jordan, made up of a series of initiatives that each have their own focus — or, we might say, their own gimmick. The project is presented as a central plank of the 'Saudi Vision 2030' to diversify the economy away from oil and gas, but it's also about trying to rebrand: to change perceptions of the petrostate in a world where its oil wealth may not be enough to continue justifying its close relationship with the United States.

Among the attractions of NEOM will be an octagonal port city with a large floating island, called Oxagon; a ski resort called Trojena; and an island resort aimed at yacht owners, called Sindalah. But most fantastical is the centrepiece of the entire project: two 170-kilometer-long horizontal skyscrapers running across the desert in parallel, to be known as The Line. It's promoted as a 'revolution' in urban living, but it's hard to believe the project will even arrive, let alone live up to its publicity.

The NEOM vision for Saudi Arabia's future is just the latest in a long line of techno-utopian architectural projects designed to captivate without changing anything for the better. Those plans claim that social, economic, and ecological challenges will be overcome if only vast amounts of resources and energy can be deployed to build entirely new environments. So far, such mega-projects have helped to lock us into existing crises, producing new negative impacts while distracting us from real solutions that could improve the places where the vast majority of people live.

Where smart cities fail

In a critique of utopian architecture in *The Nation*, journalist Kate Wagner writes that, 'Design, while obviously involved in the process of world transformation, cannot by itself solve social problems related to climate and urbanization'. Megaprojects like NEOM present the fantasy that societal challenges can be overcome with the right design, without anyone having to think about the difficult politics that gave rise to the challenges in the first place. This form of salesmanship is typical of Silicon Valley tech giants, which often roll out grand visions for disruptive technologies, such as the idea that Uber would lessen urban traffic, or that self-driving cars would eliminate road deaths.

Around the world, smart eco-city projects have continually failed to live up to the promises made by the countries and developers that marketed them as an important step into a better future. If they were realised at all, they tended to be vehicles for real-estate speculation rather than social progress.

Such utopian promises of the future are used to justify human cost in the short term. Despite the publicity images of NEOM rising from an empty desert, the House of Saud will have to displace about 20,000 Huwaitat tribespeople who have long called the area home. They have been forced out by Saudi security services — with lethal police action and even judicial death sentences. Violent displacement is a hallmark of urbanisation processes in all contexts of segregation, real-estate speculation, and authoritarian politics. The green, techno-utopian promises of projects like NEOM tend to start off in moral deficit, when their foundations have been laid so distinctly within the 'old world' of colonisation and violence.

And that's if they are ever even built. Beyond their extreme cost (NEOM's is currently pegged at around US$1.5 trillion), such projects tend to flirt with impracticality. As an idea, linear cities like The Line have been around in some form since the 19th century. In the 1920s, Swiss-French architect Le Corbusier was pushing a plan for a 'Ville Radieuse' that was ultimately never built, while Soviet urbanist Mikhail Okhitovich was sent to a gulag in 1930 for an 'economically crippling' proposal to build a linear city in the Soviet Union.

Beyond NEOM, urban megaprojects claiming to be sustainable smart cities have been common boondoggles over the past couple of decades. South Korea launched a plan to build its own low-emission smart city in 2001; today, Songdo has a great water filtration system and pneumatic tubes for garbage disposal, although residents have described it as 'cold' because of the lack of human interaction. Its wide thoroughfares are notable for the absence of pedestrians, yet are packed with cars — not a successful alternative to the bustling urban core of Seoul, with its great transit network, a mere 30 kilometres away.

A similar story can be told of Masdar, the United Arab Emirates' plan to build 'the world's most sustainable eco-city' outside Abu Dhabi. Announced in 2008, the project was supposed to show that the petrostate was preparing for a green future. It would be a car-free environment with a pod-based transport system, along with an innovative wind-tower cooling infrastructure. The whole development would be completely powered by solar energy. But by the mid-2010s, those visions had been abandoned. Officials admitted that the development would never eliminate its emissions, even though the scale of the project had been significantly curtailed. They wanted it to be free of cars, but it lacked transit connections to anywhere beyond its boundaries. It has become a 'failed city' that is more of a research hub than a thriving, multi-use community.

Around the world, smart eco-city projects have continually failed to live up to the promises made by the countries and developers that marketed them as an important step into a better future. If they were realised at all, they tended to be vehicles for real-estate speculation rather than social progress. They are envisioned less as environments for the average resident of the countries where they were built, and more as areas of seclusion for the local elite or wealthy foreigners, where homes cost far more than the national average and amenities do not accommodate those with lower incomes. In her *Nation* piece, Wagner points to the example of Oceanix City, a concept for a floating community developed by Bjarke Ingels Group. Not only was it a revival of failed architectural experiments from decades past, but it presented a vision of 'ecological escapism', where a sliver of the population could flee to a floating structure supposedly protected from Category 5 hurricanes, while everyone else was left behind in cities unable to cope with worsening natural disasters.

Greenwashing corporate control

Projects like NEOM or Oceanix City are just one part of a broader campaign to shift our focus away from our everyday realities and collective challenges, toward fantasy architectures that offer a false sense of salvation. They are outside the realm of ecological transition, and rooted instead in the realm of public relations. But that works for the powerful players who launch and profit from them, and the industrial status quo, which is given a green veneer of technological innovation (without proven scalable capacity) alongside its share of the profits.

Building smart eco-cities from scratch is also incredibly energy- and resource-intensive. These resources flow through a system of global extractivism that leaves a trail of destruction in many communities and ecosystems, mostly in the Global South. Even after all that construction, the alleged gains in efficiency and technology would be unlikely to make any real difference to the emissions coming from other parts of society. Philip Oldfield, head of the School of Built Environment at the University of New South Wales, estimates that The Line would produce upwards of 1.8 billion tonnes of embodied carbon dioxide. All those emissions would 'overwhelm any environmental benefits', he said, in an interview with *Dezeen*.

When developments of this kind are established within existing cities, the situation is not much better. In the latter half of the 2010s, Google-backed Sidewalk Labs announced plans to build a smart city 'from the internet up' on Toronto's waterfront. Despite only getting a small parcel of land, the company immediately set its sights on a much larger area and hoped eventually to deploy its proprietary technologies like self-driving cars and a city-management platform throughout Canada's largest city with little democratic input.

The visuals for the project, called Quayside, presented a dream of sustainability, with few cars, timber skyscrapers, and plenty of community and public space. But as Kevin Rogan explained in *Real Life*, the impression was false. After digging through the concept photos and the site's master plan, he found that Sidewalk Labs was being intentionally deceptive about how its technologies worked, overstating their convenience and understating how they enhanced corporate power over the urban environment. At the heart of this project was an attempt to divide the city into two: one experience for ideal consumers and knowledge workers; another for the workers who would make it run, and the other less desirable populations.

'Quayside will effectively exist as two cities', explained Rogan. 'In one, citizens will enjoy the dreamlike novelty of streets, spaces, and services that seemingly respond to their every desire; in the other, woven in and through the first, workers will be confronted with machines that likewise demand they become more machinic'. A technological dystopia that enhanced Google's power over the city was marketed as a green utopia, but it was not successful. Residents eventually turned against the project over concerns about data privacy and corporate power. It was officially cancelled in 2020, in what has become a wider trend.

Even NEOM, despite the mountains of Saudi oil money behind it, has recently had its ambitions scaled back. The Line hasn't been abandoned yet, but now only a fraction will be built by 2030, with fewer than 300,000 residents expected, down from 1.5 million – and even that sounds overly optimistic. If and when the reality of the 'smart' petrostate steps out from behind the deceptive promotional renderings, it is hard to imagine many people wanting to live in it.

Real improvements require a political vision paired with the collective power to move it forward.

There are many ways that our existing communities can be reoriented to provide better lives for the people who live in them, while using less energy and producing fewer emissions.

Rejecting the smart eco-city

The history of these megaprojects shows that they're no solution for the climate crisis or any of the growing social and economic problems our societies face. At best, they represent visions of elite escape or domination through digital monitoring; mostly, they bear no fruit at all, merely enriching a few at the expense of many during an abortive process. NEOM looks poised to result in something; but that something seems unlikely to resemble the expansive vision once touted to international audiences.

While Saudi Arabia has been promoting its architectural dream-region, it has also spent millions to lure top football players, major fighting events, and golf tournaments to the country, while making huge investments in video games and continuing to court major tech companies for partnerships. Clearly, the House of Saud wants to soften the image of its brutal dictatorship while doing as little as possible to change how it operates. In the same period, Saudi Arabia conducted a massive military campaign in Yemen, contributing to one of the world's major humanitarian crises. In providing billions of dollars in humanitarian aid both before and after the ceasefire, it was only emulating the long-honed practice of Western nations.

No ecological salvation will be found in projects like NEOM. Real improvements require a political vision paired with the collective power to move it forward. Decades of neoliberal rot have been exploited to convince much of the public that government action couldn't deliver such benefits by itself, even if it wanted to. But there are many ways that our existing communities can be reoriented to provide better lives for the people who live in them, while using less energy and producing fewer emissions. The same forces pushing visions of smart megaprojects are the ones who stand in the way of such a future, and their technological fantasies serve to distract us from the work of assembling both the necessary vision and popular will: A 15-minute city with better transit routes, high-quality public housing, and improved social services is forced to compete with glossy mirages that seem pulled from science fiction movies. But it's in those more mundane technologies and community transformations where the real social and ecological benefits will be realised.

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Erahsto Felício & Neto Onirê Sankara

A peoples' radical environmentalism: the first step towards an emancipatory socio-ecological transition

THE CLIMATE CRISIS that threatens life on Earth is not isolated from popular struggles for land, territory and food sovereignty. In Brazil, through organisations such as Teia dos Povos (People's Web), or within the Landless Rural Workers' Movement (MST), we have produced diagnoses based on the experiences of struggles by popular movements and the intertwining of the crises that have been systematically ignored by national states and promoted by big business. Here, we reflect on three dimensions of this polycrisis: the global hunger crisis; climate change; and the deepening of capitalist domination through exacerbated job insecurity. We believe that, in Brazil, a radical environmentalism enacted by popular movements can protect us from these three dimensions, transforming the struggle for land into a fundamental struggle for Planet Earth.

Peoples' territories and the 'deterritorialised' majority

Forced urbanisation has been a condition of capitalist development, transforming people who once had their livelihoods tied to nature into potential wage labourers. Meanwhile, nature itself was transformed into 'natural resources'. The term is interesting; as one of Brazil's most important indigenous intellectuals, Ailton Krenak, asks: 'natural resource for whom?'.[1] Even in Europe, before the great enclosures, most people lived in a vigorous relationship with the environment, with the biome and, in some sense, promoted symbiosis with nature. Under capitalism, humanity has continually and increasingly disassociated from nature. Colonial expansion imposed this perspective on the spaces of Amerindian and African peoples who – as a rule – held nature sacred and therefore defended it daily in their way of life. This is not to say that this colonial perspective has been adopted by all people living under capitalism. Ailton Krenak also reminds us that for many indigenous peoples, nature is not yet a commodity: 'the Rio Doce [river], which we Krenak call Watu, our grandfather, is a person, not a resource, as the economists say'.[2]

There are still people who do not see nature as a commodity, and others have not been drawn into capital's cycle of absorption and expulsion of formal wage labourers, actively seeking to avoid this fate. We call the areas where they live territories of life, or peoples' territories: places where nature is defended because ways of life are closely linked to the land and there is still a sacredness in the way biomes are seen and lived.

In Brazil, we know that the territories where indigenous people, riverside dwellers, *geraizeiros*, *quilombolas*, *caiçaras* and other traditional peoples live are already significantly protected in biodiversity and extent. According to the MAP Biomas 2023 study, indigenous lands occupy 13.9% of the national territory, but contain 20.4% of native vegetation. These territories are among the least deforested, accounting for only 0.9% of deforestation in the last 30 years. On the other hand, private land in Brazil lost 69.3% of its native vegetation in the same period. This data is impossible to ignore, either in thinking about a possible future for these peoples, or in building a perspective of radical environmentalism for all people. In order to build a possible future for the peoples, it is fundamental to think about the question of land: private ownership of land is one of the main vectors of the catastrophe we are discussing.

1 KRENAK, Ailton. *Ideas to postpone the end of the world*. São Paulo: Publisher: Companhia das Letras, 2019, p.22.
2 Ibidem, p. 40.

On the other hand, defending the territories of peoples who suffer from environmental racism – capitalism's strong arm for deterritorialising and making people and nature vulnerable – is all the more important because these can be spaces of resistance and transformation that guarantee the reproduction of life.

What makes biome conservation possible is precisely the collective ownership of land by these peoples. There can be no real conservation of a biome – beyond fragile, short-term arrangements – when there is land insecurity. Growing forests is a means of fighting climate change, but it requires asking where those forests will be, who owns the land to be regenerated, and whether intergenerational security is offered for its maintenance and conservation; in other words, the means for territorial sovereignty ensure long-term sustainability of the tactic employed. The kind of diffuse environmentalism that advocates for planting trees in a symbolic way, or that regenerates private land to compensate for the impact of mining or industries, does not present a project for society that prevents generalised destruction or the risk of a new cycle of destruction driven by profit interests.

On the contrary, such forms of environmentalism have been seen to favour false market solutions, facilitating speculation and the deepening of the logic of the commodification of nature. Thus, any effort to recover a degraded area is always liable to turn back into timber for the market within a few decades, because the process of regenerating a piece of land is disconnected from the way of life, uses, and living conditions of the people who live on that land.

Peoples who are territorialised link their land to their way of life. Accordingly, they tend to be more autonomous than wage labourers in the face of capital – not only in their ability to access water and food, but also in their experience of community life, which remains a condition for political organisation. Álvaro García Linera, former vice-president of Bolivia, explains it:

> in the community, the means of labour are not private property in the mercantile sense of the term, nor is labour concentrated as a commodity, nor is it incorporated into the labour process in order to increase value, nor is the direct worker subject to the means of labour.[3]

3 GARCÍA LINERA, Álvaro. *The plebeian power: collective action and indigenous, labour and popular identities in Bolivia*. São Paulo: Boitempo, 2010, p. 62.

In the territories of destruction, where capital submits the Earth to its whim, the relationship between nature and civilisation is severed. These are the big cities, monoculture latifundia, places impacted by mining, and many other sites where life is subordinated to profit.

Thus another relationship with land, as a means of labour for the peoples, is possible. For Linera, 'the possibility of an authentic insurgency against the domination of capital is unthinkable if it is on the margins of the communal class and its struggle to universalise the rationality that characterises it'.[4]

The possibility of an international just transition, encompassing not only elements of the energy transition, but also a break with capitalism's other, various and entwined models for nature's destruction, requires mobilisation and massive action: a great climate rebellion that connects different struggles. It is necessary to push back against the destruction of living conditions on our planet, and this undoubtedly involves the knowledge, struggles, ways of life, and organisation of peoples who still live in their communes, in their territories of life.

In the territories of destruction, where capital submits the Earth to its whim, the relationship between nature and civilisation is severed. These are the big cities, monoculture latifundia, places impacted by mining, and many other sites where life is subordinated to profit. These territories have grown at a rapid pace in recent decades, casting more and more people into an indirect war with nature.

4 Ibid.

In the last four decades, the rise of neoliberal thinking in Brazilian society has contributed to greater vulnerability of those living on the margins of cities. The urban population of Brazil has grown since the 1950s, as a result of demographic expansion within cities as well as migration from the countryside to cities. The latest IBGE census (2022) demonstrates that at least 61% of the population lives in cities with more than 100,000 inhabitants. Neoliberalism then accelerated the disintegration of the formal economy, which was already unable to absorb the urban labour supply. This has led to a massive increase in informality. Those workers who, through primitive accumulation across generations, had become deterritorialised, found themselves in increasingly precarious and uncertain conditions, detached from their traditional networks of support.

Capital has won a new victory here: workers are becoming less and less fixed in their jobs, and the power of their unions and class organisations is no t as strong. Far from their grandparents' fields, their parents' backyards and work assemblies, the majority are more dependent on bosses and markets. It is such people, detached from their ancestral regions and ways of life, whom we call deterritorialised. By the power of capital, they have been disconnected from a peaceful life with nature, without any land to call their own.

From the mid-twentieth century onwards, a rural exodus has been intensified by the spread of the metropolitan way of life as a consumer dream, in a continuous production of bad-places (places of capital). The fewer people that remained on the land, the more vulnerable it became to concentration of ownership. We know that 1% of rural landowners in Brazil already hold half of the cultivated areas.[5] This use of land does not respect nature, nor does it seek to root people in rural communities or strive to produce food for the population. On the contrary: those who work for large rural landowners are generally disconnected from the land and forced into producing food not as a life source for the people, but as a commodity for the international market.

5 See Zimerman, A., Correia, K.C., Silva, M.P. (2022). Land Inequality in Brazil: Conflicts and Violence in the Countryside. In: Ioris, A.A.R., Mançano Fernandes, B. (eds) *Agriculture, Environment and Development*. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-031-10264-6_6

Brazil's model of land ownership is in large part responsible for the increasing destruction of the Amazon, the intensification of the Pantanal fires, the real risk of the end of the Cerrado, and the desertification of the Caatinga. Most of Brazil's historical greenhouse gas emissions come from this destruction, making Brazil one of the world's biggest emitters. In this context, even if Brazil were making real progress towards a just energy transition – which is not the case given the absence of a fossil fuel phase-out plan – the overall objective of curbing climate change would not be achieved. Transition requires not just phasing in renewable sources of energy, but attending to biomes, territories, and the people who live in them.

Take, for example, the catastrophe that Rio Grande do Sul experienced between late April and early May 2024. By 21 May, the historic flood had left more than 580,000 homeless, 182 dead and 22% of the state's population affected. Estimates of the economic damage exceed 12 billion reais. This is the same state that from 1985 to 2022 replaced 3.5 million hectares of native vegetation, equivalent to 22% of its natural ground cover, with monocultures (mainly soya). Rio Grande do Sul had been a pioneer of environmental policies in Brazil, until recent governments dismantled environmental standards to feed the insatiable greed of agribusiness and property speculation.

While state institutions rushed to enable this catastrophe of environmental destruction and deterritorialisation, the sluggishness of the federal government has made it impossible to demarcate 65 indigenous territories, which are still unratified. The case of Rio Grande do Sul seems to be a clear example of how the unbridled use of land as private property precipitates and deepens crisis; certainly, it illustrates that a safer environment is necessarily one that retains its native vegetation. And this cannot be rebuilt without thinking about a popular, radical environmentalism that can bring together the dispossessed in a struggle to regenerate soils and biomes.

There is a relationship between migration away from the land, which contributes to a majority that is dispossessed and distanced from nature, and a growing dependence of the working class on capital. A direct example is access to food. A system now prevails in which food is a commodity and the land is subjected to processes of environmental degradation for the production of export commodities, which are given priority over people's health and lives. When the food that is fundamental to people's material existence becomes the product of one of the cruellest industries, a condition for rebellion is compromised.

We understand that food sovereignty is an emancipatory condition for the people's struggle.[6] Food sovereignty does not just mean having access to food on a daily basis, but also access to land, creole seeds, and the conditions for growing, storing and processing healthy food. A people without food sovereignty has very little room for political manoeuvre. The same can be argued about energy sovereignty, where similar dynamics of land concentration and deterritorialisation apply especially to mega-development projects.

So, we must look at where our majorities live and ask what chances there are to expand the conditions of emancipation in cities. Although struggle in Brazil's urban peripheries is fundamental, conditions for emancipation are today constrained not only by poor access to the means of survival, but also by militarisation of the state, militias, and drug factions, and by more advanced and capacious systems of control and surveillance, which suppress both life itself and free political organisation.

Meanwhile, the existing territories of the peoples possess unique capacities for the defence of planet Earth, but their contribution to climate rebellion is constrained by their small number. We therefore urgently need to build more territories of life beyond the spaces of struggle and resistance in urban peripheries.

This also implies thinking about communal life beyond mainstream traditions or conventional ideas of belonging. As a result of coloniality, some rebellious traditions have had to be *built*. While indigenous communities already had their territories before colonisation and lost them over the years, black people had to build their new communities here, their *aquilombamentos*. When they fled the territories of destruction (the plantation) they built their communes in the forest.[7] The history of the quilombos in Brazil – as with that of *marooning* in other parts of Latin America – is a clue for our political thinking: the countryside can provide a refuge from capitalist destruction, especially forests that produce abundant food.[8]

6 See FERREIRA, Joelson; FELÍCIO, Erahsto. *For land and territory: paths of the peoples' revolution in Brazil*. Arataca (BA): Teia dos Povos, 2021.

7 For a reflection on fleeing to the forests as a construction of brown or quilombola refuges, see BONA, Dénètem Touam. *Cosmopoetics of Refuge*. Translated by Milena P. Duchiade. Florianópolis: Editora Cultura & Barbárie, 2020, p. 47.

8 Clóvis Moura argues that the quilombola 'roça' was a space for polycultural agriculture, as opposed to the plantation, and abundance as opposed to the precariousness of slave life. See MOURA, Clóvis. *The quilombos and the black rebellion*. São Paulo: Editora Dandara, 2022, p. 47 and 49.

The construction of new territories of life can involve migrants from the peripheries. This would not be at the expense of the ongoing struggles that are finding traction and keeping hope alive in the cities. But those who are no longer able to survive through and in pursuit of alienated labour may be able to regroup in the territories of life. They would turn there to the work of planting and cultivation, which is most urgent given the levels of devastation and deforestation caused by agribusiness and predatory industrial extractivism. A movement of reconstruction and recovery in the countryside would, in turn, contribute to social bases and material conditions for a true transformation of life in urban peripheries.

Belonging to a territory requires more than looking back at our ancestry. We need to understand it as a revolutionary political construction; in other words, from a sense of community built through the sweat of struggle, through the ardour of collective work that takes root. That is how it was in the quilombos, that is how it was in the formation of the peasant movement at the end of the Twentieth Century. Are the MST settlements not new communities formed by struggle? Is there not a sense of belonging there, and a communal life that offers us a horizon for future society?

The radical environmentalism of peoples in struggle can be understood by the clear realisation that there is no possibility of protecting nature without freeing the land from the yoke of capitalist exploitation.

We may also create new senses of belonging, beyond simple ancestry, beyond ethnic categorisation, and based instead on the project of social transformation, rooted in the territories, that faces up to the reality of forced displacement that is presented by each climate disaster.

People's radical environmentalism

The radical environmentalism of peoples in struggle can be understood by the clear realisation that there is no possibility of protecting nature without freeing the land from the yoke of capitalist exploitation, which in the countryside presents itself as agribusiness. The forests, the waters, the minerals – all of this is on and under the land. Allowing it to continue to be exploited as a commodity means that the essential elements for maintaining life will also be exploited. There is no room for conciliation. The struggle is for land and territory in order to maintain living conditions on this planet for all beings. Although the planet is in the throes of catastrophe, it does not depend on humanity for its continued existence.

Humanity's responsibility to stop the destructive capitalism that threatens life on Earth, which could be causing a sixth mass extinction,[9] is about guaranteeing a planet with humans and other beings in our care.

We need to occupy the land of those who are destroying living conditions on the planet. If social movements once focused on the productivity of the latifundia, now attention needs to be centred on their destructiveness. There is history in this regard. In April 2023, the MST occupied a 1,800-hectare tract of land in Jaguaquara, Bahia, where illegal extraction of wood and sand was taking place. The occupation of the land not only stopped the environmental crime, but also turned it over to agroecological food production and income generation for rural workers in the region. This is a path we already know how to build.

For this great task, which requires work, discipline, commitment, and a lot of love, we also need connection to, and involvement from, dispossessed majorities in the big cities.

9 See Ceballos G. and Ortega-Baes P. La sexta extinción: la pérdida de especies y poblaciones en el Neotrópico. Pp. 95-108, in: *Conservación Biológica: Perspectivas de Latinoamérica*. (Simonetti J., R., Dirzo, eds.) Editorial Universitaria. Chile: 2011.

As the climate disaster causes forced displacement and disorganised and precarious internal migration, the construction of new territories of life, with people moving away from the precarity of urban peripheries to plant their communities, becomes an increasingly necessary form of resilience against disaster. This is fundamental not only because the forest is beautiful and necessary, but also because the forest can offer protection to the very people who, otherwise, will be the first to feel the catastrophic effects of climate collapse.

The global hunger crisis associated with climate change could collapse regional food production and spread hunger like the plague in urban peripheries. Conflicts over water in Brazil and around the world are going to greatly increase.[10] The water stress that already exists is likely to worsen in the coming years, and while it will affect the population as a whole, those in urban peripheries will be hit hardest. We have already seen obituaries for springs and streams in the Cerrado, while the Amazon is facing a historic drought. The sources of important Brazilian waterways are becoming sacrifice zones of the landowning class.[11]

The process of organising and mobilising those who have been dispossessed of their land is part of building a country-city alliance for a common goal: maintaining the conditions of life on the planet – and this depends on transcending capitalism. It is important to stress that it is not just a question of conserving what little is left of the biomes, but of restoring and recovering them, reconciling the defence of life and the production of healthy, nutritious food in sufficient quantities for rural communities and city dwellers, and the transformation of production, energy, and transport chains in line with climate reality. Here we find a demand for multiple sovereignties, which includes territorial sovereignty as a fundamental condition.

A common folk saying applies here: '*toffee*[12] is sweet, but it isn't soft'. Developing a radical environmentalism is an urgent, necessary and beautiful task, and its fruits will be harvested by future generations; but it requires hard work as guardians of life and the Earth.

10 'Water scarcity affects approximately 40 per cent of the world's population and, according to estimates by the United Nations and the World Bank, droughts could put 700 million people at risk of displacement by 2030'. See https://www.bbc.com/portuguese/geral-58319129. In Brazil, the CPT recorded 225 water conflicts in 2022, affecting 44,400 families. See https://www.cptnacional.org.br/downlods?task=download.send&id=14292:conflitos-pela-a-gua-2022-tabela-si-ntese&catid=6

11 Ramos Júnior, D. V., & Santos, V. P.. (2023). Energy crisis, water enclosure and resistance: the challenge of building political-epistemic communities. *Revista Brasileira De História*, 43(92), 29-46. https://doi.org/10.1590/1806-93472023v43n92-04

12 The original expression from Brazil in fact refers to a sweet made of whole cane sugar, known as *rapadura.*

By undoing their subjection to the landowning class and expanding their autonomy vis-à-vis capital, those who partake in this endeavour can fight capital at its first principles, at the very roots of what has grown into a global system.

Agroecology will play an important role in this mission. For the MST and reterritorialised peoples, agroecology is a way of life that generates a symbiosis between society and nature. It cannot be reduced to a set of techniques, because it is through its political perspective that we arrive at the mission of the working class to provide not only real food, but also water, forest, clean air, and other means for its own emancipation.

It is through agroecology that we will be able to sow hope in hearts brutalised by the exploitation of capitalism. There is no room for romanticising and fantasising about the hard work to be done, because the hot sun, and the hard land degraded by monoculture and livestock farming, will have to be faced – and under increasingly adverse climatic conditions.

That is why the use of technology and machinery is welcome and necessary, as long as it is subordinated to the objectives and guiding principles of agroecology – a kind of living-well in relationship with nature and in opposition to the exploitation of people by people.

It is through collective, de-alienated labour that humanity will find its freedom. This is an approach in which the communal appropriation of the fruits of labour will allow people to truly savour abundance. Taking the land, building territories and communities committed to the recovery of biomes – these are the main tasks of our generation for an emancipatory socio-ecological transition.

The artworks featured in this dossier are part of the collection *In hope for utopia* , a visual exploration of hope as a driving force for change. The collection reflects on possible futures and the urgent need for an energy transition rooted in social and environmental justice.

By intertwining tradition and contemporary struggles, *In hope for utopia* highlights the role of imagination and collective action in shaping a more sustainable world. Through her work, Thais Trindade invites the viewer to reflect on resilience, community, and the interconnectedness between nature and humanity in the pursuit of a just future.


SEEDS SPROUT FROM THE ROOTS
THAIS TRINDADE


THE LAND IS OURS
THE FUTURE IS PLANTED TODAY
THE TRANSFORMATION RISES FROM BELLOW !
THAIS TRINDADE

THAIS TRINDADE, also known as Artivistha, is a Brazilian multi-artist, architect and urbanist specialising in digital media. Through illustration, she merges art and activism, using visual storytelling to address political, social, and environmental issues. Deeply inspired by cordel woodcuts and Zapatista aesthetics, her work is widely used in educational materials and classrooms, fostering critical discussions on justice and resistance.

A finalist in the Social Media Profile of the Year 2023 category at the Megafone Ativismo Awards, Thais has built a strong digital presence, expanding the reach of her artivism. Her background in architecture and urbanism shapes her artistic sensibility, creating a visual language that connects art, territory, and collective struggle. Through her work, she seeks to provoke reflection and inspire new ways of seeing the world and collective experiences.


THE PAST AND PRESENT
FORETELL THE FUTURE
THAIS TRINDADE


LAND RIGHTS
PEOPLE
COMMUNITY

The artwork created by Beliz Boni and Thais Trindade, in conversation with Sabrina Fernandes, represents the tension between the forces fighting to preserve the planet and those destroying it. In the centre, the Doomsday Clock appears as a symbol of the imminent risk: the closer it gets to midnight, the closer we are to collapse. The visual composition evokes the urgency of the moment, contrasting resistance and destruction in a decisive clash for the future of the Earth.

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