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should be emailed to:
Professor AO Jegede
ademola.jegede@univen.ac.za
ademolajegede@gmail.com

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Editorial

Just transition has emerged in global discussions and normative development on climate change, particularly in the areas of the energy transition, decarbonisation, the green economy, climate finance and climate justice. Increasingly, state and non-state actors are making energy transition pledges and commitments at the global stage. The term is used by various international institutions, from the United Nations (UN) to the World Bank, which now have policy statements, initiatives or task forces dedicated to just transition. Regarding its normative development, the UN has established a global architecture, starting with the International Labour Organisation (ILO) Just Transition Guidelines (2015). Building on the guidelines, the ILO adopted a resolution in 2023 to strengthen global commitments to decent work and social justice in the context of the green transition. Under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC), the Paris Agreement, a pillar instrument in climate governance, urges parties to consider a just transition in line with nationally defined development priorities. In 2025, the UNFCCC Katowice Committee of Experts (KCI) produced a Technical Paper titled 'Just transitions in national climate frameworks and climate policies: Experiences in alignment, planning and progress tracking'. This important document examines how countries integrate just transition into their nationally determined contributions (NDCs) and long-term strategies (LT-LEDS).

Just transition also forms part of Resolutions of the UN Human Rights Council, including on the right to work (A/HRC/RES/55/9 of 2024); human rights and climate change (A/HRC/RES/53/6 of 2023); and the right to development (A/HRC/RES/54/18 of 2023). It features in General Comment 26 (2023) of the UN Committee on the Rights of the Child; and reports produced by the Office of the High Commissioner for Human Rights on climate change and the right to food (A/HRC/55/37 of 2024); rights of older persons and climate change (A/HRC/47/46 of 2021); and persons with disabilities and climate change (A/HRC/44/30 of 2020).

Despite the foregoing, the fairness of applying the concept of just transition at a time when Africa faces energy insecurity, poverty, global financial injustices, stranded-asset risk and developmental challenges is sometimes contested and often problematic. The African Union (AU) Climate Change Strategy, the African Common Position on Energy Access and Just Energy Transition, and the African Continental Free Trade Area (AfCFTA), among others, are prominent instruments for a just transition in the context of climate action at the continental level. Also, the African Commission on Human and Peoples' Rights (African Commission), a leading mechanism within the AU system, affirms the legal obligation of states to take appropriate measures, individually and collectively, on climate change, especially the obligation of countries that contribute most to greenhouse gas emissions. It calls for a scale-up of financial flows between states and for ensuring agreement on modalities for a just energy transition. It also prioritises the needs of populations in vulnerable situations. At the domestic level in Africa, climate laws, climate policies and legal frameworks that focus on or feature a just transition are emerging, adding to the growing normative attention to the concept. Climate policy and legal framework may clarify just transition and human rights due diligence standards and measures required of all participating actors.

However, the potential of the foregoing development for the agency of law to enhance understanding of the meaning, nature and application of just transition remains undeveloped. Scholarship on Africa is limited on how the existing normative framework may help clarify the meaning, position and limits of law regarding the nature of commitments and obligations arising from just transition and climate change across different levels of governance. In addition, there is a dearth of academic scrutiny focused on how existing barriers test the adequacy of the regulatory approach to just transition and climate change in Africa. Some such barriers, which are real, particularly in Africa, and may interface with different regimes of law, are listed in a report of the Secretary-General to the Human Rights Council. These include continued reliance on and dependence on fossil fuels; instability and conflicts over critical energy transition minerals; inadequate labour rights and social protection; and inequalities and marginalisation of populations in vulnerable situations (A/HRC/60/52 of 2025).

While solutions to issues arising from the application and process of just transition and climate change may be found within and beyond the courtroom, the interaction between just transition and climate litigation, particularly the emerging trend, needs conceptual clarity. Climate change litigation scholars have recently defined just transition litigation as a particular sub-class of cases. Scholarly engagement with the framing and nature of lawsuits concerning the justice and fairness of the just transition between developed and developing states remains in flux. Also, with a particular focus on Africa, it merits academic scrutiny to define, explore and engage with whether potentials exist in international, regional and national human rights law or its overlap with other branches of law in advancing

just transition in the context of how it may be done, who benefits from it, who bears the cost and burden and who is included in or excluded from the process.

This third issue of the *African Journal of Climate Law and Justice* (*AJCLJ*) aims to generate rigorous contributions on the debate and improve understanding of the relevance and role of law in various issues related to just transition in the context of climate change in Africa. In his contribution, Nkrumah highlights that, although the livestock industry is a substantial emitter of greenhouse gases, it is rarely mentioned in just transition debates and policy discourse. Through a social justice lens, the author explores avenues to support Africa's transition to a sustainable livestock industry as part of a just transition. In another article, Fagoyinbo argues that while emerging regional and international frameworks establish normative standards for a human rights-centred transition, their weak implementation creates a gap in the delivery of justice for affected communities. The author then reconceptualises 'just transition' as a legal obligation, not a policy aspiration, anchored on participation, equitable benefit sharing and environmental remediation for host communities.

In their work, Adeniyi, Musindo and Chibwe argue for and apply a gendered energy justice framework to assess whether the energy transitions in South Africa and Zimbabwe distribute benefits and burdens equitably, recognise women's differentiated energy needs and contributions, and enable their meaningful participation as users, workers, entrepreneurs, owners and decision makers. They view a gender-just energy transition as requiring enforceable participation mechanisms, gender-responsive financing, equitable access to productive opportunities, recognition of unpaid care and household energy labour, and gender-disaggregated monitoring and accountability. They argue that increasing renewable energy capacity will not, by itself, produce a just transition.

Mastaki and Mulumeoderhwa focus on the marginalisation of people displaced by climate change in Africa, arguing that this is a manifestation of environmental and climate injustice. They further contend that the absence of a fully operational universal legal status should not preclude the establishment of effective protection measures, and propose a functional recognition of climate-displaced persons based on human rights. The authors conclude that, in Africa, a just transition should not be limited to energy or economic transformation, but must also be a project of justice that fully integrates the protection of populations displaced by climate change.

In his contribution, Bello argues that current just transition frameworks suffer from 'procedural drift'. Drawing on doctrinal legal analysis, political economy critique and comparative case studies of Nigeria and South Africa, his contribution examines whether the current international, regional and domestic frameworks can deliver substantive labour justice to African workers and communities. It demonstrates that each framework fails, in distinct but related ways, to operationalise one or more of these dimensions for labour markets characterised

by informality, fiscal constraint and limited social protection infrastructure. The author concludes that achieving labour justice in Africa's energy transition requires not better implementation of existing norms, but a fundamental reconstitution of legal instruments toward substantive redistribution and accountability.

Oladipo-Ologundudu undertakes a comparative analysis of the energy transition legal frameworks of Nigeria and South Africa to assess their regulatory readiness for a just transition. Her article concludes with lessons to strengthen both Nigeria's and South Africa's regulatory frameworks, thereby enhancing their capacity to deliver a just and equitable energy transition. In their contribution, Aladeitan, Ater and Toriola argue that Nigeria's principal challenge is not the absence of transition-related laws and institutions, but the fragmented and poorly coordinated manner in which they operate. The authors conclude that a coherent, predictable and adequately resourced governance architecture is essential for translating Nigeria's energy transition commitments into sustained implementation. It recommends harmonising existing laws and institutional mandates, strengthening inter-agency coordination and technical capacity, expanding dedicated financing mechanisms, and addressing policy and security constraints that impede energy development.

Lastly, in this edition, Bouwer examines the United Kingdom judicial review of export finance for gas development in Mozambique: *R (Friends of the Earth) v UK Export Finance*. The article focuses in particular on two aspects of the judgments: the discussion of the assessment of Scope 3 emissions; and the determination of whether and how affording public funding for a gas project abroad could be consistent with article 2(1)(c) of the Paris Agreement, which required flows of finance to be consistent with a pathway towards low carbon development. The author contends that assessments of this nature must properly account for historical responsibility, current inequities in emissions attribution, and the development pathways set out in states' own NDCs. The contribution concludes that litigation illustrates a broader challenge in how domestic courts might operationalise differentiation in transnational climate cases.

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A blade of grass: Livestock and just transition in Africa

*Bright Nkrumah**
Assistant Professor, Department of Environmental Studies, Salisbury University, United States of America
https://orcid.org/0000-0003-3501-5184

Abstract: In recent times, just transition has emerged as the ideal conceptual framework for capping greenhouse emissions. Seeking for low carbon future while meeting growing demand for food is a dilemma. That is the conundrum confronting many continental bodies and states. The African Union (AU) is not exempt. While the regional body has codified just transition in its climate strategies, its utility has been compromised. The AU has mainly applied the framework to the energy sector, to the exclusion of other high-emitting sectors. Although the livestock industry is a substantial emitter of greenhouse gases, it is rarely mentioned in just transition debates and policy discourse. The relatively low discussion in this arena has fostered a culture of indifference to the prevailing uncertainties in the industry. It is against this backdrop that the article asks: How can Africa transition to a sustainable livestock industry? In response to the inquiry, the article adopts a social justice lens to explore avenues that will aid the industry to eco-friendlier practice.

Key words: Africa; climate change; livestock; greenhouse emissions; just transition

* PhD (Pretoria); BXNKRUMAH@salisbury.edu

1 Introduction

The onset of climate change highlights the urgency for Africa to transition to a more sustainable way of meat production.[1] However, without due diligence, one could inflict irreparable damage on farmers whose livelihoods depend on the industry. It is for this reason that just transition becomes a continental ideal. The article construes just transition as a gradual shift from an unsustainable way of production to an eco-friendly one, without jeopardising the livelihood of communities.[2] As a continental body, the African Union (AU) has codified just transition in a plethora of legal instruments. Nonetheless, it rarely applies this concept to livestock.[3] It is likely that this lacuna will hinder the overarching aspiration of attaining net-zero emissions.[4] Similarly, contemporary literature on just transition in Africa rarely addresses the livestock sector as a concern. This article aims to remedy that shortfall by examining ways in which the sector could mitigate and adapt to climate change. A central discursive question of the article is: How can just transition be attained in the livestock industry? In response to the inquiry, the article explores ways of capping livestock-related emissions in a way that is equitable, humane and socially just. Drawing from existing literature, it suggests ways of rehabilitating 'just transition' as a framework for empowering actors in the livestock industry.

The article is split into four parts, excluding the present introduction. The next part aims to understand why it is urgent to transition from conventional ways of meat production. It is anticipated that the discussion will help the reader to appreciate the ecological impact of the livestock on the ecosystem. Part 3 analyses the AU's legal frameworks on livestock and their shortcomings. The merit of this discussion is to understand the nuances of this legislation and how they (fail to) respond to emerging climate concerns. Part 4 provides suggestions on how to diversify meat production to an eco-friendly practice. These recommendations are offered bearing in mind the unique vulnerabilities of farmers to radical change in production. As a consequence, it applies the three principles of justice in order to arrive at a more feasible remedy. Part 5 five serves as the conclusion, summarising the findings of the article, including its policy recommendations.

1 H Alae-Carew and others 'The role of plant-based alternative foods in sustainable and healthy food systems: Consumption trends in the UK' (2022) 807 *Science of the Total Environment* 2.

2 I Velicu & S Barca 'The just transition and its work of inequality' (2020) 16 *Sustainability* 267; T Kortetmäki and others 'Just transition boundaries: Clarifying the meaning of just transition' (2025) 55 *Environmental Innovation and Societal Transitions* 2.

3 AU 'Climate Change and Resilient Development Strategy and Action Plan (CCRDSAP 2022-2032)', https://au.int/sites/default/files/documents/41959-doc-CC_Strategy_and_Action_Plan_2022-2032_08_02_23_Single_Print_Ready.pdf (accessed 30 March 2026).

4 I Scoones 'Livestock, methane, and climate change: The politics of global assessments' (2023) 14 *Climate Change* 2.

2 Livestock and climate change

The aim of this part is to examine why Africa ought to transition from its traditional means of meat production. It is hoped that such an analysis will enable one to appreciate the link between livestock sector and climate change, because, to some agrologists, the livestock industry accounts for 51 per cent of total greenhouse gas emissions.[5] This projection, however, is disputed by the Food and Agriculture Organisation (FAO). According to the organisation, the industry is the second-highest emitter with an annual 14,5 per cent (7,1 GT CO_2) of global emissions.[6] The differences in data notwithstanding, emissions from the livestock industry may be categorised into three key layers. These classifications are based on the quantity of gas released per annum and their respective duration in the atmosphere (upon emission).

The first is carbon dioxide (CO_2). This gas has a long duration. When released, it can suspend in the atmosphere for over 150 years.[7] Its longevity is concerning as it can fester climate change for many decades.[8] The livestock industry is estimated to generate 7 516 million tons of CO_2 annually.[9] The second is enteric methane (CH_4). The gas has a shorter lifespan in the atmosphere.[10] Once emitted, it rapidly breaks down in the atmosphere.[11] However, it absorbs energy and warms up quickly in the atmosphere. Also, it has 28 times global warming potential as opposed to CO_2.[12] As a consequence, it is responsible for 64 per cent of global methane emissions.[13] As a potent greenhouse gas, methane is produced by ruminants during digestion.[14] While cattle are responsible for more than 60 per cent of this emission, pigs run second with 37 per cent.[15] Harmsen and others assert that operating within the safe zone of 1,5C requires capping of methane. This admonition implies offsetting methane by ~47 per cent over the next two decades.[16]

5 K Dopelt, P Radon & N Davidovitch 'Environmental effects of the livestock industry: the relationship between knowledge, attitudes, and behavior among students in Israel' (2019) 16 *International Journal of Environmental Research and Public Health* 1359.
6 FAO 'Livestock solutions for climate change', https://www.fao.org/family-farming/detail/en/c/1634679/ (accessed 30 March 2026). The highest emitter is coal (responsible for 25% of emissions).
7 As above.
8 As above.
9 As above.
10 FM O'Connor 'Why methane matters' (2024) *2 Frontiers in Science* 2.
11 A Reichwald and others 'Insights into sex chromosome evolution and aging from the genome of a short-lived fish' (2015) 163 *Cell* 1528.
12 AJ Severinsky & AL Sessoms 'Methane versus carbon dioxide: Mitigation prospects' (2021) 15 *International Journal of Energy and Environmental Engineering* 214; AR Moss and others 'Methane production by ruminants: Its contribution to global warming' (2000) 49 *Annales de Zootechnie* 241.
13 Dopelt and others al (n 5).
14 E Roques and others 'Recent advances in enteric methane mitigation and the long road to sustainable ruminant production' (2024) 12 *Annual Review of Animal Biosciences* 321.
15 FAO (n 6).
16 M Harmsen and others 'The role of methane in future climate strategies: Mitigation potentials and climate impacts' (2020) 163 *Climatic Change* 1409, 1413.

Finally, ammonia (NH_3). Farmers use ammonia to treat poor-quality forage. Capstaff and Miller observe that ammonisation helps transform low-quality grass hay or wheat straw into highly digestible feed.[17] The process involves breaking down lignin-carbohydrate bonds in the cell wall of the plant. Nonetheless, Ghavam and others moot that the conventional way for ammonia production is through the Haber-Bosch process.[18] Given the high pressure and temperature required, the energy used for the process exceeds 30 GJ/tonne NH3. As a result, the livestock industry contributes to ~81 per cent of global ammonia (NH_3) emissions.[19] Like methane, ammonia has a short life span. The two gases are reactive and typically lasts for about a week in the atmosphere. Moreover, because they are highly soluble in water, they are rapidly washed out of the air by fog, snow or rain.

From the analysis above, it is evident that the three greenhouse gases jointly pose a considerable threat to the livestock industry.[20] While the longevity of carbon dioxide is the obvious threat, methane and ammonia have the potential to warm up quickly in the atmosphere. The effects of these gases on livestock could be direct or indirect. The former signifies immediate impact, whereas the latter implicates prolonged and general impact on the livestock industry. One crucial direct effect is heat stress.[21] Animals born six decades ago will witness approximately four major heat waves in their lifetime.[22] The same cannot be said of those born in the 2020s. Even if state parties meet the 1,5°C target set by the Paris Agreement, animals born in this decade will witness about 18 such heat waves.[23] Rising temperatures are projected to intensify heat stress. This condition occurs when the body of animals cannot get rid of heat faster than it generates. The body's dysfunction emanates from prolonged exposure to extreme temperatures.[24]

Heat stress could be split into two camps: first, chronic heat stress. This phenomenon is associated with prolonged exposure to heat waves. The duration

17 NM Capstaff & AJ Miller 'Improving the yield and nutritional quality of forage crops' (2018) 9 *Frontiers in Plant Science* 1. Ammonisation implies the process of treating forages with ammonia.

18 Ghavam and others 'Sustainable ammonia production processes' (2021) *9 Frontiers in Energy Research* 1.

19 S Wyer and others 'Ammonia emissions from agriculture and their contribution to fine particulate matter: A review of implications for human health' (2022) 301 *Journal of Environmental Management* 3.

20 GA Bogale & ZB Erena 'Drought vulnerability and impacts of climate change on livestock production and productivity in different agro-ecological zones of Ethiopia' (2022) 50 *Journal of Applied Animal Research* 471.

21 MA Abeyta and others 'Effects of dietary antioxidant supplementation on metabolism and inflammatory biomarkers in heat-stressed dairy cows' (2023) 106 *Journal of Dairy Science* 1441.

22 A Anuta and others 'The impacts of climate change on livestock: An interdisciplinary, scoping review of health, production, and adaptation strategies' (2025) 2 *Climate Smart Agriculture* 1.

23 K Tanaka & BC O'Neill 'The Paris Agreement zero-emissions goal is not always consistent with the 1.5 C and 2 C temperature targets' (2018) 8 *Nature climate change* 3.

24 B Parkes, JR Buzan & M Huber 'Heat stress in Africa under high intensity climate change' (2022) 66 *International Journal of Biometeorology* 1535.

spans from three weeks and beyond. Chronic heat stress leads to a reduction in feed intake, poor fertility and lower milk production; second, acute heat stress. The condition is tied to intense heat exhaustion that spans from a few days to a week. The intensity may result in oxidation stress, organ damage and, in extreme cases, animal collapse.[25] The ability to adapt to heat differs greatly among livestock:[26] (i) those with efficient sweat glands;[27] Mota-Rojas and others intimate that horses and rabbits adapt well to heat stress due to their well-vascularized skin;[28] (ii) second, animals with limited sweat glands.[29] This feature compromises the efficient functioning of their thermoregulatory system. Animals in this camp include pigs, goats, sheep and cattle. As a warm-blooded species, their endothermy stabilises their internal temperature by warming or cooling the body.[30] However, this coordination is truncated under extreme temperatures. This results in decreased feed intake.[31] In the case of commercial farmers that keep cattle in barns, the cost for installing misting systems (for cooling) could hike their expenditure;[32] and (iii) the third category of animals do not have sweat glands. This trait compromises their thermoregulatory mechanism.[33] A common example is poultry. They cool down by staying in coops or perching to stay off cold ground. Poultry also relies on behavioral mechanisms, such as increased blood flow to the wattles and comb, and gular flutter (panting).[34] Notwithstanding their variations, livestock share a common fate of facing prolonged timespan of heat stress, which could undermine their ability to withstand.[35]

The long-term effect of emissions is drought. It is expected that drought will have different effects on the carrying capacities of rangelands and production systems.[36] The carrying capacity will decrease by 12 to 24 per cent depending

25 PK Thornton and others. 'Impacts of heat stress on global cattle production during the 21st century: A modelling study' (2022) 6 *The Lancet Planetary Health* e193.
26 J Sarubbi and others 'Hypothalamic neuromodulation and control of the dermal surface temperature of livestock during hyperthermia' (2024) 14 *Animals* 4.
27 H Kang and others 'Heat stress in horses: A literature review' (2023) 67 *International Journal of Biometeorology* 959.
28 D Mota-Rojas and others 'Thermal imaging as a method to indirectly assess peripheral vascular integrity and tissue viability in veterinary medicine: animal models and clinical applications' al (2023) 14 *Animals* 12.
29 J Vasconcelos and others 'Neoplasms in domestic ruminants and swine: A systematic literature review' (2023) 10 *Veterinary Sciences* 163.
30 AO Bakhraibah 'Warm-blooded animal toxoplasmosis and its connection to COVID-19: A review' (2022) 7 *Microbial Biosystems Journal* 19.
31 I Belhadj Slimen and others 'Heat stress effects on livestock: Molecular, cellular and metabolic aspects, a review' (2016) 100 *Journal of Animal Physiology and Animal Nutrition* 405.
32 As above.
33 DM Jenkinson & PS Blackburn 'The distribution of nerves, monoamine oxidase and cholinesterase in the skin of poultry' (1968) 9 *Research in Veterinary Science* 429.
34 S Yadav and others 'Thermoregulation in layer poultry' (2022) 1 *Trends in Agriculture Science* 325.
35 PK Thornton and others 'Increases in extreme heat stress in domesticated livestock species during the twenty-first century' (2021) 27 *Global Change Biology* 5765.
36 Carrying capacities implies the maximum number of cattle, sheep, goats or pigs that a particular area of land can support.

on the climate scenario.[37] The onset of prolonged drought will lead to a rise in animal mortality and a decline in productivity.[38] Reduced precipitation reduces water availability and damages pastures. The condition will threaten grass availability, especially as grasslands suffer encroachment by shrubs and trees. Then again, drought will decrease groundwater resources and intensify plant evapotranspiration.[39] Deprecating rainfall pattern results may be tied to poor water quality, which will result in poor animal health. Moreover, alterations in rainfall and temperature will exacerbate the spread of diseases and parasites into new forages and rangelands.[40] In sum, the future of the livestock industry is bleak given fluctuations in the weather patterns. It is against this backdrop that the article turns to examine the legal provisions that exist to guide the region to transition into a sustainable means of livestock rearing.

3 African Union and the livestock industry

Over the last two decades, the AU has adopted a plethora of policies and strategies to foster agriculture.[41] These encompass model laws that seek to guide member states in the framing of policies. The AU's primary agricultural framework is the Comprehensive African Agricultural Development Programme (CAADP).[42] Launched in 2003, the programme aims to promote nutrition, food security, and the livelihood of farming communities. These aspirations are to be attained by increasing government funding and technical support for farmers.[43] African states affirm their commitment to pursue 'a 6 per cent average annual agricultural sector growth rate'.[44] They also concurred on the 'allocation of 10 per cent of the national budgets to the agricultural sector'.[45] The funding was to (i) research of sustainable food production; (ii) agricultural technologies; (iii) food and nutrition security; (iv) market access and rural development; and (v) water management and sustainable land use. A decade later, the Malabo Declaration (2013) reaffirmed the commitment to attain 6 per cent growth and to allocate 10 per cent of the national budget to the agricultural sector.[46] While

37 C Duku and others 'Climate change impacts livestock carrying capacity in East Africa' (2025) 25 *Regional Environmental Change* 110.
38 JM Rust & T Rust 'Climate change and livestock production: A review with emphasis on Africa' (2013) 43 *South African Journal of Animal Science* 260.
39 DS Osiru 'Climate smart agriculture-A comprehensive scoping and assessment study with particular reference to Uganda' (2023) *Bishop Stuart University Journal of Development, Education & Technology* 39.
40 Rust & Rust (n 38).
41 https://au.int/en/pressreleases/20250113/african-union-adopts-ten-year-strategy-and-action-plan-transform-africas-agri (accessed 30 March 2026).
42 NEPAD 'CAADP' https://www.dai.com/our-work/projects/africa-comprehensive-africa-agriculture-development-programme-caadp (accessed 30 March 2026).
43 M Brüntrup 'The Comprehensive Africa Agriculture Development Programme (CAADP) – An assessment of a Pan-African attempt to revitalise agriculture' (2011) 50 *Quarterly Journal of International Agriculture* 81.
44 NEPAD 'CAADP' 8, https://www.resakss.org/sites/default/files/pdfs/comprehensive-africa-agriculture-development-progr-39420.pdf (accessed 30 March 2026).
45 As above.
46 AU 'Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared. Prosperity and Improved Livelihoods' 3, https://www.resakss.org/sites/default/files/

agriculture has witnessed a steady growth over the last decades, it still lingers behind the 6 per cent projection.[47] The shortfall is underpinned by the failure of states to meet the terms of the framework. At the time of writing, only four states had allocated 10 per cent of national budget to agriculture.[48] In contrast, the allocations from the 50 states range from 2,1 per cent to 2,5 per cent of the national budget.[49] The non-compliance of states to this commitment raises concern about the priorities of African rulers.

A more specific instrument to the present discussion is the Livestock Development Strategy for Africa.[50] Adopted in 2015, the instrument stipulates that 'by the year 2025, at least 30 per cent of our farm, pastoral, and fisher households are resilient to climate and weather-related risks'.[51] Ironically, it recognises looming climate uncertainties but retracts from setting out how to implement mitigation strategies.[52] This oversight is replicated in the omission of livestock from the continental climate strategy. In the Climate Change and Resilient Development Strategy and Action Plan (AfCFTA), the strategy calls for green jobs, inclusive economic development and resilient agriculture.[53] It highlights the susceptibility of women in light of limited access to resourced and overreliance on rain-fed farming.[54] The strategy calls for strategic alignment to national development policies. Still, its prime aspiration remains '[s]upporting renewable energy, energy efficiency'.[55] For this reason, there are no regional indicators or targets tailored to cap livestock-related emissions. Since the AU shapes the conduct of states, it is not ironic that livestock is omitted from nationally determined contributions of many African states.[56]

Reasons for the limited focus on livestock in climate mitigation strategies abound. From the onset, there is a lack of data. Accurate and recent data on the livestock industry could be an entry point towards the framing of a proposal for green investors.[57] Although the livestock industry in the region has received

Malabo%20Declaration%20on%20Agriculture_2014_11%2026-.pdf (accessed 30 March 2026).

47 As above.

48 These were Malawi, Lesotho, Ethiopia and Benin. See M Diallo & F Wouterse 'Agricultural development promises more growth and less poverty in Africa: Modelling the potential impact of implementing the Comprehensive Africa Agriculture Development Programme in six countries' (2023) 41 *Development Policy Review* 3.

49 As above.

50 AU 'The Livestock Development Strategy for Africa (LiDeSA)' 3, https://faolex.fao.org/docs/pdf/au196356ENG.pdf (accessed 30 March 2026).

51 As above.

52 AU (n 50) 21.

53 AU 'Climate Change and Resilient Development Strategy and Action Plan (2022-2032)' AfCFTA 7, https://au.int/sites/default/files/documents/41959-doc-CC_Strategy_and_Action_Plan_2022-2032_08_02_23_Single_Print_Ready.pdf (accessed 30 March 2026).

54 AU (n 53) 17.

55 AU (n 53).

56 P Antwi-Agyei and others 'Alignment between nationally determined contributions and the sustainable development goals for West Africa' (2018) 18 *Climate Policy* 1296.

57 Green investors are entities that funds projects that are environmentally friendly.

considerable scholarly attention, concise data remain elusive.[58] There is a paucity of data on the types of breeds, the mortality or natality rate of animals.[59] Moreover, it remains uncertain about the number of farm owners, managers, farmhands, breeders, feed producers, abattoir operatives and meat packers operating in the region. The dearth may be tied to the vast, yet decentralised nature of the industry.[60] This phenomenon is a hindrance to the development of concise initiatives and investment at the sub-national level. Accurate data could assist in contrasting the differences or similarities at the national in terms of livestock population, feed (in)efficiencies, biomass use.[61] Also, there is widespread apathy among livestock farming.[62] Emerging researchers in Africa could be instrumental in directing their work towards bridging the data gap in the livestock industry. However, there is a growing indifference among young researchers on the theme of livestock and agriculture more broadly. In the words of Van der Merwe, the continent's young people perceive farming as a 'backward sector that is home to an ageing cohort'.[63] Unless this pejorative sentiment is reversed, it will continue to ward off prospective livestock researchers.

Perhaps the most dominant reason for the AU's limited interference in this industry is the social significance of livestock. In many African communities, animals are seen as symbols of sanctity, status and wealth.[64] The sheep is a very meek animal and, as such, believers in traditional African religions (TAR) sacrifice it to appease deities.[65] Their perceived innocence makes sheep ideal substitutes for human sacrifice.[66] Animal sacrifice is not limited to TAR, but is pervasive in contemporary religions, among others, Islam. During Eid al-Adha, animals (cows, camels, goats and sheep) are sacrificed to commemorate Qurban (the willingness of Prophet Ibrahim to sacrifice his son Ismail for Allah).[67] The practice and subsequent sharing of the meat demonstrate obedience, devotion, and sharing of blessings with the needy. In Eastern and Southern Africa, agricultural and pastoralist communities have another perception of animals. Among the Dinka, Mundari, Xhosa and Zulu tribes, livestock – particularly

58 K Marshall and others 'Livestock genomics for developing countries – African examples in practice' (2019) 10 *Frontiers in Genetics* 5.
59 M Balehegn and others 'Livestock sustainability research in Africa with a focus on the environment' (2021) 11 *Animal Frontiers* 48.
60 O Opoola and others 'Current situations of animal data recording, dairy improvement infrastructure, human capacity and strategic issues affecting dairy production in sub-Saharan Africa' (2019) 51 *Tropical Animal Health and Production* 1699.
61 L Fadul-Pacheco and others 'Addressing data bottlenecks in the dairy farm industry' (2022) 12 *Animals* 721.
62 U Chipfupa & A Tagwi 'Youth's participation in agriculture: A fallacy or achievable possibility? Evidence from rural South Africa' (2021) 24 *South African Journal of Economic and Management Sciences* 1.
63 M van der Merwe 'How do we secure a future for the youth in South African agriculture?' (2024) 63 *Agrekon* 3.
64 K Horsthemke 'Animals and African ethics' (2017) 7 *Journal of Animal Ethics* 121.
65 P Bukuluki & CM Mpyangu 'The African conception of sacrifice and its relationship with child sacrifice' (2014) 41 *International Letters of Social and Humanistic Sciences* 15.
66 M Jackson 'Sacrifice and social structure among the Kuranko' (1977) 47 *Africa* 129.
67 C Brooke 'Sacred slaughter: The sacrificing of animals at the Hajj and Id al-Adha' (1987) 7 *Journal of Cultural Geography* 68.

cattle – are the primary measure of wealth and status in these societies.[68] As such, cattle are traditionally used as a form of symbolic payment (*lobola* or bride price) from the family of the groom to the bride's family.[69] The payment plays a dual role in fostering respect and formalising the union between the families.[70]

It is imperative to mention here that the cultural and religious significance of livestock is buttressed by the prevailing notion of cultural food practices (CFP).[71] Across the region, different communities eat different kinds of meals. Food is perceived as a symbol of heritage, identity and self-expression. CFP recognises the entitlement of communities to choose their food without government interference.[72] Arguably, this entitlement serves as a hindrance to political debate or strategy that will curtail people's access to food cultural preferences. To that end, swaying communities from meat cannot be attained through government regulation, but through personal choice. Nonetheless, a critic could counter this observation that if the right to food choice is upheld, then the right to choose coal as a preferred energy source ought to be respected. Such criticism may be justifiable. For instance, there has been frequent litigation seeking for the impact assessment of coal power plant.[73] However, litigants rarely approach a court for an order requiring an assessment of the impact of livestock on the environment. Using litigation to curb the environmental effects of one and not the other seems lopsided.

Containing the adverse effects of rising emissions, calls for proportionality in mitigation strategies.[74] The need for equal treatment is essential considering that livestock (such as coal) leaves a substantial degree of carbon footprints. Without a proportional intervention, attempts at mitigating emissions will be counterproductive. The persistence of livestock-related emissions will negate the gains that may be attained by capping coal-related emissions. This is particularly so, as alternatives to meat exist, but rarely to coal. Although renewable energy is gaining a foothold in urban centres, the spate of poverty in rural communities will hinder a radical transition from coal. The upfront cost of solar panels and related equipment makes coal the ideal energy source for cooking in rural communities.

68 S Shava & S Masuku 'Living currency: The multiple roles of livestock in livelihood sustenance and exchange in the context of rural indigenous communities in Southern Africa' (2019) 35 *Southern African Journal of Environmental Education* 2.

69 RD Coertze 'Livestock in the social and cultural life of African communities' (1986) 9 *South African Journal of Ethnology* 131.

70 G Parker 'The practice of lobola in contemporary South African society' (2015) 32 *Journal of Third World Studies* 179.

71 CH Feldman & S Wunderlich 'Cultural food distancing: A conceptual discourse on the evolution of seminal to present and future models of traditional food practices' (2023) 125 *British Food Journal* 1936.

72 JJ Boutaud, A Becuț & A MarinescuBoutaud 'Food and culture. Cultural patterns and practices related to food in everyday life: Introduction' (2016) 6 *International Review of Social Research* 2.

73 *Earthlife Africa Johannesburg v Minister of Environmental Affairs & Others* [2017] ZAGPPHC 58; [2017] 2 All SA 519 (GP); L Chamberlain & M Fourie 'Using climate litigation to strengthen advocacy strategies: The Life After Coal Campaign in South Africa' (2024) 16 *Journal of Human Rights Practice* 248.

74 B Nkrumah 'Street food: Urbanisation and agriculture in Africa' (2026) 10 *Urban Science* 7.

It is against this backdrop that the next part turns to examine how livestock-related emissions could be reduced. This assessment is conducted through the lens of just transition.

4 Just transition and the livestock industry

The Preamble to the Paris Agreement entreats member states to entrench 'just transition' in their respective national development policies.[75] The Preamble articulates that member states must recognise 'the imperatives of a *just transition* of the workforce and the creation of decent work'.[76] In Africa, substantial interventions have been adopted at the (sub)-regional and (sub)-national in response to the global call for just transition.[77] However, the concept has rarely been applied to livestock. The closest term to 'just transition' in the livestock industry is 'sustainability'. Ultimately, both appreciate the interconnectedness of social and natural elements.[78] However, there is a stark distinction between the two. The latter refers to the practice of using natural resources without compromising the ability of future generations to harness similar resources.[79] The latter, however, has a broader appeal to workers' rights.[80]

To define it simply without equivocation, a 'just transition' is a shift to a greener economy through a fair process.[81] It demonstrates how humanity and Mother Nature are inherently connected. It implies how a shift to environmentally friendly practices will impact the living conditions of workers, and how the living conditions of workers impact the environment.[82] As a labour-oriented ideology, the notion is concerned with fairness in terms of who gets what, when and how in the evolving green revolution. Put differently, it is a golden thread that ties the otherwise disconnected layers of economic, social and environmental concerns of contemporary society.[83] It affirms that, whereas economic restructuring is inevitable, it is imperative that the people that will be affected are not left unprotected. The notion is groundbreaking as it is the first attempt that bridges the gap between labour and the natural environment. It calls for initiatives to safeguard the environment, without infringing on the rights of workers.[84]

75 United Nations Framework Convention on Climate Change. Paris Agreement, 12 December 2015, 3156 UNTS 145 (2016).
76 My emphasis.
77 F Obeng-Odoom 'Oil cities in Africa: Beyond just transition' (2021) 80 *American Journal of Economics and Sociology* 778.
78 Velicu & Barca (n 2).
79 T Kuhlman & J Farrington 'What is sustainability?' (2010) 2 *Sustainability* 3438.
80 X Wang & K Lo 'Just transition: A conceptual review' (2021) 82 *Energy Research & Social Science* 2.
81 Kortetmäki and others (n 2) .
82 Velicu & Barca (n 2).
83 AM Eisenberg 'Just transitions' (2018) 92 *Southern California Law Review* 273.
84 B Galgóczi 'Just transition on the ground: Challenges and opportunities for social dialogue' (2020) 26 *European Journal of Industrial Relations* 368.

Although there is consensus that just transition concerns labour, there is widespread contestation among authors when it comes to how it ought to be implemented. The contestation may be grouped into three camps: first, the *modus operandi*. There is discord on whether the shift to low-carbon economy ought to be radical transformation or a gradual economic restructuring;[85] second, the scope of the transition. There has not been a unitary voice on whether the different sectors of the economy ought to transition jointly or separately;[86] third, whom to prioritise. The economic sector is fraught with groups with different sensitivities and vulnerabilities. This disparity brings to bear the difference of opinion in terms of who ought to be the focus for government intervention. Where some authors agitate for women, indigenous people or historically disadvantaged, others call for equality regardless of a person's socio-economic background.[87] Fourth, the scale. There is a lack of agreement in terms of where the transition ought to begin. Should it spring from the grassroots to the global or *vice versa*? Responses to these queries may merit a separate article. As such, this article will disengage from these contestations.

Reducing livestock-related emissions can be attained through efficient farming systems and/or a gradual shift to plant-based meals. The transition to meatless diets will inadvertently lead to a reduction in animal production and the livelihood of livestock farmers.[88] This phenomenon may exacerbate the poverty and socio-economic plight of farmers, workers and their families. It is against this backdrop that the three types of just transition become imperative for the livestock industry.

The first is *distributive justice*. As its name implies, distributive justice relates to the equitable allocation of the benefits and burdens of society.[89] In the context of climate change, it recognises intra-generational equity and inter-generational equity. The former connotes a fair distribution of benefits and burdens within one generation. The latter, however, implies a fair distribution of benefits and burdens between generations. In essence, there ought to be equitable about allocation of the causes, impacts and opportunities that climate change brings.[90] An opportunity worth citing is technological assistance. Across the continent, there has been considerable technological advancement in the livestock industry.

85 D McCauley & R Heffron 'Just transition: Integrating climate, energy and environmental justice' (2018) 119 *Energy policy* 5; L Clarke & C Lipsig-Mummé 'Future conditional: From just transition to radical transformation? (2020) 26 *European Journal of Industrial Relations* 353.

86 Velicu & Barca (n 2); Eisenberg (n 83).

87 P Walk 'From parity to degrowth: Unpacking narratives of a gender-just transition' (2024) 112 *Energy Research & Social Science* 2; D Cambou & K Buhmann 'Indigenous peoples, business, and the struggles for justice in the green transition: Towards a rights-based approach to just transitions' (2025) 10 *Business and Human Rights Journal* 147.

88 Z Conrad and others 'Diet quality on meatless days: National health and nutrition examination survey (NHANES), 2007–2012' (2017) 20 *Public Health Nutrition* 1564.

89 R Nozick 'Distributive justice' (1973) *Philosophy & Public Affairs* 46.

90 KS Cook & KA Hegtvedt 'Distributive justice, equity, and equality' (1983) 9 *Annual Review of Sociology* 217.

Precision livestock technologies (PLTs) use artificial intelligence (AI) and sensors to provide farmers with adequate data.[91] The data is useful for more efficient, humane and sustainable practices. PLTs encompass virtual fencing. Schillings and others state that the technology provides audio and mild electric cues (through GPS-enabled collars) to guide livestock within digitally set boundaries.[92] This approach enables farmers to remotely manage grazing and pasture restoration without the need for physical fencing. Ultimately, such technologies ought to be accessible and user-friendly to traditional farmers. Yet, while some commercial farmers have access to these devices, they remain largely inaccessible to smallholders.[93] The high cost of digital tools has made them largely inaccessible to poor livestock farmers. This limitation demonstrates the need for government subsidies in accessing these logistics. If such interventions are to be just, then rural, small-scale farmers (as opposed to commercial farmers) ought to be prioritised in the allocation of assistance. It is important to reiterate that any logistical assistance ought to incorporate technical training. The training ought to empower farmers with skills on how to operate and take advantage of emerging technologies.

Another technological assistance that could be afforded to livestock farmers is solar panels. Africa has high solar radiance due to its equatorial location and low cloud cover.[94] The intense, year-round sunlight will provide unlimited access to energy, whether in rural or urban centres. Solar panels could be an ideal equipment for tapping renewable energy for feeding, lighting, ventilation, and milking livestock. [95] This device could be an entry point for efficient and sustainable livestock farming. However, although the falling costs of solar panels have made them increasingly common in residential areas, adoption in farms remains limited. For the transition to be just, there is a need for supportive policies that subsidise the device for smallholder farmers, particularly in rural areas. Solar panels are a sustainable means of production, as those mounted on land serve as barns or grazing areas between the devices. By providing shade during grazing, the devices safeguard animals from UV rays and heat stress.

The second type of transitional justice is *procedural justice*.[96] In many states, farm workers are exempted from the minimum wage and Fair Labour Practices Act.[97] For this reason, the relationship between commercial livestock farm

91 C Aquilani and others 'Precision livestock farming technologies in pasture-based livestock systems' (2022) 16 *Animal* 1.
92 J Schillings and others 'Exploring the potential of precision livestock farming technologies to help address farm animal welfare' (2021) 2 *Frontiers in Animal Science* 2.
93 As above.
94 L Diabate and others 'Solar radiation climate in Africa' (2004) 76 *Solar Energy* 737.
95 D Soto-Gómez 'Integration of crops, livestock, and solar panels: A review of agrivoltaic systems' (2024) 14 *Agronomy* 3.
96 LB Solum 'Procedural justice' (2004) 78 *Southern California Law Review* 181.
97 M Ngubane 'Immigrant farm workers, self-exploitation and social reproduction' (2025) 52 *Review of African Political Economy* 17.

owners and workers has been characterised, sadly, by unspoken discontent.[98] In cases where the rights of farmworkers are protected by statutes, the provisions rarely advance the well-being of workers on the ground.[99] In South Africa, the Basic Conditions of Employment Act affords a statutory-specific wage for livestock farm workers.[100] Section 3 of the part labelled 'Sectoral Determination 13' recommends setting the minimum hourly rate for farm workers at R5,34. While this figure has been adjusted to conform to the national minimum wage of R30,23/hour, farmworkers still face difficulty given the high cost of living.[101] Farm workers also face the potential risk of unlawful wage deductions or withholding by an employer. Beyond the socio-economic set-back, farm workers are susceptible to injuries or loss of life. While feeding a calf, moving cattle, they may be fatally trampled upon. Economic and health risks are associated with the trade position of livestock workers, who are among the endangered social groups in contemporary society.

Despite these challenges, livestock farm workers are often excluded from decision making. Overcoming the exploitation of livestock farm workers calls for the realisation of procedural justice. This aspect of transitional justice centres around the process that led to decision making. It calls for transparency and genuine participation. Procedural justice advocates consultation and participation by affected communities in all phases of the decision-making process. It transcends expert knowledge to indigenous knowledge. This programme ought to enhance the inclusion of farm workers in the design and operationalisation of mitigation and adaptation strategies. As livestock farms transition to low emissions, it will be imperative to reflect on financial and technical interventions that could assist labourers to cope with the shift in operations. A modest amount of social assistance could also cushion farmers from the loss of income. If carefully considered, procedural justice has the merit of addressing power imbalances in the livestock industry. It will facilitate the genuine participation of all actors, particularly under-waged labourers that suffer alienation in decision-making processes. These individuals could make substantial contributions in terms of framing solutions for mitigation, adaptation and resilient strategies for the livestock industries.

98 M Bolt 'Becoming and unbecoming farm workers in Southern Africa' (2017) 40 *Anthropology Southern Africa* 241.

99 B Nkrumah *Seeking the right to food: Food activism in South Africa* (2021) 78.

100 Government of South Africa. 'Basic Conditions of Employment', https://www.gov.za/sites/default/files/gcis_document/201409/28518.pdf (accessed 29 March 2026).

101 Department of Employment and Labour 'National Minimum Wage Act 9 of 2018' (2026) NO R 7083 https://www.gov.za/sites/default/files/gcis_document/202602/54075rg11941gon7083.pdf (accessed 28 October 2026); LK Moagi and others 'Exploring the impact of occupational hazards on the mental health of farmworkers: A qualitative study in Maruleng, Limpopo Province' (2026) 23 *International Journal of Environmental Research and Public Health* 6.

Finally, *recognition justice* acknowledges the unique vulnerability and potential of relevant players.[102] Recognising the distinct trait of an actor affirms their dignity and a sense of ownership (of climate-related projects). At the regional level, whereas net-zero ought to be embraced by all AU member states, it is imperative that strategies are developed based on the specific conditions of each state. Put differently, target setting ought to be cognisant of local dynamics. Different strategies may be required for low- and middle-income economies. In savanna zones (with vast tropical grasslands), beef cattle are mainly grass-fed.[103] However, in the sub-tropics (such as South Africa), where there is poor rangeland management, beef cattle are grain-fed.[104] Grain-fed diets contribute to food insecurity. The latter emanates from competition between humans and livestock over sorghum, barley, corn, millet and soy. This phenomenon often leads to the expansion of grain farms to meet the needs of humans and livestock. In time, the expansion of farms will be accompanied by deforestation, biodiversity decline, releasing stored carbon dioxide and the disruption of water cycle. Different (feed) problems require different remedies. In savanna zones, rotational grazing may be encouraged. This practice will reduce overgrazing and desertification. In the sub-tropics, alternative feeds such as cloves may be recommended. Such a transition will avert competition and drive down the price of grain. In the long term, this approach will guarantee access to grains for indigent households. A few ways to attain this end is by highlighting the positive attributes of plant-based diets and promoting community supported agriculture (CSA).[105]

CSA is a programme that provides an opportunity for community members to purchase in advance a share of the harvest at the beginning of the planting season.[106] The farmer then cultivates the crops based on the needs of consumers. Purchasing crops upfront helps cover the start-up cost and operational expenses.[107] CSA has the prospect of fostering community resilience. Farmers and consumers collaborate in producing crops that align with their cultural identity and values. Through the programme, consumers may begin to reflect on and appreciate how their food choices foster eco-friendly practices. CSA could be an important exit strategy for livestock farmers who may seek to transition into horticulture. The gradual transition of farmers from degenerative (livestock-based) to regenerative (plant-based) cultivation has the potential to shape eating patterns. Limited

102 A Honneth 'Recognition and justice: Outline of a plural theory of justice' (2004) 47 *Acta Sociologica* 354.

103 I Amole and others 'Livestock feed resources in the West African Sahel' (2022) 114 *Agronomy Journal* 26; AT Adegoke & AA Abioye 'Improving livestock productivity: Assessment of feed resources and livestock management practices in Sudan-Savanna zones of West Africa' (2016) 11 *African Journal of Agricultural Research* 424.

104 T Monkwe and others 'Challenges and perception of communal farmers on cattle production in Ga-Matlala, Limpopo Province, South Africa' (2023) 9 *Heliyon* 2.

105 A Vasquez and others 'Community-supported agriculture as a dietary and health improvement strategy: A narrative review' (2017) 117 *Journal of the Academy of Nutrition and Dietetics* 84.

106 A Pole & M Gray 'Farming alone? What's up with the "C" in community supported agriculture' (2013) 30 *Agriculture and Human Values* 86.

107 L Egli and others 'A systematic review of the ecological, social and economic sustainability effects of community-supported agriculture' (2023) 7 *Frontiers in Sustainable Food Systems* 2.

availability of meat could nudge consumers to explore alternative food sources and/or reduce food waste. However, a successful CSA requires access to the market and affordable goods. The latter, however, remains the Achilles heel of traditional farmers. The influx of imported foods tends to make comparable local food seem expensive. This imbalance could cripple domestic production and stir tension.

On 11 November 2025, rice farmers in Ghana staged a protest.[108] The rank and file of the demonstrators were composed of farmers from the rice, maize and soya bean value chains. The diverse backgrounds of the protestors demonstrate a shared concern for the future of the country's agricultural sector. They expressed their discontent with years of unchecked food imports. The protestors chastised the state for subsidising (sub-standard) rice imports while abandoning domestic agriculture. With over 1 million metric tons of locally produced paddy rice lying unsold on farms and warehouses, this development gravely impacts the livelihoods of families in the grain value chain.[109] A protestor explained that they 'stand ready to feed our people, but we need a level playing field and policies that serve Ghanaian farmers first'.[110] The grievance of the protesters demonstrates leveraging existing mechanisms to connect producers directly to consumers. In essence, a supportive state and community are key in assuring a livestock farmer of an alternative source of livelihood in a post-transition era.

5 Conclusion

The article sets out to explore how Africa could transition to a more sustainable way of production. In response to the question, it divided the article into four parts, excluding the introduction. Part 2 explored why the livestock industry deserves consideration, particularly in the context of climate change. The part found that the industry is a major contributor to emissions. It argues that the short-term effect of methane, coupled with the long-term effect of CO_2, could have dire ramifications on the livelihood of pastoralists. Subsequently, part 3 examined the normative instruments of the AU to discern the strategies that the regional body has adopted to curb this growing concern. It found that there is a gap between policy and practice. The article found that a disproportionate number of climate-related instruments exclude livestock production as a concern. It is argued that the exclusion might be tied to the cultural relevance of meat in Africa. For this reason, part 4 explored interventions that could help farmers become sustainable. The role of the state in this context was discussed. To ensure that the interventions are just, equitable participation in decision-making processes was seen as paramount.

108 Millingmea 'Ghana's grain farmers sound alarm as over US$330M worth of paddy rice remains unsold', https://millingmea.com/ghanas-grain-farmers-sound-alarm-as-over-us330m-worth-of-paddy-rice-remains-unsold/ (accessed 30 March 2026).
109 As above.
110 As above.

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Just transition for whom? Unmasking the unjust energy transition and the burdens of Africa's host communities

*Adenike Lydia Fagoyinbo**
PhD Researcher, University of Derby, United Kingdom
https://orcid.org/0009-0009-4711-6864

Abstract: Drawing on the frameworks of energy justice and international human rights law, and through a comparative analysis of Nigeria and Kenya, the article examines the human rights impacts of energy projects on host communities and evaluates the implementation of the obligations of states and corporate actors. The article argues that while emerging regional and international frameworks establish normative standards for a human rights-centred transition, their weak implementation establishes the gap in delivering justice for affected communities. It calls for reconceptualising 'just transition' as a legal obligation, not a policy aspiration, anchored on participation, equitable benefit-sharing, and environmental remediation for host communities. Therefore, the article establishes that the energy future of Africa demands accountability, redistribution, and recognition to achieve a just energy transition.

Key words: energy justice; host communities; international human rights law; just transition

* LLM (Derby); nikeibijola@gmail.com

1 Introduction

The language of just transition has rapidly ascended from the margins of labour advocacy into the core of climate and energy governance, reflecting its growing prominence in global climate policy and development discourse.[1] Governments, international financial institutions and development partners increasingly adopt the concept to frame pathways towards decarbonisation, green growth and sustainable development, particularly in the context of climate finance and net-zero commitments.[2]

In policy documents, national energy strategies and climate finance agreements, just transition is portrayed as a bridge between environmental imperatives and social equity, one that promises cleaner energy systems without reproducing poverty, inequality or exclusion.[3] Yet, behind this hopeful narrative lies a troubling reality. Africa's energy transitions, repeatedly labelled as 'just', continue to impose serious social, environmental and economic burdens on the communities that host energy projects, particularly Kenya, which is described as the 'African clean energy superpower country'.[4]

This paradox is not new. Africa's energy landscape, particularly in countries such as Nigeria, has long been shaped by fossil fuel extraction and large-scale energy infrastructure, frequently accompanied by environmental degradation, land dispossession, labour exploitation and the systematic marginalisation of local communities.[5] Despite expectations that renewable energy would provide a more equitable model of development, findings from Kenya's geothermal and wind projects establish persistent challenges relating to land acquisition, community participation and livelihood protection.[6] Geothermal developments

1 D McCauley & RJ Heffron 'Just transition: Integrating climate, energy and environmental justice' (2018) 119 *Energy Policy* 1; RJ Heffron 'What is the 'just transition'?' in RJ Heffron & D McCauley (eds) *Achieving a just transition to a low-carbon economy* (2022) 9.

2 International Labour Organisation 'ILO adopts guidelines on sustainable development, decent work and green jobs', https://www.ilo.org/resource/news/ilo-adopts-guidelines-sustainable-development-decent-work-and-green-jobs (accessed 15 January 2026); African Union 'Africa speaks with unified voice as AU Executive Council adopts African common position on energy access and just energy transition', https://au.int/en/pressreleases/20220722/africa-speaks-unified-voice-au-executive-council-adopts-african-common (accessed 15 January 2026).

3 BK Sovacool 'What are we doing here? Analysing fifteen years of energy scholarship and proposing a social science research agenda' (2014) 1 *Energy Research & Social Science* 1; Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) Preamble; art 4.

4 Rapid Transition Alliance *'Doing development differently: How Kenya is rapidly emerging as Africa's renewable energy superpower'* 17 November 2022, https://rapidtransition.org/stories/doing-development-differently-how-kenya-is-rapidly-emerging-as-africas-renewable-energy-superpower/ (accessed 14 July 2026).

5 United Nations Environment Programme 'Environmental assessment of Ogoniland' (UNEP 2021), https://www.unep.org/topics/disasters-and-conflicts/country-presence/nigeria/environmental-assessment-ogoniland-report' (accessed 15 January 2026); N Healy, JC Stephens & SA Malin 'Embodied energy injustices: Unveiling and politicising the transboundary harms of fossil fuel extractivism and fossil fuel supply chains' (2019) 48 *Energy Research & Social Science* 219.

6 N Simberg-Koulumies 'Just sustainabilities: Lessons from the Lake Turkana Wind Power Project in Kenya' (2024) 29 *Local Environment* 40.

have displaced local communities, wind energy projects have disrupted pastoral livelihoods, and affected host communities have often been excluded from decisions that profoundly reshape their land, environment and future.[7]

Existing scholarship has made significant contributions to understanding just transition, energy justice and the human rights implications of energy development. The just transition literature has primarily examined the social dimensions of decarbonisation, including climate policy, labour protection and sustainable development,[8] while energy justice scholarship has focused on the distribution of benefits and burdens, procedural justice and the recognition of affected communities within energy systems.[9] Human rights scholarship has similarly examined the obligations of states and corporate actors in relation to environmental protection, business and human rights and natural resource governance. Although recent scholarship has increasingly recognised the relationship between energy justice and human rights in advancing a just energy transition, comparatively little attention has been devoted to integrating these perspectives to evaluate whether legal and governance frameworks adequately protect the human rights of host communities throughout the transition from fossil fuel extraction to renewable energy development.[10]

This article addresses that gap by undertaking a comparative analysis of Nigeria and Kenya through the framework of energy justice and international human rights law. Nigeria and Kenya provide contrasting but complementary case studies because they represent different phases of Africa's energy transition. Nigeria is one of Africa's longest-established fossil fuel economies, where host communities in the Niger Delta have experienced decades of environmental degradation, land dispossession and weak regulatory enforcement.[11] Kenya, by contrast, has emerged as a regional leader in renewable energy through large-scale geothermal and wind developments, particularly in Olkaria and Lake Turkana.[12] Examining these jurisdictions together enables an assessment of whether the legal

7 International Work Group for Indigenous Affairs 'Impact of renewable energy projects on indigenous communities in Kenya' 3 February 2020, https://iwgia.org/en/kenya/3534-impact-of-renewable-energy-projects-on-indigenous-communities-in-kenya.html (accessed 15 January 2026).

8 Heffron (n 1).

9 K Jenkins and others 'Energy justice: A conceptual review' (2016) *Energy Research & Social Science* 174; DA McCauley and others 'Advancing energy justice: The triumvirate of tenets' (2013) 32 *International Energy Law Review* 107.

10 D Olawuyi and others 'Beyond just transition: Advancing responsible and rights-based business practices in the energy and extractives sector' (2025) 10 *Business and Human Rights Journal* 1; CV Basil & RJ Heffron 'A systematic review of the intersection between energy justice and human rights' (2025) 221 *Renewable and Sustainable Energy Reviews* 115892; O Abe 'Towards a human rights-based approach to energy transition in Africa' (2025) 10 *Business and Human Rights Journal* 11; GA Agbaitoro & EO Ekhator 'Just energy transition in Africa: Towards social inclusion and environmental rights-based imperatives' (2025) 10 *Business and Human Rights Journal* 34.

11 United Nations Environment Programme (n 5); Bayelsa State Oil and Environmental Commission 'An environmental genocide: Counting the human and environmental cost of oil in Bayelsa, Nigeria' (2023).

12 International Energy Agency 'Executive summary Kenya 2024', https://www.iea.org/reports/kenya-2024/executive-summary (accessed 1 July 2026).

and governance frameworks governing the transition from fossil fuel extraction to renewable energy development have transformed or reproduced patterns of procedural exclusion, distributive inequity, and inadequate recognition of the human rights of host communities. Based on that international human rights law, the African Charter on Human and Peoples' Rights (African Charter) and domestic legal frameworks, this article examines the human rights impacts of energy projects on host communities and evaluates the implementation of the obligations of states and corporate actors in energy-transition governance. It argues that the principal challenge lies not in the absence of legal standards, but in their inconsistent implementation.

The article is divided into seven parts. Following this introduction, part 2 examines the relationship between just transition, energy justice and human rights. Part 3 analyses the obligations of states to achieve a just energy transition through the lens of international and African human rights frameworks. Part 4 engages with fossil fuel development and its impacts on host communities in Nigeria, while part 5 focuses on Kenya's renewable energy development and host communities. Part 6 undertakes a comparative analysis of Nigeria and Kenya to assess whether the transition to renewable energy has addressed the injustices associated with conventional energy development. In part 7, the article concludes by examining the implications for rights-based energy governance and the policy measures necessary to achieve a just energy transition in Africa.

2 Integrating just transition, energy justice and human rights

Although just transition, energy justice and international human rights law have developed as distinct bodies of scholarship, they each address different dimensions of justice in energy governance. This part argues that none of these approaches, considered in isolation, provides a sufficient basis for evaluating whether energy-transition governance adequately protects host communities. Their integration provides the conceptual and legal foundation for the analysis in this article.

2.1 Just transition beyond policy rhetoric

The concept of a just transition originated within labour movements seeking to protect workers and communities from the social and economic consequences of environmental regulation and industrial restructuring.[13] In its original conception, it emphasised employment protection, retraining, social dialogue and compensation for workers adversely affected by the transition to environmentally sustainable economies.[14] As the concept gained prominence within climate and energy governance, it expanded beyond labour concerns to encompass broader

13 X Wang & K Lo 'Just transition: A conceptual review' (2021) 82 *Energy Research & Social Science* 102291.
14 Wang & Lo (n 13).

objectives relating to decarbonisation, sustainable development, climate justice and the equitable distribution of the costs and benefits of the energy transition.[15]

This evolution is reflected in international climate governance. The Preamble to the Paris Agreement recognises the importance of ensuring 'a just transition of the workforce and the creation of decent work and quality jobs', while the International Labour Organisation (ILO)'s Guidelines for a Just Transition towards Environmentally Sustainable Economies and Societies for All provide policy guidance for achieving socially inclusive transitions.[16] These developments have elevated just transition from a labour policy objective to a guiding principle of climate governance. Nevertheless, they do not establish a comprehensive legal framework governing the rights of host communities affected by energy projects. As a result, the practical implementation of a just transition remains largely dependent on domestic legal and institutional arrangements.

The limitations of this policy-oriented approach are particularly evident in Africa. Although the language of just transition increasingly informs national energy strategies and international climate finance initiatives,[17] disputes over land acquisition, community participation, benefit sharing and livelihood protection continue to arise in both fossil-fuel and renewable energy projects. The experience of geothermal and wind energy developments in Kenya indicates that the transition to renewable energy does not automatically alter the governance structures that have historically marginalised host communities. Rather, it demonstrates that decarbonisation and justice are not synonymous; without legally enforceable safeguards, renewable energy projects may reproduce the same procedural exclusion, distributive inequities, and failures of recognition associated with earlier forms of resource development.[18] Accordingly, the effectiveness of a just transition cannot be assessed solely by the achievement of climate or energy objectives. It must also be evaluated by the extent to which legal and institutional frameworks ensure meaningful participation, equitable benefit sharing, accountability and the protection of the rights of host communities. In the absence of such safeguards, the concept of a just transition risks functioning as a policy aspiration rather than a legally enforceable standard capable of addressing the structural injustices associated with energy development.

15 McCauley & Heffron (n 1).
16 Paris Agreement (n 3) Preamble; International Labour Organisation Guidelines for a Just Transition towards Environmentally Sustainable Economies and Societies for All (ILO 2015).
17 A Karg, J Gupta & Y Chen 'Just energy transition partnerships: An inclusive climate finance approach?' (2025) 125 *Energy Research & Social Science* 104103.
18 J Shaa 'Renewable energy, indigenous peoples, and just transition: Human rights implications and pathways for equity', https://www.ncdg-ke.org/renewable-energy-indigenous-peoples-and-just-transition-human-rights-implications-and-pathways-fo (accessed 9 July 2026).

2.2 Energy justice as an analytical lens

Energy justice provides the analytical lens for evaluating the human rights implications of energy-transition governance for host communities. Rather than assessing the success of energy transition solely by reference to decarbonisation or increased renewable energy deployment, it examines whether energy systems distribute benefits and burdens fairly, facilitate meaningful participation, and recognise the rights and interests of affected communities.[19] To bridge the gap between energy justice and human rights, particularly in the era of energy transition, it is essential to integrate human rights throughout the energy life cycle processes by defining the rights and responsibilities of states, corporate actors and affected communities within energy governance.[20] Although energy justice has evolved beyond its original three tenets to include restorative and cosmopolitan justice,[21] this article adopts the original dimensions of procedural, distributive and recognition justice because they provide the most appropriate basis for evaluating the legal protection of host communities in Nigeria and Kenya.

Procedural justice concerns the fairness of decision-making processes. It requires access to information, meaningful participation, transparency, accountability and effective avenues for redress.[22] However, where host communities are excluded from consultations, denied meaningful participation, or confronted with decisions that have already been finalised, participation becomes a procedural formality rather than a genuine opportunity to influence decision making. Distributive justice evaluates whether the benefits and burdens of energy transition projects are allocated equitably. It therefore requires consideration not only of who bears the environmental, social and economic costs of energy development, but also whether those communities share fairly in its benefits.[23] Persistent disparities between those who experience displacement, livelihood disruption and environmental degradation, and those who benefit from energy development, reveal structural inequalities that endure despite renewable energy expansion.

Recognition justice addresses the underlying social and institutional conditions that determine whose interests are acknowledged within energy governance. It requires legal and institutional recognition of the identities, customary land tenure systems, knowledge and cultural relationships of affected communities, particularly indigenous peoples and local communities whose relationship with

19 Jenkins and others (n 8); McCauley and others (n 8).
20 RJ Heffron 'Applying energy justice into the energy transition' (2022) 156 *Renewable and Sustainable Energy Reviews* 111936; Heffron (n 1).
21 RJ Heffron 'Energy justice – The triumvirate of tenets revisited and revised' (2023) 41 *Journal of Energy & Natural Resources Law* 227.
22 McCauley and others (n 8).
23 RJ Heffron & D McCauley 'The concept of energy justice across the disciplines' (2017) 105 *Energy Policy* 658.

land extends beyond its economic value.[24] Failures of recognition, therefore, arise where legal and policy frameworks reduce land to a commercial asset while disregarding its cultural, spiritual and livelihood significance, reinforcing patterns of exclusion that shape both decision-making processes and distributional outcomes.[25]

These dimensions provide a framework for identifying the structural causes of injustice associated with energy transition projects. However, energy justice principally explains what constitutes injustice rather than how those injustices should be prevented or remedied. As Basil and Heffron argued, energy justice identifies the injustices arising from energy activities, whereas the human rights framework provides the legal obligations, accountability mechanisms, and institutional processes through which those injustices may be prevented, challenged and remedied.[26] Against this background, the article employs procedural, distributive and recognition justice as the analytical framework for evaluating whether the international, regional and domestic legal frameworks governing energy transition projects in Nigeria and Kenya adequately protect the human rights of host communities.

2.3 Human rights as the normative framework for energy justice

Energy justice provides a valuable analytical lens for identifying injustices associated with energy development. However, it does not create legally enforceable obligations. Its principles derive legal force through applicable legal rules and institutions. Among these, international human rights law provides an important normative basis by establishing legal obligations that govern the conduct of states and the responsibilities of corporate actors engaged in energy transition projects.[27]

International human rights law establishes legal standards governing the protection of rights affected by energy development. It requires states to respect, protect and fulfil internationally recognised human rights, including by regulating the conduct of private actors whose activities may interfere with the enjoyment of those rights.[28] These obligations are particularly relevant to the execution of energy projects affecting host communities because decisions concerning land acquisition, environmental protection, participation and benefit sharing directly affect the enjoyment of rights relating to property, health, culture, development,

24 NV van Uffelen 'Revisiting recognition in energy justice' (2022) 92 *Energy Research & Social Science* 102764.
25 African Charter on Human and Peoples' Rights arts 2, 17, 21, 22 & 24.
26 Basil & Heffron (n 10).
27 As above.
28 International Covenant on Civil and Political Rights arts 2, 25 & 26; International Covenant on Economic, Social and Cultural Rights arts 2, 11, 12 & 15; United Nations Guiding Principles on Business and Human Rights Principles 1, 3, 11 & 25.

livelihood and a healthy environment.[29] In Africa, these obligations are reinforced by the African Charter, which extends beyond individual rights to recognise collective rights that are particularly relevant to host communities affected by energy projects.[30] The African Charter protects rights to property, culture, natural resources, development and a satisfactory environment, reflecting the communal nature of land and resource governance in many African states, including Nigeria and Kenya.[31] This broad conception of rights is particularly significant because the adverse impacts of energy projects often extend beyond individual interests, affecting communal land tenure, shared natural resources, cultural identity and intergenerational livelihoods. Consequently, assessing energy transition projects solely through the lens of individual rights risks overlooking the collective dimensions of harm experienced by host communities.

The jurisprudence of the African Commission on Human and Peoples' Rights (African Commission) and the African Court on Human and Peoples' Rights (African Court) has interpreted these obligations by requiring that development projects affecting indigenous peoples and local communities must be implemented consistently with rights to participation, equitable benefit sharing and effective remedies.[32] Collectively, these principles demonstrate that human rights do not merely complement energy justice, but also provide the legal basis for assessing whether energy transition projects are implemented without violating the rights of host communities.

3 International human rights law and energy justice

This part examines how the dimensions of energy are reflected in international, including regional, human rights law. It considers how international and regional human rights obligations collectively require states to ensure meaningful participation, equitable distribution of the benefits and burdens of energy development, and recognition of the rights and interests of affected communities. Accordingly, the legal framework demonstrates that the core principles of energy justice are not merely normative aspirations, but are embedded in binding human rights obligations that apply to the planning, approval, implementation and operation of energy projects.

29 C Redgwell & L Rajamani 'And justice for all? Energy justice in international law' in RJ Heffron & D McCauley (eds) *Energy justice and energy law* (2020) 48-64.

30 AA Cançado Trindade & DA Gonzalez-Salzberg *International law of human rights* (2024); African Charter on Human and Peoples' Rights arts 21, 22 & 24.

31 African Charter on Human and Peoples' Rights arts 2, 14, 17, 21, 22 & 24.

32 *Social and Economic Rights Action Centre (SERAC) & Another v Nigeria* (2001) AHRLR 60 (ACHPR 2001) (*SERAC*); *Centre for Minority Rights Development (Kenya) & Minority Rights Group International on behalf of Endorois Welfare Council v Kenya* (2010) AHRLR 75 (ACHPR 2010) (*Endorois*); *African Commission on Human and Peoples' Rights v Kenya* (*Ogiek*) (2017) App 6/2012 (African Court on Human and Peoples' Rights).

3.1 Procedural obligations: Participation, information and accountability

The success of energy transition projects depends not only on their environmental or economic objectives but also on the processes through which they are planned, approved and implemented. In some African countries, including Nigeria and Kenya, disputes surrounding renewable energy projects frequently arise because affected communities are consulted only after key decisions have been taken, receive inadequate information about project impacts, or are excluded from decisions concerning land acquisition, resettlement and environmental management.[33] Procedural justice is realised through three interrelated governance components: participation in decision making, information disclosure and transparency, and access to legal processes for obtaining redress.[34] These elements ensure that energy transition projects are implemented through fair and accountable decision making rather than purely technical or economic considerations.

International human rights law addresses these concerns by requiring states to ensure that development decisions are undertaken through transparent, participatory and accountable processes. The International Covenant on Civil and Political Rights (ICCPR) protects rights relating to participation in public affairs, freedom of expression and access to information, thereby requiring states to ensure that communities affected by energy projects receive timely and adequate information and have genuine opportunities to influence decisions affecting their rights and interests.[35] The Human Rights Committee in General Comment 34: Article 19: Freedoms of Opinion and Expression, has expanded this obligation to the effect that participation must be effective rather than symbolic, requiring processes that enable individuals to influence public decision making rather than merely endorse decisions that have already been made.[36]

Therefore, participation cannot be meaningful where affected communities are denied relevant information or lack access to institutions capable of reviewing decisions and providing remedies. As Apergi and others argue, procedural justice should be assessed not merely by the existence of participatory mechanisms but by whether governance systems ensure meaningful participation, transparent disclosure of information, and effective access to redress throughout the energy transition.[37]

33 A Morocco-Clarke 'In the midst of so much injustice, can there be a seat for energy justice at the Nigerian table?' (2023) 16 *The Journal of World Energy Law & Business* 251; FA Ndi 'Justice concerns in large-scale renewable energy projects: A case study echoing the importance of procedural justice in wind energy development in Kenya' (2024) 14 *Energy, Sustainability and Society* 47.

34 MJ Apergi and others 'An energy justice index for the energy transition in the Global South' (2024) 192 *Renewable and Sustainable Energy Reviews* 114238.

35 International Covenant on Civil and Political Rights arts 19 & 25.

36 (2011) UN Doc CCPR/C/GC/34 paras 18-19; Human Rights Committee General Comment 25: The Right to Participate in Public Affairs, Voting Rights and the Right of Equal Access to Public Service (1996) UN Doc CCPR/C/21/Rev.1/Add.7 paras 5-8 & 25.

37 Apergi and others (n 34).

Within energy transition governance, these obligations assume particular significance because decisions concerning project approval, environmental assessment, land acquisition and project location frequently determine how the benefits and burdens of development are ultimately distributed. Participation, therefore, performs a preventive function. It enables affected communities to identify potential risks, contribute local knowledge, and influence project design before irreversible environmental or social harm occurs. Conversely, when consultation occurs only after key decisions have been finalised, participation becomes a procedural formality rather than an effective mechanism for protecting rights.

The African human rights system reinforces these procedural obligations through the jurisprudence of the African Commission. In *Social and Economic Rights Action Centre (SERAC) & Another v Nigeria*, the Commission held that Nigeria violated the African Charter by permitting oil operations without informing affected communities, undertaking adequate environmental impact assessments, or facilitating meaningful public participation.[38] The Commission further emphasised that states have positive obligations to regulate corporate activities, disclose environmental information, and establish effective mechanisms for monitoring environmental harm.[39] Rather than treating participation as a matter of administrative discretion, *SERAC* recognises access to information, environmental assessment, and public participation as legal obligations that enable communities to influence decisions before harm occurs. The decision, therefore, establishes that procedural justice requires more than consultation; it requires participatory decision making capable of protecting the rights and interests of affected communities throughout the lifecycle of energy projects.

The African Commission's emphasis on state regulation of corporate activities is also reflected in the United Nations (UN) Guiding Principles on Business and Human Rights. The Guiding Principles require states to adopt appropriate legislative, administrative and judicial measures to prevent, investigate and remedy business-related human rights abuses, while business enterprises have an independent responsibility to respect human rights throughout the lifecycle of their operations.[40] Accordingly, meaningful participation requires more than opportunities for consultation; it depends on legal and institutional frameworks that ensure transparency, accountability and effective remedies when the procedural rights of affected stakeholders, including host communities, are infringed. As Heffron argues, integrating human rights throughout the energy lifecycle transforms the procedural principles of energy justice into enforceable legal obligations that strengthen accountability.[41]

38 *SERAC* (n 32) paras 53-58.
39 As above.
40 United Nations Guiding Principles on Business and Human Rights Principles 1, 3, 11, 13, 17 & 25.
41 Heffron (n 17).

3.2 Distributive obligations: Equitable sharing of benefits and burdens

Energy transition inevitably redistributes both the benefits and burdens associated with energy development. While renewable energy projects may generate investment, employment and infrastructure, they may also require land acquisition, disrupt livelihoods and impose environmental and social costs on host communities.[42] Under international and regional human rights law, states are required not only to mitigate the adverse impacts of energy projects, but also to ensure that affected communities share fairly in their economic and developmental benefits.

International and regional human rights law does not prohibit these impacts altogether. Rather, it requires states to ensure that the costs of development are not borne disproportionately by affected communities and that those contributing land and natural resources share equitably in the benefits of development.[43] The significance of this obligation is particularly evident in energy transition projects, where the pursuit of decarbonisation often depends on activities that place disproportionate pressures on the land, livelihoods and environmental resources of host communities.[44]

Distributive injustice is the most prevalent form of injustice in Africa's energy transition. A systematic review of renewable energy projects across 11 African countries found that distributive injustices accounted for 58 per cent of all documented injustices, principally arising from land acquisition, resource conflicts, unequal distribution of project benefits and livelihood disruption.[45] Rather than representing isolated implementation failures, these findings suggest that inequitable distribution remains a structural feature of many renewable energy projects in majors parts of Africa.

The International Covenant on Economic, Social and Cultural Rights (ICESCR) provides the principal international framework for distributive justice. By protecting rights to an adequate standard of living, health, work, and an adequate means of subsistence, ICESCR requires states to regulate development activities that may foreseeably interfere with the enjoyment of these rights.[46] These rights require states not only to prevent foreseeable harm arising from

42 KE Lonergan & G Sansavini 'Considering distributive justice as a planning principle helps navigate a diversity of future energy infrastructure designs' (2025) 16 *Nature Communications* 10509.

43 International Covenant on Economic, Social and Cultural Rights arts 2, 6, 11 & 12; Committee on Economic, Social and Cultural Rights General Comment 26: Land and Economic, Social and Cultural Rights (22 December 2022) UN Doc E/C.12/GC/26 paras 8-13 & 49-54.

44 Ndi (n 33).

45 Apergi and others (n 34).

46 International Covenant on Economic, Social and Cultural Rights arts 6, 11 & 12; Committee on Economic, Social and Cultural Rights General Comment 14: The Right to the Highest Attainable Standard of Health (2000) UN Doc E/C.12/2000/4 paras 11-15; Committee on Economic, Social and Cultural Rights General Comment 26 on Land and Economic, Social and Cultural Rights (2022) UN Doc E/C.12/GC/26 paras 1-10, 49-54.

development activities, but also to ensure that development contributes to the welfare of affected communities. Accordingly, distributive justice requires more than compensation after displacement or environmental harm has occurred. It requires legal and institutional arrangements capable of protecting livelihoods, promoting the fair allocation of benefits generated by development, and ensuring that host communities participate in the developmental gains from projects undertaken on their land.

The African Charter reinforces these obligations by recognising collective rights to natural resources, development and a satisfactory environment.[47] Unlike many international human rights instruments, the African Charter explicitly links resource exploitation with the welfare of people, requiring development to advance rather than undermine the interests of affected communities. The African Commission emphasised these principles in *Centre for Minority Rights Development (Kenya) & Minority Rights Group International on behalf of Endorois Welfare Council v Kenya* (*Endorois*), holding that Kenya violated articles 21 and 22 of the African Charter by dispossessing the Endorois community of their ancestral land without ensuring equitable benefit-sharing or respecting their right to development.[48] Based on this decision, it is argued that the Commission recognised that communities contributing land and natural resources to development are entitled not merely to compensation but to a fair share of its economic and social benefits. *Endorois* consequently shifts distributive justice beyond financial compensation towards substantive equity in development. The state's obligation to regulate business enterprises also has important distributive implications. Inadequate regulation frequently results in governments and private investors receiving the economic benefits of energy development, while host communities bear a disproportionate share of its environmental, social and economic costs.[49]

The jurisprudence of international and regional human rights legal frameworks confirms that distributive justice constitutes a substantive legal obligation governing the design, implementation and regulation of energy transition projects. Compliance therefore requires states to protect livelihoods, secure equitable benefit sharing and prevent the unequal distribution of environmental and socio-economic burdens among host communities.

3.3 Recognition obligations: Equality, culture and community rights

One of the recurring challenges in energy transition governance is the failure to recognise the distinct identities, customary land tenure systems and cultural relationships that many host communities maintain with their land and natural

47 African Charter on Human and Peoples' Rights arts 21, 22 & 24.
48 *Endorois* (n 32) paras 277-281, 291-298 & 298.
49 United Nations Guiding Principles on Business and Human Rights (n 40) Principles 1, 3, 11, 13, 17 & 25.

resources.[50] Recognition aligns with the human rights principles of equality, non-discrimination and respect for human dignity, which require states to ensure that development does not exclude or disadvantage particular individuals or communities because of their identity, status or customary way of life.[51]

The principle of equality requires that all individuals enjoy equal protection of the law and equal access to the benefits of development.[52] Closely connected to this is the principle of non-discrimination, which prohibits distinctions that have the purpose or effect of denying the equal enjoyment of human rights. In the context of energy transition, these principles require states to identify and address the disproportionate impacts of energy projects on indigenous peoples, local communities, women, persons with disabilities and other marginalised groups. Accordingly, recognition justice requires governance frameworks to recognise the distinct circumstances, identities and vulnerabilities of communities whose rights and interests are most likely to be affected by energy development.[53]

Recognition justice also encompasses the protection of collective rights. For many host communities, particularly indigenous peoples, land represents more than an economic resource; it forms the basis of cultural identity, social organisation and spiritual life. Consequently, the protection of community land, customary tenure and cultural heritage constitutes an essential component of equitable energy governance. Recognition justice, therefore, requires states not only to respect individual rights but also to acknowledge the collective rights through which communities maintain their relationship with ancestral lands, natural resources and traditional institutions.[54]

ICCPR protects the rights to equality before the law, freedom from discrimination and the rights of minorities to enjoy their culture.[55] Similarly, ICESCR requires states to guarantee rights without discrimination while protecting everyone's right to participate in cultural life.[56] Therefore, the international human rights obligates states to ensure that development policies do not undermine the cultural identity or equal dignity of communities affected by energy projects.

50 A Schiffer and others 'Renewable energy and land use barriers to just transition in the Global South' (2023), https://www.researchgate.net/publication/376198835_Renewable_energy_land_use_barriers_to_just_transition_in_the_Global_South (accessed 11 July 2026).
51 Basil & Heffron (n 10).
52 United Nations and the Rule of Law 'Equality and non-discrimination', https://www.un.org/ruleoflaw/thematic-areas/human-rights/equality-and-non-discrimination/ (accessed 11 July 2026).
53 International Covenant on Civil and Political Rights arts 2, 26 & 27; International Covenant on Economic, Social and Cultural Rights art 2(2); Convention on the Elimination of All Forms of Discrimination against Women arts 2 & 14; Convention on the Rights of Persons with Disabilities arts 5 & 9.
54 Uffelen (n 24); Agbaitoro & Ekhator (n 10).
55 International Covenant on Civil and Political Rights arts 2, 26 & 27; Human Rights Committee General Comment 23: The Rights of Minorities (Article 27) (8 April 1994) UN Doc CCPR/C/21/Rev.1/Add.5 paras 3.2 & 7.
56 International Covenant on Economic, Social and Cultural Rights arts 2(2) & 15.

Regionally, the African Charter protects rights to culture, property, natural resources and development, thereby acknowledging that communities possess collective interests that are capable of legal protection.[57] The African Charter recognised that the identity and welfare of peoples are intrinsically connected to their land, culture and natural resources. Furthermore, the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) further develops these principles by recognising indigenous peoples' rights to self-determination, traditional lands, territories and resources, cultural integrity and participation in decisions affecting them.[58] Although the UNDRIP is not legally binding, it provides an important interpretative framework for understanding the content of existing human rights obligations concerning indigenous and local communities.

In *African Commission on Human and Peoples' Rights v Republic of Kenya* (*Ogiek*), the African Court held that Kenya violated the Ogiek community's rights under articles 2, 8, 14, 17, 21 and 22 of the African Charter by evicting them from their ancestral lands without recognising their customary land rights or cultural relationship with the Mau Forest.[59] The *Ogiek* judgment, therefore, demonstrates that recognition justice is not merely a question of representation or consultation but a legally enforceable obligation requiring states to recognise and protect the identities, cultures and collective rights of communities affected by development projects.

By requiring equality, non-discrimination and respect for collective rights, international and regional human rights law ensures that host communities are recognised as rights holders whose identities, cultures and customary relationships with land must inform the governance of energy transition projects. However, notwithstanding these obligations, their implementation in energy development remains contested. The following part examines the impacts of fossil fuel development in Nigeria and renewable energy projects in Kenya to evaluate whether the transition to low-carbon energy has alleviated or replicated the injustices experienced by host communities.

4 Nigeria: Fossil fuel development and its impacts on host communities

Crude oil was first discovered in Oloibiri, present-day Bayelsa State, in 1956 by Shell D'Arcy Petroleum, a joint venture between Royal Dutch Shell and British Petroleum in Nigeria. Since commercial oil production commenced in 1958, petroleum extraction has made Nigeria one of Africa's largest oil-producing states

57 African Charter on Human and Peoples' Rights arts 2, 17, 21 & 22.
58 United Nations Declaration on the Rights of Indigenous Peoples arts 3, 8, 25, 26, 27, 32 & 33.
59 Application 6/2012) [2017] AfCHPR 38 paras 128-131, 173-214.

while imposing profound environmental, social and economic costs on host communities in the Niger Delta region.[60]

The region comprises more than 40 ethnic groups and over 3 000 communities across nine oil-producing states, with Ogoniland, comprising the communities of Bori, Bodo, Gokana, Tai, Eleme, Lubara, Sii, Banga and Sogh, representing one of the most negatively impacted communities of fossil fuel development.[61] Although petroleum production has generated substantial national revenue, its benefits have not translated into comparable improvements in the well-being of Niger Delta communities. Instead, decades of oil exploration have resulted in environmental degradation, declining agricultural productivity, contaminated water sources, loss of fisheries and persistent socio-economic marginalisation.[62] Despite constitutional and statutory safeguards governing petroleum development, host communities in the Niger Delta continue to bear the environmental, social, and economic burdens of oil extraction, reflecting persistent gaps in the implementation of these legal protections.[63]

The environmental and socio-economic consequences of petroleum extraction have fundamentally altered the lives of host communities across the Niger Delta. According to the United Nations Environment Programme (UNEP) environmental assessment of Ogoniland, decades of oil exploration and production contaminated the soil, groundwater, surface water and fisheries, creating serious risks to human health. The report further concluded that environmental restoration would require a comprehensive remediation programme extending over several decades.[64] For instance, residents in the Nsisioken Ogale community were found to be consuming water containing benzene at levels over 900 times the WHO guideline.[65] In addition, creeks across Ogoniland were contaminated with hydrocarbons from oil exploration, leaving visible layers of oil on the water surface. At Ataba-Otokroma, which borders Gokana and Andoni local government areas, severe water pollution has damaged the aquatic ecosystem, disrupting fishing, the community's primary source of livelihood.[66] Similar patterns are evident throughout the region. The Bayelsa State Oil and Environmental Commission found that more than 60 years of oil extraction have produced catastrophic environmental, human and economic

60 Bayelsa State Oil and Environmental Commission (n 11).
61 United Nations Environment Programme (n 5) 13-18; Spaces for Change 'Engaging Communities in Oil Policy Development: Mission Report' 19, https://spacesforchange.org/wp-content/uploads/2014/06/S4C.-ENGAGING-COMMUNITIES-IN-OIL-POLICY-DEVELOPMENT.AUG_.2013.pdf (accessed 12 July 2026).
62 United Nations Environment Programme (n 5).
63 Constitution of the Federal Republic of Nigeria 1999 secs 33, 34 & 44; African Charter on Human and Peoples' Rights (Ratification and Enforcement) Act Cap A9 Laws of the Federation of Nigeria 2004 arts 4, 16, 21 & 24; Environmental Impact Assessment Act Cap E12 Laws of the Federation of Nigeria 2004; National Oil Spill Detection and Response Agency (Establishment) Act 2006; Petroleum Industry Act 2021 ch 3.
64 United Nations Environment Programme (n 5).
65 United Nations Environment Programme (n 5) 13.
66 United Nations Environment Programme (n 5) 9-10.

consequences for host communities.[67] Nigeria generated approximately US $1 trillion from oil production between 1970 and 2014, yet oil-producing communities continue to experience severe environmental degradation, declining livelihoods and widespread poverty.[68]

The Commission estimates that between 9 and 13 million barrels of crude oil have been spilt across the Niger Delta since commercial production began, and that approximately 40 per cent of the region's mangrove forests have been destroyed through pollution and associated industrial activities.[69] For communities whose livelihoods depend on farming, fishing and the sustainable use of natural resources, these impacts extend beyond environmental harm, threatening food security, income generation and long-term economic resilience. The margin between national economic gains and local environmental losses indicates that the burdens of fossil fuel development are mostly borne disproportionately by host communities.

The consequences of petroleum development have been exacerbated by the limited opportunities available to host communities to influence decisions affecting their land and livelihoods. Studies have shown that community consultations conducted across Ogoni, Ekpan, Kenyangbene, Batan, Egbema-Gbaramatu and Yenagoa consistently identified inadequate consultation, restricted access to environmental information, ineffective grievance mechanisms and the exclusion of host communities from petroleum decision making.[70] Members of the communities acknowledged that consultation frequently occurred only after key project decisions had been substantially determined, reducing community participation to a procedural formality rather than a process through which host communities could meaningfully influence decisions affecting their right, land, livelihoods and environment.[71]

The human rights implications of these impacts were recognised in *Jonah Gbemre v Shell Petroleum Development Company Nigeria Ltd & Others*, where the Federal High Court held that the continued gas flaring in the Iwherekan community violated the constitutional rights to life and dignity guaranteed under sections 33 and 34 of the Constitution of the Federal Republic of Nigeria 1999, read together with articles 4, 16 and 24 of the African Charter.[72] By recognising that gas flaring endangered human life, health and dignity, the decision of the Court demonstrated that the impacts of petroleum activities extend beyond environmental degradation to encompass violations of fundamental human rights. Accordingly, despite Nigeria's obligations under domestic, regional and

67 Bayelsa State Oil and Environmental Commission (n 11).
68 Bayelsa State Oil and Environmental Commission (n 11) 7-10.
69 Bayelsa State Oil and Environmental Commission (n 11).
70 Spaces for Change (n 61) 2-4, 13-15.
71 As above.
72 FHC/B/CS/53/05 (Federal High Court, Benin Judicial Division, 14 November 2005).

international human rights law, petroleum development continued to violate the rights, health, livelihoods and dignity of host communities.

Furthermore, the impacts of petroleum extraction have also disrupted the relationship between communities and their ancestral lands. Pollution of rivers, forests and agricultural land has weakened traditional farming and fishing practices, undermined customary land use and eroded the cultural and economic foundations upon which many communities depend. According to an investigation conducted by Spaces for Change, a non-governmental organisation (NGO), community members reported that the government consistently prioritised national economic interests and petroleum production over their knowledge, customary institutions and development priorities.[73]

Contemporary incidents demonstrate that the impacts of fossil fuel development remain ongoing across the Niger Delta. Oil spills affecting the Obololi community in Bayelsa State and the Ogale community in Rivers State, along with prolonged gas leaks in Bille Kingdom, indicate that host communities continue to experience significant environmental degradation and associated risks to health and livelihoods.[74] These impacts have persisted notwithstanding Shell's 2025 divestment from its onshore subsidiary, the Shell Petroleum Development Company of Nigeria Limited (SPDC), and its strategic shift towards deepwater and gas operations, which implies that changes in corporate ownership and operations do not necessarily result in the remediation of legacy environmental damage or adequate remedies for affected communities.[75] Consequently, many host communities continue to experience the environmental, social and economic consequences of petroleum extraction. They are frequently left to pursue compensation only after harm has occurred, although such compensation is often delayed, inadequate or never received. Arguably, the impacts of fossil fuel development are not confined to environmental degradation or economic loss but extend to the enjoyment of fundamental human rights, affecting the participation, livelihoods, health, dignity and relationship with land of host communities. They encompass interconnected inequalities affecting participation, the distribution of benefits and burdens, and the recognition of community rights and livelihoods. These impacts have persisted despite Nigeria's obligations under ICCPR, ICESCR and the African Charter to protect the rights to participation, health, property, livelihood and a satisfactory environment.

73 Spaces for Change (n 61) 13-15.

74 Amnesty International Global: 'Nigerian residents take Shell to UK High Court following 10-year fight for justice' 10 February 2025, https://www.amnesty.org/en/latest/news/2025/02/global-nigerian-residents-take-shell-to-uk-high-court-following-10-year-fight-for-justice/ (accessed 2 February, 2026); Amnesty International 'Nigeria: Government and oil firms must expedite investigation of gas leaks threatening to destroy Nigerian community' 6 March 2026, https://www.amnesty.org/en/latest/news/2026/03/nigeria-government-and-oil-firms-must-expedite-investigation-of-gas-leaks-threatening-to-destroy-nigerian-community/ (accessed 12 July 2026).

75 Shell plc 'Shell completes sale of SPDC' 13 March 2025, https://www.shell.com/news-and-insights/newsroom/news-and-media-releases/2025/shell-completes-sale-of-spdc.html (accessed 18 April 2026).

The situation in the Niger Delta, therefore, establishes the historical benchmark for this article by demonstrating the human rights implications of fossil fuel development for host communities. However, as states increasingly pursue renewable energy to mitigate climate change and achieve global decarbonisation objectives, an important question arises as to whether this transition has fundamentally improved the experiences of host communities or instead reproduced similar patterns of injustice. The Kenyan case studies examine this question in the context of large-scale renewable energy development.

5 Kenya: Renewable energy development and host communities

Kenya has emerged as one of Africa's leading renewable energy economies and is frequently presented as a model for low-carbon development. Renewable energy accounts for approximately 82 to 90 per cent of Kenya's electricity generation, making it one of the least carbon-intensive electricity systems in Africa.[76] Geothermal energy contributes approximately 46 per cent of electricity generation, hydropower around 39 per cent, while wind continues to expand through projects such as the Lake Turkana Wind Power Project (LTWP), the Olkaria Geothermal Development and the Menengai Geothermal Project.[77]

Despite these achievements, the rapid expansion of renewable energy has generated significant concerns regarding public participation, community land rights, livelihoods, cultural heritage, land acquisition, displacement, inadequate consultation and inequitable benefit sharing, which are among the challenges associated with renewable energy development.[78] Although Kenya has established a comprehensive constitutional and statutory framework governing environmental decision making, including protection of public participation, environmental protection and community land rights, host communities affected by large-scale renewable energy projects continue to experience significant negative impacts, as was decided in the case of *Export Processing Zone Authority & 10 Others v National Environment Management Authority & 3 Others*.[79]

In Kenya, the Lake Turkana Wind Power Project (LTWP) was commissioned in 2019. It occupies approximately 607 square kilometres (about 150 000 acres) of community land in Marsabit County, traditionally used by the Rendille,

76 'World Bank 'Kenya National Energy Compact 2025-2030: Mission 300', https://www.worldbank.org/content/dam/theworldbankgroupasset/document/2026/m300-energy-compacts/Kenya-National-Energy-Compact-Mission-300.pdf (accessed 12 July 2026).

77 International Energy Agency *Kenya Energy Profile* (2024) (n 12); World Bank Kenya Country Climate and Development Report (2023); Ministry of Energy and Petroleum *Least Cost Power Development Plan 2022-2041* (2023).

78 Danish Institute for Human Rights *Human Rights Impact Assessment Guidance and Toolbox for Renewable Energy Projects in Kenya* (2023) 15-37; Basil & Heffron (n 10).

79 Constitution of Kenya 2010 arts 10, 42, 63, 69 & 70; Environmental Management and Coordination Act 1999 secs 58 & 59; Energy Act 2019 sec 28; Community Land Act 2016 secs 5-15; Petition E021 of 2023 [2024] KESC 75 (KLR).

Samburu, Turkana and El Molo communities for pastoralism, seasonal grazing and cultural practices.[80] Although the project has substantially increased Kenya's renewable electricity generation, community representatives challenged the legality of the land allocation, arguing that customary land was leased without meaningful consultation, genuine participation or adequate compensation.[81]

Comparable concerns have arisen in Kenya's geothermal sector through the Olkaria IV Geothermal Project. Developed under the Kenya Electricity Expansion Project to expand geothermal electricity generation, the project required the acquisition of community land and the relocation of approximately 150 Maasai households from the Olo Nongot, Olo Sinyat, Cultural Centre (Emanyatta) and Olo Mayana Ndogo communities to the RAPland resettlement site.[82]

Although an Environmental and Social Impact Assessment and a Resettlement Action Plan were prepared before implementation, the project generated sustained opposition from affected communities, who argued that consultation had been inadequate and that decisions concerning relocation had been taken without their meaningful participation.[83] Accordingly, host community representatives further complained that their customary land rights, cultural heritage and traditional livelihoods had not been adequately considered during project planning and implementation.[84] Investigations by the World Bank Inspection Panel and the European Investment Bank Complaints Mechanism identified shortcomings in stakeholder engagement, information disclosure, livelihood restoration and the protection of vulnerable project-affected persons, leading to a mediation process between Kenya Electricity Generating Company (KenGen) and the affected Maasai communities.[85]

The challenges identified by the World Bank Inspection Panel aligned with the findings of Abdi and others. In a survey of 138 project-affected households,

80 African Development Bank *Kenya – Lake Turkana Wind Power Project: Environmental and Social Impact Assessment Summary*' (2013), https://www.afdb.org/sites/default/files/documents/environmental-and-social-assessments/kenya_-_lake_turkana_wind_power_project_-_esia_summary.pdf (accessed 13 July 2026).

81 I Renkens '*The impact of renewable energy projects on indigenous communities in Kenya: The cases of the Lake Turkana Wind Power Project and the Olkaria Geothermal Power Plants*' (International Work Group for Indigenous Affairs 2019), https://www.iwgia.org/images/publications/new-publications/IWGIA_report_28_The_impact_of_renewable_energy_projects_on_Indigenous_communities_in_Kenya_Dec_2019.pdf (accessed 13 July 2026).

82 AM Abdi and others 'Determinants of community acceptance of geothermal energy projects: A case study on a geothermal energy project in Kenya' (2024) 50 *Renewable Energy Focus* 100594; World Bank Inspection Panel 'Kenya: Electricity Expansion Project (P103037) Investigation Report' (2015), https://www.inspectionpanel.org/sites/default/files/ip/PanelCases/97-Inspection%20Panel%20Investigation%20Report.pdf (accessed 12 June 2026).

83 World Bank Inspection Panel *Kenya: Electricity Expansion Project* (n 82).

84 Abdi and others (n 82) 4.

85 European Investment Bank Complaints Mechanism 'Kenya Electricity Expansion Project (Olkaria I and IV): Complaints SG/E/2014/07 and SG/E/2014/08 – Conclusions Report' (2016); World Bank Inspection Panel *Kenya: Electricity Expansion Project* (n 82).

the authors found that only 50,7 per cent of respondents had participated in consultation activities, while 71 per cent reported exclusion from project decision making and 72,5 per cent experienced similar exclusion during project implementation.[86] These findings suggest that formal consultation processes did not provide affected communities with genuine opportunities to influence decisions affecting their land and livelihoods. Beyond displacement, the Olkaria geothermal project has adversely affected pastoral livelihoods through the discharge of geothermal brines, which have harmed livestock health, restricted access to grazing areas and disrupted the socio-economic and cultural practices of host communities.[87] Gas emissions, including hydrogen sulphide, have further contributed to environmental pollution and increased concerns about the health of affected communities.[88]

Land provides the foundation for cultural identity, customary governance, spiritual practices and intergenerational livelihoods for these communities.[89] However, where customary tenure and indigenous relationships with land are inadequately recognised, renewable energy development risks reproducing patterns of exclusion associated with extractive industries, as was decided in *Endorois* and *Ogiek*.[90] Despite constitutional protection of community land under article 63 of the Constitution, the Community Land Act 2016 and the obligations of the states under ICESCR, ICCPR, and the African Charter, implementation has remained uneven, especially where national development priorities compete with customary land rights.

In addition, the Menengai Geothermal Project is another renewable energy project in Kenya, developed within the Menengai Caldera in Nakuru County to expand the country's geothermal electricity generation capacity.[91] The communities of Olrongai and Arahuka, which are located closest to the project, have borne the greatest adverse impacts. Residents reported persistent noise pollution disrupting sleep and children's education, air pollution from hydrogen sulphide emissions and other pollutants, acid rain associated with open brine ponds, earth tremors during drilling operations, increased human wildlife conflict following habitat destruction, and adverse health effects, including respiratory illnesses affecting children, older persons, livestock and vegetation.[92] The impacts of these projects extended beyond the host communities to the neighbouring communities, such as Mercy Njeri and Wanyororo, which have experienced relatively limited

86 Abdi and others (n 82) 6.
87 Abdi and others (n 82) 11.
88 As above.
89 Renkens (n 81) 17, 18 & 27.
90 *Endorois* (n 32) paras 277-281, 291-298 & 298; *Ogiek* (n 32) paras 128-131, 173-214.
91 Power Technology '*Menengai Geothermal Power Project, Kenya,*' https://www.power-technology.com/projects/menengai-geothermal-power-project-kenya/?cf-view (accessed 14 July 2026).
92 The Coalition for Human Rights in Development '*Kenya: The true impact of the AfDB-funded Menengai Geothermal Project,*' https://rightsindevelopment.org/news/kenya-menengai-geothermal/ (accessed 14 July 2026).

impacts, and Maciaro, which has sought compensation and relocation due to the impacts.[93] Due to the impacts of these projects and inadequate consultation, the host communities challenged the failure of Sosian Energy Ltd to consult the host communities, set aside the environmental and social impact assessment report and a cancellation of the licence of Sosian Energy Ltd to execute the project before the Environment and Land Court in the case of *Menengai West Stakeholders Forum & 10 Others v National Environmental Management Authority & Another*.[94] The Court held that Sosian Energy Ltd should undertake a comprehensive public participation process before the project could proceed, noting that stakeholder engagement cannot be reduced to a procedural formality.[95] Therefore, despite advancing economic and climate objectives, the implementation of renewable energy projects in Kenya continues to pose significant human rights challenges for host communities, including inadequate participation, insecure customary land tenure and the unequal distribution of project benefits.

Similar to the experience of fossil fuel development in Nigeria, the Kenyan case demonstrates that the principal challenge lies not in the technology employed, but in the implementation of constitutional, regional and international human rights obligations throughout the life cycle of energy projects. Achieving a just energy transition, therefore, requires more than decarbonisation; it requires governance arrangements that place the rights and interests of host communities at the centre of energy decision making.

6 Comparative analysis: Replicating the injustices of energy development

The Nigerian and Kenyan case studies demonstrate that changing the energy source has not fundamentally altered the position of host communities within energy governance. Petroleum development in Nigeria has historically been driven by economic growth and resource extraction, whereas renewable energy development in Kenya has been promoted to advance decarbonisation, climate commitments and energy security.[96]

Despite these different policy priorities, both have generated comparable patterns of exclusion in which host communities continue to bear a disproportionate share of the environmental, social and economic costs of energy development. Scholars have argued that clean energy transitions increasingly give

93 The Coalition for Human Rights in Development (n 92).
94 [2025] KEELC 1169 (KLR) (*Menengai West Stakeholders Forum*).
95 *Menengai West Stakeholders Forum* (n 94) para 62.
96 International Energy Agency Kenya Energy Profile (2024) (n 12); World Bank *Kenya Country Climate and Development Report* (n 77); Ministry of Energy and Petroleum *Least Cost Power Development Plan 2022-2041* (n 77).

rise to social exclusion, restricted access to land and natural resources, and other human rights concerns affecting already vulnerable communities.[97]

This comparison calls into question the assumption that renewable energy development is inherently more just than fossil fuel extraction. In Nigeria, petroleum development has left a legacy of environmental degradation, declining livelihoods and persistent human rights violations.[98] In Kenya, renewable energy projects have raised similar concerns regarding environmental pollution, community land, participation, displacement and livelihood protection.[99] The transition has therefore changed the energy source without fundamentally altering the governance practices through which energy projects are planned, approved and implemented. Many of the injustices associated with Africa's energy transition stem from the failure to integrate human rights into the legal and governance frameworks of the transition, thereby allowing existing inequalities associated with fossil fuel development to be reproduced within renewable energy projects.[100]

The comparison further illustrates that the persistence of these outcomes cannot be attributed to the absence of legal protections. Both jurisdictions recognise the rights of affected communities through constitutional, statutory and regional human rights frameworks. Rather, the recurring challenges identified across the case studies reflect gaps in the implementation of those obligations. Therefore, a human rights-based energy transition requires participation, accountability, non-discrimination and access to remedies to be integrated throughout the design and implementation of energy transition laws and policies.[101] In the same vein, Agbaitoro and Ekhator have argued that achieving a just energy transition in Africa requires socially inclusive governance and the mainstreaming of environmental rights into the planning and execution of energy transition projects to prevent injustices affecting local communities.[102] The implementation of energy transition projects in Nigeria and Kenya reveals a disconnect between the rights-based aspirations of the Paris Agreement and the realities experienced by host communities. Although the Preamble to the Paris Agreement recognises that climate action should respect, promote and consider human rights, and acknowledges the imperatives of a just transition, the experiences of host communities demonstrate that decarbonisation has not consistently protected their rights and interests in Nigeria and Kenya.[103]

97 Olawuyi and others (n 10).
98 United Nations Environment Programme (n 5); Bayelsa State Oil and Environmental Commission (n 11).
99 Danish Institute for Human Rights (n 78).
100 Abe (n 10) 11-17.
101 Abe (n 10) 22-30; Olawuyi and others (n 10); Basil & Heffron (n 10).
102 Agbaitoro & Ekhator (n 10) 44-48.
103 Paris Agreement (n 3) Preamble, art 7(5).

Accordingly, a just energy transition cannot be assessed solely by the expansion of renewable energy or reductions in greenhouse gas emissions. It must also be evaluated by its ability to safeguard the rights, livelihoods and interests of the communities that host energy projects. The global pursuit of decarbonisation should therefore be matched by an equally strong commitment to protecting the host communities; otherwise, the transition risks replacing one form of energy injustice with another. Without the effective implementation of existing human rights obligations throughout the project lifecycle, renewable energy development will continue to sacrifice the rights of host communities on the altar of climate objectives and economic development.

7 Conclusion and policy implications

The transition to renewable energy presents an important opportunity for African states to pursue climate action while advancing sustainable development. However, this opportunity will remain incomplete if energy transition is evaluated solely by the expansion of renewable energy capacity or reductions in greenhouse gas emissions. As this article has shown, decarbonisation does not necessarily translate into justice for the communities upon whose land, resources and livelihoods energy projects depend. A just transition, therefore, requires equal attention to the governance of energy development and the protection of human rights. The comparative analysis of Nigeria and Kenya demonstrates that, despite fundamentally different energy pathways, both jurisdictions exhibit similar patterns of procedural exclusion, distributive inequity, and inadequate recognition of the rights and interests of host communities. The comparison further demonstrates that although international, regional and domestic human rights frameworks establish important legal obligations relating to meaningful participation, protection of community land rights, equitable benefit-sharing, accountability and effective remedies, their implementation remains inconsistent and significant governance gaps persist. In particular, existing legal and regulatory frameworks do not systematically require human rights impact assessments or establish governance arrangements that integrate human rights obligations throughout the planning, approval, implementation, operation and decommissioning of energy projects. Consequently, the persistence of these injustices reflects both shortcomings in implementation and deficiencies in the institutional and regulatory mechanisms necessary to give practical effect to existing human rights obligations. Accordingly, states should move beyond technology-centred approaches by integrating meaningful participation, the protection of community land rights, equitable benefit-sharing, accountability, effective remedies and mandatory human rights impact assessments into the planning, approval, operation and decommissioning of energy projects.

The implications extend beyond Nigeria and Kenya. As African states accelerate renewable energy development to meet their commitments under the Paris Agreement, the transition should be implemented in a manner that

respects, promotes and protects the rights of affected communities rather than treating them as passive beneficiaries of national development. Ultimately, the success of Africa's energy transition will depend not only on replacing fossil fuels with renewable energy, but on whether it transforms the governance practices that have historically marginalised host communities. Until this occurs, the transition to renewable energy is likely to replicate, rather than remedy, many of the injustices associated with conventional energy development.

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Gendering energy justice: Women, renewable energy, and just transitions in South Africa and Zimbabwe

*Olayinka O Adeniyi**
Post-Doctoral Research Fellow, Centre for Human Rights, University of Pretoria, South Africa
https://orcid.org/0000-0002-9686-3614

*Ashiella Musindo***
Research Fellow; Department of Anthropology, Archaeology and Development Studies, University of Pretoria, South Africa
https://orcid.org/0009-0003-4628-6577

*Lydia T Chibwe****
Post-Doctoral Research Fellow, Centre for Human Rights, University of Pretoria, South Africa
https://orcid.org/000-0003-3802-262X

Abstract: This article examines how energy poverty, climate vulnerability and renewable energy transitions affect differently situated women in South Africa and Zimbabwe. It focuses particularly on women in low-income rural and peri-urban households whose energy experiences are shaped by intersecting factors such as poverty, geographical location, household structure, age, disability, access to land and productive assets, informal or subsistence livelihoods, and

* LLD (Pretoria); lawcom7@yahoo.com
** PhD (Pretoria); musindoashiella@yahoo.com
*** PhD (Pretoria); lydiateechibwe@gmail.com

responsibility for unpaid domestic and care. Rather than treating women as a homogeneous category, the article recognises that their exposure to energy insecurity and their capacity to benefit from renewable energy vary with these social and economic conditions. The article applies a gendered energy justice framework to assess whether the energy transitions in the two countries distribute benefits and burdens equitably, recognise women's differentiated energy needs and contributions, and enable their meaningful participation as users, workers, entrepreneurs, owners and decision makers. It argues that increasing renewable energy capacity will not, by itself, produce a just transition. A gender-just energy transition requires enforceable participation mechanisms, gender-responsive financing, equitable access to productive opportunities, recognition of unpaid care and household energy labour, and gender-disaggregated monitoring and accountability.

Key words: gendered energy justice; just transition; renewable energy; women; South Africa; Zimbabwe

1 Introduction

The transition from carbon-intensive energy systems to renewable and low-carbon alternatives is widely presented as necessary for climate mitigation, energy security and sustainable development.[1] Yet, an energy transition is not inherently just. Existing inequalities in income, employment, asset ownership, political influence and access to infrastructure shape its costs, benefits and opportunities.[2] Renewable energy expansion may therefore reduce emissions without reducing energy poverty or transforming the social inequalities through which energy is produced, distributed and used.[3] These concerns are especially significant in Southern Africa, where energy transitions occur alongside poverty, unreliable electricity, unequal access to modern energy services and increasing climate vulnerability.[4] South Africa and Zimbabwe illustrate different but related dimensions of this challenge. South Africa has a comparatively extensive and industrialised electricity system, historically dominated by coal, but continues to experience affordability pressures and electricity insecurity.[5] Zimbabwe has more limited generation capacity and lower levels of reliable electricity access, with many households continuing to depend on biomass and decentralised energy

1 J Cannon 'What does the just energy transition mean for Africa?' https://news.mongabay.com/2025/11/what-does-the-just-energy-transition-mean-for-africa/ (accessed 18 July 2026).
2 As above.
3 J Taylor 'Just an energy transition? A gendered analysis of energy transition in Northern Cape, South Africa' (2023) 37 *Agenda* 76.
4 K Fakier 'Women and renewable energy in a South African community: Exploring energy poverty and environmental racism' (2018) 19 *Journal of International Women's Studies* 166.
5 M Swilling, M Davies & H Wlokas *South Africa's contested transition to energy democracy? A collection of insights emerging from the national large-scale renewable energy programme* (2022), https://inspire-excellence.net/wp-content/uploads/2022/03/ED_Draft-4_2March_2022_reduce_4-1.pdf (accessed 18 July 2026).

sources.[6] In both countries, drought, infrastructure constraints and unaffordable energy intensify household vulnerability.

The consequences are gendered because women in many low-income households undertake a substantial share of cooking, fuel management, child care, water collection and other unpaid domestic and care work.[7] Electricity interruptions, high tariffs and dependence on biomass may therefore increase women's time poverty, health risks and responsibility for sustaining household welfare.[8] Women may also face barriers to employment, finance, ownership, technical skills and leadership within emerging renewable energy sectors. Women should, however, not be treated as a homogeneous category.[9] This article focuses principally on women in low-income rural and peri-urban households in South Africa and Zimbabwe, including female-headed households, women engaged in informal or subsistence livelihoods, women with limited access to land and finance, and women carrying significant unpaid care responsibilities. Their experiences differ according to income, age, disability, race, class, household status, education, location and access to infrastructure.[10] The article, therefore, does not suggest that all rural women, African women or women in the two countries, experience energy transitions in the same manner.

The analysis applies a gendered energy justice framework. Energy justice generally examines distributional justice, concerning how benefits and burdens are allocated; procedural justice, concerning participation and influence; and recognition justice, concerning whether affected groups' needs, identities and knowledge are acknowledged.[11] A gendered application highlights unequal household labour, unpaid care work, gendered access to assets and finance, occupational segregation and women's limited representation in energy governance.[12] It therefore assesses transition not only through electricity capacity, investment and formal employment, but also through affordability, time use, health, livelihoods, ownership and decision-making power.

The article asks: To what extent do renewable energy transitions and their governing policy frameworks in South Africa and Zimbabwe respond to the distributional, procedural and recognition dimensions of gendered energy justice? It further considers how energy poverty and climate vulnerability

6 EXP Tebeng, ADM Tchinda & CP Mbouga 'Climate vulnerability and the energy poverty trap in Africa' (2026) *Sustainable Development* 1, https://doi.org/10.1002/sd.71374.
7 M Feenstra 'Women engendering the just energy transition' in K Iwińska & X Bukowska (eds) *Gender and energy transition: Case studies from the Upper Silesia coal-mining region* (2022) 57-72.
8 As above.
9 M MacEwen & D Evensen 'Mind the gap: Accounting for equitable participation and energy democracy in Kenya' (2021) 71 *Energy Research & Social Science* 101843.
10 O Abe & V Azubike '(Re)examining the intersection between energy justice and energy transition in Africa' (2024) 42 *Journal of Energy & Natural Resources Law* 279.
11 UN Women 'Transforming care systems', https://www.unwomen.org/en/what-we-do/economic-empowerment/care-work (accessed 18 July 2026).
12 As above.

affect differently situated women, whether existing policies recognise women as users, workers, entrepreneurs, owners and decision makers, and which reforms are required to make the transition more gender-just. The comparison is useful because the countries share climate pressures and energy access challenges, but differ in the scale, structure and governance of their energy systems.[13] The aim is not to equate their political economies or women's experiences, but to identify common justice deficits alongside country-specific conditions.

Methodologically, the article uses a qualitative comparative design that combines a structured review of interdisciplinary literature, policy analysis and documented case illustrations. This follows as a method of literature review.[14] It relies on scholarly research, official policies, institutional reports, and published accounts of household and community renewable energy practices. It does not present original interviews or fieldwork.

The article contributes by applying energy justice through an explicitly gendered and intersectional lens, comparing South Africa and Zimbabwe. It also identifies the gap between inclusive policy commitments and the mechanisms required for implementation, including measurable targets, dedicated finance, equitable procurement, meaningful participation and gender-disaggregated accountability.[15] Part 2 outlines the method and comparative energy context. Part 3 develops the gendered energy justice framework and examines household energy use, adaptation and documented initiatives. Part 4 analyses the main policy frameworks. Part 5 identifies the principal justice gaps, part 6 proposes reforms, and part 7 is the conclusion.

2 Connecting climate, energy and gender

2.1 Method and comparative rationale

This article adopts a qualitative comparative design that combines a structured review of interdisciplinary literature, comparative policy analysis and documented case illustrations.[16] The review draws on scholarship on energy justice, gender and energy, just transitions, climate vulnerability, energy poverty and social reproduction. It is thematic rather than systematic and is used to identify recurring concepts, empirical findings and policy gaps.[17] The policy

13 N Götzmann & M Dicalou *Towards a feminist energy justice framework: Women's participation in the energy transition in sub-Saharan Africa* (2023), https://www.humanrights.dk/files/media/document/TOWARDS%20A%20FEMINIST%20ENERGY%20JUSTICE%20FRAMEWORK_accessible.pdf (accessed 18 July 2026).

14 G Paré & S Kitsiou 'Methods for literature reviews' in F Lau & C Kuziemsky (eds) *Handbook of eHealth evaluation: An evidence-based approach* (2017), https://www.ncbi.nlm.nih.gov/books/NBK481583/ (accessed 18 July 2026).

15 Götzmann & Dicalou (n 13).

16 Paré & Kitsiou (n 14).

17 As above.

analysis examines selected instruments on energy, renewable energy, climate and just transition from South Africa and Zimbabwe. It considers whether these frameworks contain gender-responsive targets, dedicated finance, inclusive participation procedures, ownership or procurement measures and gender-disaggregated monitoring. The analysis, therefore, distinguishes between general references to women or vulnerability and enforceable mechanisms capable of changing outcomes.[18]

Documented case illustrations are used to connect national policy with household and community experience.[19] These examples include published accounts of energy use, decentralised renewable energy technologies, livelihood strategies, and women-led or women-centred initiatives.[20] They are not presented as original case studies or as representative of all women in either country. The article relies exclusively on secondary and publicly available materials and does not report interviews, surveys or fieldwork.[21] Its conclusions, therefore, are limited to patterns and experiences documented in the sources examined.

South Africa and Zimbabwe are compared because they share regional climate pressures and significant energy access challenges, but differ in their energy structures and governance.[22] South Africa has a larger, industrialised and historically coal-dependent electricity system, while Zimbabwe has more limited generation capacity, less reliable access and greater dependence on biomass and decentralised energy.[23] These contrasts allow the article to assess whether different energy systems produce common or distinct forms of gender exclusion. The comparison does not assume that women in the two countries experience energy poverty in the same way. Instead, it applies common questions concerning affordability, unpaid labour, finance, ownership, participation and recognition, while remaining attentive to country-specific political, economic and infrastructural conditions.

2.2 Energy, climate and gender

South Africa and Zimbabwe face different but related energy transition challenges.[24] South Africa has a large, historically coal-dependent electricity

18 R Raman and others 'Energy justice and gender: Bridging equity, access, and policy for sustainable development' (2025) 6 *Discover Sustainability* 558.
19 Paré & Kitsiou (n 14).
20 Götzmann & Dicalou (n 13).
21 Paré & Kitsiou (n 14).
22 Sustainable Energy Africa *Energy poverty and gender in urban South Africa* (2017), https://www.cityenergy.org.za/uploads/resource_432.pdf (accessed 18 July 2026).
23 World Bank 'Zimbabwe gender assessment, (2024) http://hdl.handle.net/10986/41146 (accessed 18 July 2026).
24 NW Hlongwane & OD Daw 'Renewable electricity consumption and economic growth: A comparative study of South Africa and Zimbabwe' (2023) 13 *International Journal of Energy Economics and Policy* 197.

system and is expanding wind, solar and other renewable sources.[25] However, ageing infrastructure, grid constraints, rising tariffs and unreliable supply continue to affect households unevenly. Higher-income households may invest in rooftop solar panels, batteries and alternative fuels, while low-income households often have fewer options and may reduce consumption or revert to biomass, paraffin and other unsafe sources.[26] Zimbabwe operates under more severe generation and infrastructure constraints. Electricity supply depends substantially on hydropower and thermal generation, while drought, ageing infrastructure and limited investment contribute to recurring shortages.[27] Many rural and low-income households, therefore, rely on biomass, solar home systems and other decentralised sources, often combining several fuels in a pattern of energy stacking.[28] Climate change intensifies these pressures in both countries.[29] Drought, heat, rainfall variability and water scarcity affect electricity generation, agricultural production, household water access and the availability of biomass. Energy insecurity and climate vulnerability, therefore, are mutually reinforcing.[30]

These conditions are gendered because women in many low-income households perform a substantial share of cooking, fuel collection, water management, child care and other unpaid domestic work.[31] Where electricity is unavailable, unreliable or unaffordable, these tasks may become more time-consuming, physically demanding and hazardous.[32] Energy poverty can also limit women's education, paid work, enterprise development and participation in community decision making. The effects are not uniform. Women with low incomes, insecure livelihoods, disabilities, limited access to land or credit, or responsibility for female-headed households may have fewer resources with which to adapt.[33] By contrast, women with secure incomes, property, education

25 International Energy Agency 'South Africa', https://www.iea.org/countries/south-africa (accessed 18 July 2026).
26 Sustainable Energy Africa (n 22).
27 World Bank 'Zimbabwe economic update: Electrifying Zimbabwe's growth through reliable and universal energy Access (2025), https://www.worldbank.org/en/country/zimbabwe/publication/country-economic-update-electrifying-zimbabwe-s-growth-through-reliable-and-universal-energy-access (accessed 18 July 2026).
28 International Energy Agency 'Zimbabwe', https://www.iea.org/countries/zimbabwe (accessed 18 July 2026).
29 Intergovernmental Panel on Climate Change 'Africa' in *Climate Change 2022: Impacts, Adaptation and Vulnerability* (2022), https://www.ipcc.ch/report/ar6/wg2/chapter/chapter-9/ (accessed 18 July 2026).
30 As above.
31 As above.
32 As above.
33 United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) 'Transformative approaches to recognise, reduce and redistribute unpaid care work in women's economic empowerment: Good practices, lessons learned and recommendations from Rwanda, Senegal and South Africa' (Economic Empowerment Section, UN Women 2024), https://knowledge.unwomen.org/en/digital-library/publications/2024/12/transformative-approaches-to-recognize-reduce-and-redistribute-unpaid-care-work-in-womens-economic-empowerment (accessed 18 July 2026).

and financial resources may be better positioned to adopt renewable technologies or participate in emerging energy markets.[34]

Women should also not be represented only as vulnerable users.[35] They make decisions about fuel use, combine energy sources, adjust household practices during shortages and participate in livelihood and community responses.[36] These forms of knowledge and agency are important, but are not always recognised in formal energy planning. The central justice challenge in South Africa is to ensure that large-scale decarbonisation and investment do not reproduce inequalities in affordability, employment and ownership.[37] In Zimbabwe, the challenge is to expand reliable, affordable access without shifting the costs of adaptation onto already burdened households.[38] In both countries, transition, therefore, should be assessed through its effects on access, unpaid labour, livelihoods, health, participation and economic opportunity.

3 Gendered energy justice and women's lived experiences

3.1 Gendered energy justice

Energy justice assesses whether energy systems distribute benefits and burdens fairly, enable meaningful participation and recognise the needs and knowledge of affected groups.[39] Its three principal dimensions, distributional, procedural and recognition justice, provide the framework for this article.[40] Distributional justice concerns who receives reliable and affordable energy, employment, finance, ownership and community benefits, and who bears pollution, unaffordable tariffs, unreliable supply, livelihood losses and unpaid household labour.[41] A gendered analysis further asks how income, disability, household status, land ownership, employment and access to credit shape women's ability to absorb transition costs or benefit from renewable-energy opportunities.

Procedural justice concerns access to information, representation and influence in energy decisions.[42] Consultation is inadequate when women cannot participate due to transport costs, care responsibilities, inaccessible venues, technical language, or unequal authority within households and communities.[43] Participation is meaningful only where women can shape project design, procurement, tariffs and benefit allocation. Recognition justice concerns whether

34 As above.
35 Feenstra (n 7).
36 Swilling and others (n 5).
37 World Bank (n 23).
38 K Heffron & D McCauley 'The concept of energy justice across the disciplines' (2017) 105 *Energy Policy* 658-667.
39 As above.
40 As above.
41 As above.
42 Götzmann & Dicalou (n 13).
43 BK Sovacool & MH Dworkin *Global energy justice: Problems, principles and practices* (2015).

women are treated only as vulnerable users or also as workers, entrepreneurs, technicians, owners and decision makers.[44] It also requires recognition of unpaid domestic and care work and of differences among women by income, age, disability, location, livelihood and household status.

The three dimensions are interdependent. Women may receive few economic benefits because they are excluded from decision making, lack access to finance, and are not recognised as potential commercial or technical actors.[45] This article, therefore, asks five questions: who bears transition costs; who receives energy and economic benefits; whose needs and knowledge are recognised; who participates in decisions; and what accountability mechanisms exist where commitments are not implemented.

3.2 Household energy poverty, unpaid labour and resilience

Energy transitions are experienced through everyday decisions about cooking, lighting, heating, water, communication and livelihood activities.[46] In many low-income households in South Africa and Zimbabwe, women undertake a substantial share of these responsibilities. Their role in household energy management means that unreliable electricity supply, rising tariffs and dependence on biomass can increase unpaid labour, time poverty, health risks and livelihood insecurity.[47] Households rarely shift completely from one energy source to another. Many practise energy stacking by combining electricity, firewood, charcoal, paraffin, gas and solar power according to availability, cost and purpose.[48] This provides flexibility but may also reproduce gendered burdens. A household may use solar power for lighting while still relying on biomass for cooking, leaving fuel collection and exposure to household air pollution unchanged.[49] These choices are shaped by income, housing conditions, tenure, supply reliability and access to credit.[50] Female-headed households, women in informal or subsistence livelihoods and women without secure property rights may be unable to afford solar systems, batteries or clean-cooking equipment.[51] Even where technologies are available, women may use these without controlling the asset or household energy decisions. Energy insecurity also affects livelihoods.[52] Reliable electricity can support refrigeration, food processing, sewing, communication, retail and other home-based enterprises. Solar-powered irrigation, transport and refrigeration

44 As above.
45 Götzmann & Dicalou (n 13).
46 World Health Organisation 'Burning opportunity: Clean household energy for health, sustainable development, and wellbeing of women and children' (2016).
47 As above.
48 B Wernecke and others 'Fuel switching and energy stacking in low-income households in South Africa: A review with recommendations for household air pollution exposure research' (2024) 109 *Energy Research & Social Science* 103415, https://www.sciencedirect.com/science/article/pii/S2214629624000069 (accessed 18 July 2026).
49 As above.
50 As above.
51 Wernecke and others (n 48).
52 As above.

may strengthen climate adaptation and productive activity.[53] However, these benefits depend on affordable finance, technical support, maintenance, market access and women's control over equipment and income. Time use is central to gendered energy justice. Cleaner cooking, reliable electricity and labour-saving technologies may reduce time spent collecting fuel, heating water and reorganising household activities around outages. Yet, time savings should not automatically be equated with empowerment, because they may simply allow women to perform more unpaid and paid work unless domestic responsibilities are redistributed.

Health and safety are similarly important. Dependence on firewood, charcoal, paraffin and candles may increase exposure to smoke, burns and accidental fires.[54] Cleaner and more reliable services can reduce these risks, but only where households can afford sustained use. Energy stacking means that access to one clean technology may not eliminate continued reliance on polluting fuels.[55] Women also exercise agency by allocating limited energy resources, combining fuels and adjusting household and livelihood practices during shortages. These strategies demonstrate practical knowledge, but they can also conceal institutional failure.[56] Resilience should not be measured by women's ability to absorb repeated energy shocks.[57] A gender-just transition should reduce the need for harmful coping strategies by improving affordability, safety, productive access and women's control over energy assets and decisions.

3.3 Renewable energy and documented women-led initiatives

Renewable energy technologies can address energy poverty by providing services that are reliable, affordable and suited to household and livelihood needs.[58] Decentralised systems, including solar home systems, mini-grids, cleaner cooking technologies and productive-use equipment, are especially relevant where grid electricity is unavailable or unreliable.[59] Their gender-justice significance, however, depends not only on whether technology is installed, but also on whether women can afford, control, maintain and derive lasting economic benefits from it.[60] At the household level, solar systems may provide lighting, communication and power for small appliances, while cleaner cooking and water heating technologies may

53 M Rumbayan and others 'Solar energy implementation in rural communities and its contributions to SDGs: A systematic literature review' (2025) 6 *Unconventional Resources* 100180, https://www.sciencedirect.com/science/article/pii/S2666519025000469 (accessed 18 July 2026).
54 As above.
55 As above.
56 As above.
57 Wernecke and others (n 48).
58 OM Akinbami, SR Oke & MO Bodunrin 'The state of renewable energy development in South Africa: An overview' (2021) 60 *Alexandria Engineering Journal,* 5077, 5093, https://doi.org/10.1016/j.aej.2021.03.065 (accessed 18 July 2026).
59 As above.
60 As above.

reduce dependence on polluting fuels and some forms of unpaid labour.[61] These benefits should not be presumed. Upfront costs, maintenance expenses, insecure tenure and limited access to finance may exclude low-income households.[62] A solar system that provides lighting and phone charging may also fail to meet the greater energy requirements of cooking, refrigeration and productive activity, leaving women dependent on multiple fuels.[63]

Control over technology, therefore, is as important as access.[64] Where a renewable energy system is financed or registered in the name of the household member who owns the property or earns the principal income, women may use the service without acquiring ownership or decision-making authority.[65] Renewable energy adoption should consequently be assessed according to women's access to services, control over assets and income, and participation in the associated supply and service chains.[66] Documented South African initiatives demonstrate women's participation at enterprise, professional and sector-development levels.[67] Solar Turtle has been identified in government materials as a women-owned enterprise providing specialised solar energy services.[68] Its significance lies in positioning women as providers and managers of renewable energy technology rather than solely as household beneficiaries. However, one successful business cannot establish that the wider sector is inclusive. Such examples instead demonstrate the commercial and technical capacities that may be expanded through appropriate procurement, finance and enterprise support.[69]

BioTherm Energy offers another illustration of women's leadership in South Africa's renewable energy industry. Government documentation identified the company as a South African renewable energy developer led by a black woman chief executive and reported women's participation across different parts of its operations.[70] This example is relevant because it demonstrates women's entry into leadership and project development roles within the formal renewable energy sector, which has generally remained male-dominated.[71] Government-supported Women in Energy programmes and Women in Oil and Energy South Africa have also sought to increase women's participation in ownership, investment, procurement and business development.[72] These initiatives have provided

61 United Nations Entity for Gender Equality and the Empowerment of Women 'Transformative approaches to recognise, reduce and redistribute unpaid care work in women's economic empowerment: Good practices, lessons learned and recommendations from Rwanda, Senegal and South Africa' (UN Women 2024).
62 Mofokeng (n 46).
63 Wernecke and others (n 48).
64 Götzmann & Dicalou (n 13).
65 Feenstra (n 7).
66 United Nations Entity for Gender Equality and the Empowerment of Women (n 61).
67 Department of Mineral Resources and Energy 'South African Renewable Energy Masterplan (SAREM)' (Government of South Africa 2025).
68 As above.
69 Akinbami and others (n 58).
70 Department of Mineral Resources and Energy (n 67).
71 Akinbami and others (n 58).
72 Department of Mineral Resources and Energy (n 67).

information and engagement opportunities in renewable energy procurement, solar and wind development, finance and enterprise support.[73] Their existence reflects an institutional recognition that formal equality alone is insufficient to achieve women's meaningful participation in the renewable energy economy and that targeted measures are required to address structural barriers to ownership, finance, procurement and leadership.

More recent initiatives have focused on identifying opportunities for women entrepreneurs within decentralised solar photovoltaic and battery storage value chains.[74] These programmes examine the knowledge, financing and technical support that women need to participate in installation, distribution, maintenance and related services.[75] This is important because women's inclusion should not be confined to large utility-scale projects; decentralised systems create additional opportunities for smaller businesses and locally based service providers.[76] Nevertheless, women remain underrepresented in technical and leadership roles. South African guidance on gender and emerging green energy industries reports that women account for approximately one-third of the country's renewable energy workforce, with lower representation in some technical subsectors.[77] This suggests that general sector growth will not automatically correct occupational segregation.[78]

Zimbabwe provides examples linking decentralised renewable energy more directly with rural enterprise and service delivery. Powerlive is a women-led initiative that combines solar energy and internet connectivity with support for women-led businesses in rural communities. Its importance lies in connecting access to electricity with digital inclusion and livelihood development, while positioning women as leaders and service providers rather than passive recipients. Mobility for Africa provides another example with solar-powered electric tricycles used in rural areas.[79] Women have operated the vehicles to transport agricultural produce, reach markets and services and generate income.[80] Lease-to-purchase arrangements have enabled some participants to move from using vehicles to owning productive assets.[81] Reporting from Wedza indicates that women's earnings from the tricycles have strengthened their contribution to household expenditure and their involvement in family decision making.[82]

73 Götzmann & Dicalou (n 13).
74 International Renewable Energy Agency (IRENA) 'A gender perspectives acknowledgement' (2019), https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Jan/IRENA_Gender_perspective_2019.pdf (accessed 18 July 2026).
75 As above.
76 Götzmann & Dicalou (n 13).
77 International Renewable Energy Agency (IRENA) (n 74).
78 Akinbami and others (n 58).
79 Götzmann & Dicalou (n 13).
80 T Chikweche 'A green move to independence | Future-makers' (Western Sydney University 23 July 2024), https://www.westernsydney.edu.au/future-makers/issue-seven/a-green-move-to-independence (accessed 18 July 2026).
81 As above.
82 As above.

This initiative demonstrates how renewable energy can address several constraints simultaneously. Rural women's economic participation may be limited not only by inadequate electricity, but also by distance, transport costs and poor access to markets and healthcare services. Solar-powered mobility, therefore, can connect clean energy with mobility, agricultural trade and income generation.[83] However, affordability, maintenance, battery replacement systems and ownership terms remain relevant justice considerations. Zimbabwe's solar mini-grid programmes provide another potential pathway for productive inclusion.[84] The Mashaba solar mini-grid, for example, was designed to supply irrigation schemes, business centres, a clinic, a school and a study centre.[85] Such infrastructure can support agricultural processing, trading and public services on which women depend. Yet, a project should not be described as women-centred merely because women live or work in the beneficiary community.[86] Evidence is also required that women participate in project governance, obtain affordable connections, access productive equipment and control the resulting enterprises and income.

The examples reveal three levels of women's participation. First, women may be household or community users of renewable energy services.[87] Second, they may use energy productively for agriculture, trade, transport and digital enterprise. Third, they may participate as technicians, managers, business owners, investors and energy service providers. A gender-just transition should expand all three forms while recognising that household access alone does not amount to empowerment.[88] A distinction must also be made between women-centred and women-led initiatives. Women-centred programmes respond to women's identified needs but may remain designed and controlled by governments, donors or private developers.[89] Women-led initiatives place women in substantial ownership, management or decision-making roles.[90] Both may improve welfare, but women-led models have greater transformative potential where women exercise durable control over technology, finance and institutional governance. Renewable energy initiatives, therefore, should be assessed through the three dimensions of gendered energy justice. Distributional justice asks whether women can afford the technology and retain its material benefits.[91] Procedural justice asks whether they influence programme design and governance. Recognition justice asks whether they are treated as knowledgeable users, productive actors,

83 L Ndhlovu 'Solar grid keeps livelihoods high, hospitals lit in rural Zimbabwe' *Africa21*, https://www.africa21.org/wp-content/uploads/Proposed-writing-project_.pdf (accessed 18 July 2022).
84 As above.
85 Ndhlovu (n 83).
86 As above.
87 Götzmann & Dicalou (n 13).
88 Feenstra (n 7).
89 Götzmann & Dicalou (n 13).
90 As above.
91 M Feenstra & G Özerol 'Energy justice as a search light for gender-energy nexus: Towards a conceptual framework' (2021) 138 *Renewable and Sustainable Energy Reviews* 110668, https://doi.org/10.1016/j.rser.2020.110668 (accessed 18 July 2026).

technicians, entrepreneurs and owners.[92] Where only access is achieved, renewable energy may improve services without transforming the inequalities that structure women's participation in energy systems.

3.4 Assessing transformative outcomes

Renewable energy can strengthen women's livelihoods and resilience, as it provides reliable and affordable services for productive activity. Electricity for refrigeration, food processing, irrigation, communication, transport and retail may reduce losses, improve market access and support home-based or small-scale enterprises.[93] These benefits, however, depend on women's access to finance, equipment, training, maintenance services and control over the income generated.[94] Time use is a central measure of gendered energy justice. Reliable electricity, cleaner cooking and labour-saving technologies may reduce the time spent collecting fuel, heating water and reorganising household activities around outages.[95] Yet, reduced labour should not automatically be treated as empowerment. Time savings may simply enable women to undertake more unpaid and paid work unless household responsibilities and decision-making power are also redistributed.[96] Health and safety outcomes are equally important. Dependence on biomass, paraffin and candles may expose households to smoke, burns and accidental fires.[97] Cleaner energy services can reduce these risks, particularly for women and children who spend substantial time near cooking areas.[98] However, benefits remain limited where households continue to combine clean and polluting fuels because cleaner alternatives are unaffordable or unreliable.[99]

Renewable energy may also improve resilience to climate and electricity shocks by maintaining lighting, communication, refrigeration, water pumping and livelihood activities.[100] Nevertheless, resilience should not be understood as women's ability to absorb repeated shortages by taking on additional labour

92 As above.
93 I Das and others 'Frameworks, methods and evidence connecting modern domestic energy services and gender empowerment' (2023) 8 *Nature Energy* 435.
94 D Gad & P Leone 'Productive use of energy of women-owned micro-, small-, and medium-sized enterprises: Insights from food and textile businesses in selected African countries' (2024) 10(11) *Heliyon* e32313.
95 Das (n 93) 438-441.
96 As above
97 World Health Organisation 'Household energy and health' (2023); International Energy Agency, International Renewable Energy Agency, United Nations Statistics Division, World Bank & World Health Organisation 'Tracking SDG 7: The Energy Progress Report 2024' (2024).
98 World Health Organisation (n 97).
99 International Energy Agency, International Renewable Energy Agency, United Nations Statistics Division, World Bank & World Health Organisation 'Tracking SDG 7: The Energy Progress Report 2024' (2024); Energy Sector Management Assistance Programme (ESMAP), World Bank 'The state of access to modern energy cooking services' (2020).
100 International Energy Agency and others (n 99).

and employing coping strategies.[101] A gender-just transition should reduce vulnerability by improving affordability, safety and access to productive uses, and women's control over energy assets and decisions.[102] The effect of renewable energy, therefore, should be assessed not only through the installation of technology, but through measurable changes in women's health, time use, income security, control over productive resources and capacity to influence household and community energy decisions.[103]

4 Policy frameworks in South Africa and Zimbabwe

Energy and climate policies shape more than the pace and technological direction of renewable energy development. They determine how public resources are allocated, which actors participate in energy markets, whose needs influence planning and whether transition benefits reach households and communities experiencing energy poverty.[104] A gendered energy justice analysis must therefore examine both formal policy commitments and the mechanisms through which those commitments are implemented. The analysis below assesses the two countries' frameworks through the lenses of distributional, procedural and recognition justice. Distributional justice concerns affordability, access, employment, enterprise participation, finance and ownership. Procedural justice concerns women's representation and influence in policy formulation, procurement, project governance and community benefit structures. Recognition justice examines whether policy acknowledges women's differentiated vulnerability, unpaid household labour, knowledge and capacity to participate as economic and technical actors.[105]

4.1 South Africa

South Africa's transition framework is anchored in the Integrated Resource Plan 2019, the Renewable Energy Independent Power Producer Procurement Programme, the Climate Change Act 22 of 2024, the Just Transition Framework and the Just Energy Transition Investment Plan 2023-2027.[106] Together, these instruments provide a substantial basis for renewable energy expansion, electricity sector restructuring, climate mitigation, and socio-economic transition.[107] The

101 Das and others (n 93) 441-444.
102 UN Women (n 33).
103 Das and others (n 93) 441-444.
104 United Nations Development Programme 'What does it mean to leave no one behind in the energy transition?' (2023).
105 Das and others (n 93).
106 Department of Mineral Resources and Energy 'Integrated Resource Plan 2019' (2019); Presidential Climate Commission 'A Framework for a Just Transition in South Africa' (2022); The Presidency 'South Africa's Just Energy Transition Investment Plan (JET IP) 2023-2027' (2023); Climate Change Act 22 of 2024.
107 Presidential Climate Commission 'A framework for a just transition in South Africa' (2022); The Presidency 'South Africa's just energy transition investment plan (JET IP) 2023-2027' (2023).

Integrated Resource Plan determines the projected electricity generation mix and guides the procurement of new capacity. Its significance lies in directing the shift from a historically coal-dependent system towards greater incorporation of wind, solar and other technologies. However, its principal emphasis remains generation adequacy, system cost and technical capacity. It does not, by itself, ensure that additional renewable electricity becomes affordable to low-income households or that women gain access to ownership, employment and enterprise opportunities.[108] The Renewable Energy Independent Power Producer Procurement Programme provides a more direct mechanism for distributing transition benefits. Its economic development requirements address employment, local content, enterprise development, socio-economic development and community benefits. These provisions create opportunities to connect renewable energy investment with broader development objectives.[109] Nevertheless, formally inclusive procurement does not necessarily produce gender-equitable outcomes. Women-owned enterprises may struggle to satisfy capital, certification, experience and guarantee requirements designed around established firms.[110] Women may also be included in overall employment figures while remaining concentrated in temporary, administrative or lower-paid roles rather than in skilled technical, managerial and ownership positions. The relevant question, therefore, is not merely whether women benefit, but which women benefit, in what capacities and to what degree of control.[111] The programme's community benefit mechanisms also raise procedural concerns. Communities may be consulted or included in trusts and development structures, but women's attendance does not establish meaningful influence. Meeting times, transport costs, technical information, unpaid care responsibilities and unequal authority within local institutions may limit their ability to shape project priorities and benefit allocation.[112]

The Climate Change Act provides an important recognition-justice foundation. Its principles acknowledge differentiated vulnerability and identify poor and rural women as among those requiring particular consideration in climate governance.[113] This recognition is legally significant because it challenges an undifferentiated approach to climate impacts. However, framework recognition must be translated into sectoral plans, budgets, procurement rules and measurable implementation obligations.[114] The Just Transition Framework

108 Das and others (n 93).
109 Independent Power Producer Office *Renewable Energy Independent Power Producer Procurement Programme (REIPPPP): An overview* (2024); Department of Mineral Resources and Energy *Independent Power Producer Procurement Programme* (2024).
110 United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) *Explainer: Why women must be at the centre of a just transition to a renewable energy future* (2023); International Renewable Energy Agency *Renewable Energy and Gender Equality: A Review of Evidence and Emerging Practices* (2023).
111 International Renewable Energy Agency (n 73).
112 UN Women (n 110).
113 Climate Change Act 22 of 2024 secs 4 & 5.
114 United Nations Development Programme 'What does it mean to leave no one behind in the energy transition?' (2023); United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) *Explainer: Why women must be at the centre of a just transition to a renewable energy future* (2023).

and the Just Energy Transition Investment Plan broaden transition beyond emissions reduction by addressing affected workers, communities, skills, industrial restructuring and investment.[115] Yet, their predominant emphasis on formal employment, coal-dependent regions and large-scale infrastructure may understate household energy poverty, informal livelihoods, clean cooking and unpaid care work. Women in low-income households may experience transition less through formal coal sector restructuring than through tariffs, unreliable electricity and exclusion from emerging energy markets.[116]

South Africa's framework, therefore, performs unevenly across the three justice dimensions. It provides substantial institutional recognition of vulnerability and creates distributional opportunities through procurement, investment and community development mechanisms. However, enforceable gender-responsive targets, dedicated finance, ownership pathways and meaningful representation remain limited.[117] A substantively gender-responsive approach would require measurable targets for women's skilled employment, leadership, ownership and enterprise participation; accessible procurement and financing mechanisms for women-owned firms; representation in project and community-benefit governance; and gender-disaggregated reporting on access, affordability, contracts, employment and ownership.[118]

4.2 Zimbabwe

Zimbabwe's energy transition framework includes the National Energy Policy 2012; the National Renewable Energy Policy 2019; the National Energy Efficiency Policy; and the National Climate Policy and Climate Change Gender Action Plan. These instruments seek to expand energy access, diversify energy supply, improve efficiency and integrate gender into climate action.[119] The National Energy Policy establishes the general basis for energy supply, regulation and access to modern energy services. Its developmental orientation is relevant to distributional justice because reliable energy supports household welfare, health, education and livelihoods. However, a general commitment to access does not directly address women's differentiated exposure to unreliable electricity, dependence on biomass, unpaid household labour, and limited access to income and assets.[120]

115 Presidential Climate Commission (n 107).
116 Das and others (n 93).
117 Presidential Climate Commission (n 107).
118 International Renewable Energy Agency 'Renewable energy and gender equality: A review of evidence and emerging practices' (2023); International Renewable Energy Agency 'Renewable Energy and Jobs: Annual Review 2024' (2024).
119 Ministry of Energy and Power Development National Renewable Energy Policy (2019); Ministry of Environment, Climate, Tourism and Hospitality Industry *Climate Change Gender Action Plan* (2024-2030); Government of Zimbabwe *National Climate Policy* (2017).
120 Das and others (n 93).

The National Renewable Energy Policy provides a more specific framework for grid-connected and decentralised renewable technologies. Its emphasis on rural access, private investment, employment and community participation creates opportunities for household electrification, productive-use technologies and local enterprise. However, the policy's market-oriented approach may favour actors with capital, collateral, technical expertise and formal business structures. Women operating small, informal or subsistence enterprises may remain unable to access licensing, finance, procurement and project ownership.[121] References to gender equality, therefore, are important but insufficient unless they are translated into targets, budgets and institutional responsibilities.[122]

The National Energy Efficiency Policy may contribute to affordability by reducing the energy required by households and businesses. Yet, the benefits of efficiency depend on access to appliances, equipment, information and upfront finance. Women from low-income households, tenants and informal traders may be unable to adopt efficient technologies without subsidies, concessional finance or targeted support.[123] Zimbabwe's National Climate Policy and Climate Change Gender Action Plan provide the strongest basis for recognition and procedural justice. They acknowledge differentiated vulnerability, women's knowledge and the need for gender-responsive participation across climate-related sectors, including energy.[124] The Gender Action Plan is particularly valuable because it moves beyond presenting women solely as a vulnerable group and recognises their roles in adaptation, agriculture, energy management and community governance.[125] However, these commitments remain vulnerable to institutional separation. Gender mainstreaming within climate policy will have a limited effect if it is not incorporated into energy-sector procurement, rural electrification, budgeting, training and monitoring.[126] The core question is whether energy ministries, regulators, rural electrification institutions and project developers adopt corresponding gender-responsive duties.

Rural electrification and clean-cooking programmes illustrate this challenge. Connecting a community does not establish gender justice where women cannot afford household access, use electricity productively, participate in project governance or control energy-enabled assets. Similarly, distributing cleaner technologies does not establish a just outcome where ongoing fuel or maintenance costs are unaffordable.[127] Zimbabwe's policy framework, therefore, contains meaningful recognition of renewable energy, rural access and gender

121 Winther and others (n 94).
122 UN Women (n 110).
123 International Energy Agency *Energy efficiency 2023* (2023); International Renewable Energy Agency *Renewable energy and gender equality: A review of evidence and emerging practices* (2023).
124 Ministry of Environment, Climate and Wildlife *Zimbabwe Climate Change Gender Action Plan 2024-2030* (2024); Government of Zimbabwe *National Climate Policy* (2017).
125 Government of Zimbabwe (n 124).
126 United Nations Development Programme (n 114).
127 Winther and others (n 94).

inclusion, but remains weak in terms of enforceable implementation. A stronger approach would require measurable targets for women's employment, enterprise ownership and representation; dedicated financing and credit guarantees; simplified procedures for women-owned and smaller businesses; and gender-disaggregated monitoring of affordability, access, technology use, ownership and livelihood outcomes.[128]

4.3 Comparative assessment

The comparison reveals both significant differences and a common implementation gap. South Africa's transition is driven primarily by large-scale procurement, industrial restructuring and investment mobilisation. Zimbabwe's transition places greater emphasis on energy access, decentralised technologies, rural electrification and efficiency.[129] These different structures create different entry points for gender justice. In South Africa, the principal opportunity lies in using procurement, investment and industrial policy to redistribute employment, ownership and enterprise opportunities. The principal risk is that capital-intensive programmes reproduce male-dominated technical sectors and established commercial networks. In Zimbabwe, decentralised renewable energy may be more directly connected to household access, rural livelihoods and women-led enterprise. The risk is that limited finance, affordability constraints and weak institutional implementation prevent women from controlling technologies and productive assets.[130]

Despite these differences, the two systems share three weaknesses. First, women are more clearly recognised as vulnerable users and beneficiaries than as owners, technicians, entrepreneurs and institutional decision makers. Second, participation commitments are not consistently supported by procedures that give women meaningful influence. Third, policies frequently lack measurable targets, assigned responsibilities and gender-disaggregated accountability.[131]

The comparison, therefore, suggests that the principal challenge is not the complete absence of gender-sensitive language. It is the failure to translate general inclusion into programme design. The justice of transition will depend on whether policy instruments alter the distribution of finance, assets, employment and authority, rather than merely expanding renewable-energy infrastructure.

128 International Renewable Energy Agency (n 118).
129 The Presidency *South Africa's Just Energy Transition Investment Plan (JET IP) 2023-2027* (2023); Ministry of Energy and Power Development *National Renewable Energy Policy* (2019); Ministry of Environment, Climate and Wildlife *Zimbabwe Climate Change Gender Action Plan 2024-2030* (2024).
130 Das and others (n 93); Winther and others (n 94).
131 UN Women (n 110).

5 Barriers and justice gaps

The comparative policy analysis exposes a central paradox. South Africa and Zimbabwe recognise renewable energy, climate vulnerability and social inclusion, yet women's substantive position within their energy transitions remains weak. The problem is not simply that women have insufficient access to renewable technologies. Existing inequalities determine who can afford energy, own assets, enter energy markets, participate in decisions and convert access into lasting economic and social power.[132] These inequalities are mutually reinforcing. Poverty limits women's ability to purchase technologies or participate in enterprises; limited asset ownership restricts access to finance; exclusion from decision-making prevents these barriers from shaping policy design; and failure to recognise unpaid care work obscures the additional labour created by energy insecurity. Distributional, procedural and recognition injustice must therefore be understood as interconnected rather than as isolated policy failures.[133]

5.1 Distributional barriers: Access without control

Renewable energy expansion may increase generation or extend infrastructure while leaving energy poverty largely unchanged. In both countries, low-income women may remain unable to afford electricity, clean cooking fuels, solar systems or energy-efficient appliances. This creates a distinction between formal availability and substantive access. Technology may be present in a community but inaccessible due to tariffs, connection charges, maintenance expenses or repayment requirements.[134] The distributional issue also concerns ownership and control. Women may use household solar systems, irrigation equipment or productive technologies without owning the asset, controlling its operation or deciding how the resulting income is used. Access without control may improve services while leaving household and economic power relations intact.

Energy justice, therefore, requires attention to who owns equipment, manages debt, controls income and decides how technologies are used.[135] Women's participation in employment and enterprise is similarly unequal. Renewable energy development creates jobs in engineering, construction, maintenance, finance, administration and project management. However, women may remain concentrated in temporary, administrative or lower-paid positions, while skilled, managerial and ownership roles remain male-dominated.[136] The barriers differ in form across the two countries. South Africa's large-scale procurement system creates substantial opportunities but imposes capital, certification and experience requirements that may exclude smaller women-owned firms. Zimbabwe's

132 Das and others (n 93).
133 International Renewable Energy Agency (n 118).
134 International Energy Agency and others (n 99).
135 Winther and others (n 94).
136 International Renewable Energy Agency (n 118).

decentralised systems create opportunities for rural enterprise and productive use, but limited access to credit, unstable markets, and high technology costs constrain women's participation. In both cases, formally neutral market arrangements may reproduce unequal starting positions.

Distributional justice requires more than equal eligibility. It requires targeted financing, guarantees, subsidies, technical support, accessible procurement, and measurable targets for women's employment, ownership, and enterprise participation. Without these measures, renewable energy transitions may redistribute technology without redistributing economic power.[137]

5.2 Procedural barriers: Contested consultation

Both countries recognise participation in climate and energy governance, but formal consultation does not necessarily enable women to influence outcomes. Women may attend meetings without shaping decisions on tariffs, technology, project location, procurement or community benefits. Participation becomes symbolic where institutions have already determined priorities or are not required to respond to submissions. Practical barriers deepen this exclusion. Distance, transport costs, unsuitable meeting times, unpaid care responsibilities, inaccessible technical language and limited information may prevent women from participating effectively. Unequal authority within households and communities may also restrict women's capacity to speak, challenge local leadership or advance independent priorities.[138] Procedural injustice is also evident within formal institutions. Women remain underrepresented in ministries, regulators, utilities, project boards and procurement bodies. This influences which issues receive attention. Generation capacity, investment and formal employment may be prioritised over affordability, clean cooking, unpaid labour and informal livelihoods.[139]

Community-benefit mechanisms require particular scrutiny. Trusts, committees and development funds may redistribute project benefits, but they can also be dominated by local elites. Women's inclusion among beneficiaries is insufficient where they lack authority over governance, access to financial information or influence over expenditure.[140] Meaningful participation, therefore, requires early and accessible information, representation in decision-making bodies and evidence that women's contributions affected outcomes. Institutions should also provide mechanisms for complaints and reviews when consultation or benefit commitments are not implemented.[141]

137 As above.
138 UN Women (n 114).
139 International Renewable Energy Agency (n 114).
140 United Nations Development Programme (n 104); UN Women (n 114).
141 International Renewable Energy Agency (n 114).

5.3 Recognition gaps

Recognition justice requires policies to acknowledge women's differentiated needs, knowledge and agency. Yet, women are often framed primarily as vulnerable household users rather than as workers, entrepreneurs, technicians, owners and decision makers. This may generate household-level assistance without altering women's exclusion from the economic and institutional opportunities created by the transition.[142] Broad categories such as 'rural women' may further obscure differences. A female-headed subsistence household, an informal trader, a woman with a disability and a professional seeking entry into energy procurement face distinct barriers. Policies that aggregate these experiences may fail to identify which women are excluded and what forms of support are required.[143]

Unpaid domestic and care work remains especially under-recognised. Energy shortages increase the time women spend obtaining fuel, reorganising cooking, protecting food and sustaining household welfare. Yet, transition success is commonly measured through installed capacity, investment and formal employment. These indicators overlook time poverty, household safety and unpaid energy labour.[144] Recognition, therefore, must change policy priorities rather than simply add gender-sensitive language. Women's household and community knowledge should influence technology selection and programme design, while their commercial and technical capacities should be supported through training, procurement and ownership opportunities.[145]

5.4 Accountability deficit

The recurring weakness in both jurisdictions is the distance between commitment and enforceability. Policies refer to inclusion, participation and gender equality, but often lack measurable targets, assigned institutional responsibilities, dedicated budgets and reporting requirements. Where no institution is clearly responsible for delivery, gender commitments remain aspirational.[146]

Gender-disaggregated data are essential to closing this gap. Governments and project developers should report who receives connections, finance, training, employment, contracts, ownership opportunities and community benefits. Data should, where possible, be further disaggregated by income, location, disability, age and household status. Aggregate figures on women's participation may otherwise conceal concentration in low-paid roles or unequal access among different groups of women.[147] Accountability also requires accessible remedies.

142 Das and others (n 93).
143 UN Women (n 110).
144 Das and others (n 93).
145 International Renewable Energy Agency (n 110).
146 United Nations Development Programme (n 114).
147 International Renewable Energy Agency (n 110).

Women should be able to challenge exclusionary procurement, inadequate consultation, unaffordable financing or failure to deliver promised benefits. Institutions should acknowledge complaints, give reasons for decisions, establish corrective timelines and report publicly on implementation.[148]

The principal justice gap, therefore, is not an absence of policy commitment, but a failure to convert commitment into institutional obligation. A gender-just transition requires distributive rules that expand women's control over resources and assets, procedures that enable meaningful influence, and accountability mechanisms that can identify and correct exclusion.[149] Without these elements, women may become more visible in transition discourse while remaining marginal to ownership, governance, and economic power in the emerging energy system.

6 Towards a gender-just energy transition

The analysis shows that renewable energy expansion will not produce a just transition unless gender equality is embedded in policy design, financing, participation and accountability. South Africa and Zimbabwe have adopted important commitments to renewable energy, climate action and inclusion, but these commitments must be converted into practical measures that alter women's access to energy, economic opportunity and decision-making power.[150] Responding to the distributional, procedural, recognition and accountability gaps identified above requires six mutually reinforcing measures.

First, energy affordability must be treated as a justice issue. Renewable energy capacity is of limited value to low-income households where electricity, clean-cooking fuels or decentralised technologies remain unaffordable. Governments, therefore, should combine energy expansion with targeted subsidies, social tariffs, concessional finance and support for clean cooking and productive-use technologies. These measures should prioritise women in low-income and female-headed households, as well as those dependent on informal or subsistence livelihoods.[151]

Second, transition finance and procurement should expand women's economic participation. Public programmes should establish measurable targets for women's skilled employment, ownership, leadership, and participation in renewable energy supply chains. Women-owned enterprises require accessible procurement procedures, technical support, credit guarantees and dedicated financing. Participation should be assessed by the quality and sustainability

148 United Nations Development Programme (n 104).
149 As above.
150 UN Women (n 150).
151 International Energy Agency, International Renewable Energy Agency, United Nations Statistics Division, World Bank & World Health Organisation *Tracking SDG 7: The Energy Progress Report 2024* (2024); World Health Organisation *Household energy and health* (2023).

of opportunities created, not merely by the number of women recorded as beneficiaries.[152]

Third, women's participation in energy governance must be institutionalised. Women should be represented in policy bodies, regulatory bodies, utilities, project committees and community-benefit structures. Consultation procedures should provide accessible information, appropriate notice, local-language communication and practical support where transport, child care or unpaid care responsibilities limit participation. Institutions must also demonstrate how women's submissions influenced final decisions.[153]

Fourth, policy must recognise household energy labour as part of the transition. Progress should not be measured solely by installed capacity, investment and formal jobs. Indicators should also assess affordability, reliance on biomass, time spent obtaining fuel, household safety, access to clean cooking, control over productive assets and the effect of energy services on unpaid domestic and care work.[154]

Fifth, gender-responsive implementation requires reliable data and accountability. Energy institutions and project developers should collect and publish gender-disaggregated data on access, employment, training, contracts, ownership, finance and community benefits. These data should be further disaggregated, where possible, by location, income, disability, age and household status. Clear institutional responsibilities, reporting obligations and accessible complaints mechanisms are also necessary where gender commitments are not implemented.[155]

Finally, energy, climate, gender, labour, agriculture and rural development institutions should coordinate their programmes. Women's energy needs and opportunities cut across these sectors. Linking renewable energy deployment with skills development, agricultural production, transport, digital access and enterprise support can yield broader livelihood and resilience benefits.[156] A gender-just transition, therefore, requires more than adding women to existing programmes. It requires changing the rules through which energy finance, technology, employment, ownership and authority are distributed. Women must be recognised not only as users of energy services, but also as workers, entrepreneurs, owners, innovators and decision makers within the emerging energy system.

152 International Renewable Energy Agency (n 151).
153 UN Women (n 110).
154 Das and others (n 93).
155 International Renewable Energy Agency (n 151).
156 United Nations Development Programme (n 104).

7 Conclusion

This article has argued that renewable energy expansion is not inherently gender-just. In South Africa and Zimbabwe, women's experiences of energy transition are shaped by poverty, unreliable supply, dependence on biomass, unpaid domestic and care work, unequal access to finance and assets, and limited representation in energy governance. These conditions affect women differently depending on income, location, household status, disability, age, livelihood and access to infrastructure. Applying distributional, procedural and recognition justice shows that both countries have made important commitments to renewable energy, climate action and inclusion. However, these commitments are not consistently translated into affordable access, meaningful participation, women's ownership, skilled employment, dedicated finance or gender-disaggregated accountability. Women, therefore, remain more visible as household users and vulnerable beneficiaries than as workers, entrepreneurs, owners and decision makers.

Documented initiatives in both countries demonstrate that women can play substantive roles in renewable energy enterprises, productive-use technologies and community-level energy services. Yet, isolated successes cannot substitute for systemic reform. Their wider significance depends on whether policy and institutional arrangements remove the financial, technical, social and procedural barriers that prevent women from participating at scale. A gender-just transition requires measurable employment and ownership targets, gender-responsive procurement and finance, accessible participation procedures, recognition of unpaid household energy labour, and reliable monitoring and complaints mechanisms. It must also assess progress in terms of affordability, health, time use, livelihood security and decision-making power, rather than generation capacity and investment alone.

The central conclusion is that gender justice must be treated as a condition of an effective energy transition, not as an additional social objective. Where women gain affordable access, control over productive assets and meaningful authority, renewable energy can strengthen livelihoods, resilience and social legitimacy. Where these inequalities remain unaddressed, low-carbon development risks reproducing existing injustice in a new technological form.

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Functional recognition of climate-displaced persons in Africa: Procedural guarantees and safeguards for just transition

*Gabriel Ajabu Mastaki**
Doctoral Candidate, UCLouvain, Belgium
https://orcid.org/0009-0001-3587-7270

*Julien Ashuza Mulumeoderhwa***
Researcher, National Pedagogical University, Democratic Republic of the Congo
https://orcid.org/009-007-8712-4135

Abstract: This article analyses the marginalisation of people displaced by climate change in Africa as a manifestation of environmental and climate injustice, in a context where existing legal frameworks remain insufficient to ensure adequate protection. The article argues that the absence of a fully operational universal legal status should not prevent the establishment of effective protection. It therefore proposes a functional recognition of climate-displaced persons based on human rights. This recognition draws upon civil and political rights, economic, social and cultural rights, as well as rights to solidarity, to place displaced persons at the heart of a truly inclusive, just transition. The study also demonstrates that the effectiveness of this approach depends on substantial procedural guarantees: access to information, participation, access to justice and operational safeguards, such as climate funds, planned relocation, compensation, land tenure security and climate insurance. The article concludes that, in Africa, just transition should

* LLD (Bujumbura); ajabumastaki7@gmail.com
** LLM (Bukavu); julienashuza5@gmail.com

not be limited to energy or economic transformation, but must also be a project of justice that fully integrates the protection of populations displaced by climate change.

Key words: climate-displaced persons; climate justice; functional recognition; just transition; procedural safeguards

1 Introduction

Mitigating the climate crisis and implementing a just transition are the most urgent and major challenges of our time.[1] The World Bank estimates that by 2050, sub-Saharan Africa could see up to 86 million internal climate migrants; East Asia and the Pacific, 49 million; South Asia, 40 million; North Africa, 19 million; Latin America, 17 million; and Eastern Europe and Central Asia, 5 million.[2] Data from 53 African countries show that all countries are vulnerable to climate change, with Somalia, Niger, Guinea-Bissau, Chad and Sudan ranked among the most vulnerable to climate shocks, and South Africa, Angola, Morocco and Tunisia the least vulnerable.[3] Environmental changes indirectly influence migration in Africa, by affecting other migratory factors, including socio-demographic, economic and political considerations.[4] The trend towards environmental migration has intensified due to the combination of rapid population growth, environmental degradation and climate variability.[5] Each year, the adverse effects of climate change intensify,[6] compelling African states to adopt ecological transition strategies to green their economies and strengthen resilience.

Climate transition refers to the set of structural and progressive transformations aimed at reducing greenhouse gas emissions, strengthening resilience to the impacts of climate change, and steering societies towards sustainable, low-carbon development models.[7] The climate transition involves economic, social, political and ethical dimensions. Among other things, the integration of social justice

1 R Yasser and others 'Social protection at the heart of the just transition: A lever against inequality' (2026) 20 Policy Paper 28.

2 K Rigaud and others *Groundswell: Preparing for internal climate migration* ().

3 African Development Bank 'African Economic Outlook 2022: Supporting Climate Resilience and a Just Energy Transition in Africa' Abidjan: AfDB (2022).

4 I Mballo and others 'Perception of environmental change and intentions to migrate: State of the literature' (2025) 4 *Revue Territoires Environnement et Développement (TED)* 12-23; S Jayawardhan 'Vulnerability and climate change induced human displacement' (2017) 17 *Consilience: The Journal of Sustainable Development* 104.

5 AS Abubakar and others 'Navigating environmental migration in Nigeria; Trends, impacts, and strategic responses' (2025) 8 *International Journal of Environmental Pollution and Environmental Modelling* 3.

6 The climate crisis is rapidly intensifying. Every hour, humans pump more carbon into the atmosphere than in the preceding hour, contributing to a one-way climate crisis ratchet: Every year is warmer than the one that follows. I Feldman & JR May 'Climate displacement, managed retreat, and constitutional revolution' (2024) 39 *Natural Resources & Environment* 38.

7 M Racine 'Understanding the European and national context of pathways for the ecological transition' in E Briche (ed) *Pathways to ecological transition: Towards dynamic and adaptive territorial planning* (2023) 15.

issues – the social dimension of the transition – has given rise to the concept of a 'just transition'. This concept is playing an increasingly prominent role in discussions on the climate transition. It is closely linked to that of sustainable development.[8] The 'just transition' paradigm advocates an equitable, inclusive and socially just transformation that reconciles environmental sustainability with the protection of vulnerable groups.[9]

However, despite its integration into African frameworks, such as the African Climate Change Strategy[10] and the Common Position on Access to Energy and a Just Energy Transition,[11] just transition remains primarily focused on economic and energy dimensions.[12] Human impacts,[13] notably climate-induced displacement,[14] remain marginalised. Climate-induced population displacement is an extreme manifestation of climate injustice.[15] Environmental migration refers to population displacements caused directly or indirectly by environmental changes, such as climate change, desertification, land degradation, sea-level rise and natural disasters.[16] When these climate changes and their consequences occur, population displacements constitute a global problem.[17] Yet, such displacement constitutes one of the most visible manifestations of contemporary environmental injustice. Neither international law nor African normative frameworks fully recognise climate-displaced persons as rights holders within

8 S Sabatiano & B Fronteddu *A socially just transition through the European Green Deal?* (2020) 7.

9 United Nations Human Rights Council 'Right to Work' A/HRC/RES/55/9 (2024), https://docs.un.org/fr/A/HRC/RES/55/9 (accessed 20 July 2026).

10 African Union 'African Union Climate Change and Resilient Development Strategy and Action Plan (2022–2032)' (2022), https://au.int/en/documents/20220628/african-union-climate-change-and-resilient-development-strategy-and-action-plan (accessed 20 July 2026).

11 African Union 'Africa and Just Energy Transition: Considerations for the Expansion of the African Oil & Gas Domestic Market' (2022), https://au-afrec.org/sites/default/files/2022-11/African%20Oil%20%26%20Gas%20Domestic%20Market.pdf (accessed 20 July 2026); African Energy Commission *Africa and the just energy transition: Prerequisites for the expansion of the African domestic oil and gas market* (2022).

12 S Lee 'Towards a just transition to a green economy' (2022) 24 *The Veolia Institute Review - Facts Reports*.

13 Significant climate changes are altering and disrupting many aspects of the natural and social environments on which we depend for our well-being, health and survival. AJ McMichael and others 'Climate-related displacement: Health risks and responses' in J McAdam (ed) *Climate change and displacement: Multidisciplinary perspectives* (2010) 194; D Boccanfuso & B Kafando 'Climate migration: A complex issue' (2019) *Enjeux de société* 107.

14 Displacement and migration are potential response strategies to the various impacts of global environmental change. These migratory movements obviously have consequences for destination areas, with a risk of exacerbating internal migration among populations affected by extreme weather events or progressive environmental degradation. WN Adger 'Mobility, displacement and migration, and their interactions with vulnerability and adaptation to environmental risks' in R McLeman & F Gemenne (eds) *Migration and global environmental change: Future challenges and opportunities* (2011) 34.

15 CG Gonzalez 'Climate justice and climate displacement; evaluating the emerging legal and policy response' (2019) 36 *Wisconsin International Law Journal* 370.

16 M Charif and others 'Climate change and environmental migration in Africa: Challenges and opportunities' (2025) 2 *International Journal of Trade and Management* 148.

17 PF Mercure 'In search of a legal status for cross-border environmental migrants: The issue of the concept of refugee' (2006) 37 *Revue de Droit de l'Université de Sherbrooke* 6.

the transition process. The Kampala Convention,[18] though innovative, remains insufficiently operationalised.[19]

This article examines the extent to which the functional recognition of climate-displaced persons, anchored in procedural guarantees and operational safeguards, can embed human mobility at the core of a genuinely just transition in Africa. The study relies on doctrinal and comparative analysis of international, regional and national instruments on just transition and climate displacement, complemented by a critical assessment of emerging practices in Africa. It proposes an operational and inclusive framework to integrate human mobility into African transition policies, thereby strengthening the protection of displaced populations and ensuring a just transition.

2 Marginalisation as climate injustice in Africa

Climate change and its consequences[20] raise fears of food insecurity, water scarcity, reduced agricultural production, population pressure, unequal access to resources, poverty, epidemics and the spread of disease.[21] All of these factors and risks lead to displacement and migration on an unprecedented scale.[22] Population displacements and forced resettlements, both within and across a country's borders, will become increasingly frequent due to the repercussions of climate change.[23] In Africa, both within countries and across their borders, climate change is causing population displacement.[24] Often, the most affected are poor populations, rural populations, pastoralists, rain-fed farmers, coastal communities, women and children.[25] They may be exposed to, among other challenges, social exclusion and

18 African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (2009) (Kampala Convention).

19 AO Jegede 'Rights away from home: Climate-induced displacement of indigenous peoples and the extraterritorial application of the Kampala Convention' (2016) 16 *African Human Rights Law Journal* 81-82.

20 Droughts, floods, forest fires, extreme weather events, soil erosion, desertification, deforestation, and natural disasters, etc. D Bard 'Climate change and its consequences for health' (2017) 4 *International Journal of Medicine and Surgery* 6-10.

21 N Mostafa Mahmud 'Human rights implications of climate change-induced displacement' (2009) 21 *Bond Law Review* 139-140.

22 E Piguet, A Pécoud & P de Guchteneire 'Climate change and migration: Risks and policies' (2011) 75 *Information géographique* 86; F Emenne and others 'Climate change, natural disasters and population displacements West Africa' (2017) 3 *Geo-Eco-Trop* 317-337; Internal Displacement Monitoring Centre & Norwegian Refugee Council 'Global Report on Internal Displacement' 2026 (2026).

23 J Toscano 'Climate change displacement and forced migration: An international crisis' (2015-2016) 6 *Arizona Journal of Environmental Law & Policy* 460. Displacement is both a response to climate change and a movement. E Macura-Nnambi & M Malinowska 'Genres of displacement: Rewriting environmental crisis from the African continent' (2025) 62 *Tydskrif Vir Letterkunde* 3.

24 Internal Displacement Monitoring Centre 'Report on internal displacement in Africa' (2019). These migrations can be either internal, that is, within the same state, such as peri-urban, local and regional migrations, or external, that is, interstate, with populations crossing an international border. C Cournil 'The emergence of a law for internally displaced persons' (2009) 22 *Revue québécoise de droit international* 2.

25 A McLean & N Ben Brahim 'Climate change: A driver of mobility? Analysis of perceptions in Egypt, Morocco, and Tunisia – ICMPD Report' (2023); Internal Displacement Monitoring Centre *Internal Displacement in Africa: Trends 2009-2023* (2024).

economic exploitation.[26] Persons displaced for climate-related reasons in Africa are among those with the least effective protection.

Climate-induced displacement refers to situations in which individuals or communities are forced to relocate due to environmental changes associated with climate variability and long-term climate change.[27] Terms such as 'climate refugees', 'climate-displaced persons', 'environmental migrants', 'climate-induced stateless persons' and 'environmental refugees' are used to describe these population movements, depending on the individuals or organisations.[28] These actors employ such terms based on their objectives regarding expertise, academic theorisation and political action, as well as the forms of protection they wish to see established.[29] The central issue surrounding these various terms is the need for standardisation and a clear definition of the concept, prerequisites for the recognition and legal protection of the individuals concerned.[30]

While intra-state environmental migrants are governed by disparate texts of varying legal standing, inter-state environmental migrants, for the time being, remain a status not yet recognised under international law.[31] Particularly due to the lack of recognition of this new migratory phenomenon, international legal standards offer insufficient protection to environmental migrants.[32] The 1951 Geneva Convention Relating to the Status of Refugees and its 1967 Protocol do not mention the environment as a factor in persecution. Based on the New York Declaration for Refugees and Migrants,[33] the only protective international law to which climate migrants are potentially beneficiaries is human rights law.[34]

26 Africa Climate Insights *The invisible toll of climate migration in Africa* (2025).
27 N Bhatti 'The human rights of migrants and refugees in the context of climate-induced displacement' (2025) 6 *DME Journal of Law* 63.
28 C Cournil 'Placing environmental migration on the scientific and political agenda' (2011) 36 *Revista Interdisciplinar da Mobilidade Humana* 76.
29 As above.
30 S Chatti 'From "ecological refugees" to "environmentally displaced people": A diachronic analysis of the creation of a neogism to the emergence of terminoloical' (2020) 7 *Translation* 180.
31 MP Zafimitsiry and others 'The international status of "environmentally displaced persons": A legal vacuum hindering the protection of human rights in the context of natural disasters' (2024) 3 *Revue d'Etudes Sino-Africaines* 72-73.
32 T Hummitzsch 'Climate change and migration: The debate on causality and the legal position of affected persons' (2009) 15 *Policy Brief* 7.
33 United Nations General Assembly 'New York Declaration for Refugees and Migrants', 13 September 2016, A/71/L.1 para 5.
34 A Moine 'The implications of climate migration for state sovereignty' (2018) 18 *The Electronic Journal of Environmental Sciences* 3. International human rights law provides a general framework for both substantive and procedural protection regarding the treatment of all individuals, including displaced persons. While international law recognises the sovereignty of states regarding entry into their territory, this right is not without limits. In addition to specific obligations incumbent upon states in this regard, such as the prohibition on *refoulement*, the human rights framework also imposes general obligations on them as soon as an individual comes into contact with them. S Berhanu Woldemariam and others 'Forced human displacement, the Third World and international law: A legal perspective' (2019) 20 *Melbourne Journal of International Law* 258.

Nevertheless, this framework provides only limited solutions regarding the protection of environmentally displaced persons.[35]

In the Great Lakes region of Africa,[36] the Protocol on the Protection and Assistance to Internally Displaced Persons[37] applies to persons displaced due to environmental phenomena. It defines internally displaced persons as those who, in particular, have been forced or compelled to flee due to natural disasters.[38] To the greatest extent possible, state parties are required to mitigate the consequences of displacement caused by disasters or due to natural causes.[39] The Kampala Convention of 23 October 2009 represents a step forward for Africa in protecting internally displaced persons affected by natural disasters.[40] It defines internally displaced persons as

> persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalised violence, violations of human rights or natural or man-made disasters, and who have not crossed an internationally recognised state border.[41]

It explicitly references circumstances such as natural disasters.

The Kampala Convention still faces certain obstacles, including insufficient implementation, impunity and persistent human rights violations, as well as unfavourable political systems that make its full realisation impossible.[42] This institutional weakness, coupled with a lack of cross-border protection and a deficit in justiciability, limits the full operational capacity of the established framework. At the national level, legal instruments for the protection of refugees do not appear to be designed to address the concerns caused by the growing problems associated with climate-induced displacement.[43] Environmental justice is understood as the right of present and future generations to live in a healthy and safe environment. [44] Climate justice aims, among other things, to articulate

35 N Jägers 'Climate change-induced displacement, migration and international law' in J Verschuuren (ed) *Research handbooks in environmental law series* (2022) 68-104.
36 The ICGLR is an intergovernmental organisation of African states in the Great Lakes region, whose mission is to promote peace and development. Its members are Angola, Burundi, the Central African Republic, the Republic of the Congo, the Democratic Republic of the Congo, Kenya, Uganda, Rwanda, South Sudan, Sudan, Tanzania and Zambia.
37 Adopted in 2006 and effective 21 June 2008, https://icglr.org/wp-content/uploads/2022/06/Protocol-on-the-Protection-and-Assistance-to-Internally-Displaced-Person.pdf?x10169 (accessed 20 July 2026).
38 Great Lakes Protocol art 1 para 4.
39 Great Lakes Protocol art 3 para 2.
40 UNHCR 2017 Déplacements liés aux catastrophes et au changement climatique, synthèse du rôle de l'UNHCR, Genève 9.
41 Art 1(k) Kampala Convention.
42 T Atim 'The intersection of internal displacement in the context of armed conflict and violence with climate change and disasters' (2022) 6 *Global Campus Human Rights Journal* 4.
43 C d'Orsi & GJ Naldi 'Climate-induced displacement in the Sahel: A question of classification' (2022) 103 *International Review of the Red Cross* 272.
44 CA Hawkins 'Sustainability, human rights, and environmental justice: Critical connections for contemporary social work' (2010) 11 *Critical Social Work* 68-81.

and apply principles of justice to guide climate policy.[45] In many regions of the African continent, the effective implementation of climate policies remains largely insufficient, despite international commitments. In high-risk areas, where displaced communities are particularly vulnerable to climate hazards, this inadequacy is even more pronounced.

The migratory response to environmental pressures is not uniform across different population sub-groups. Demographic characteristics, including age, sex, wealth level, socio-economic status and education level, are key factors in migration dynamics.[46] Applying uniform mechanisms to profoundly unequal realities could lead to both procedural and substantive injustices. Those who bear the brunt of the impact of climate change are vulnerable groups, including children,[47] women,[48] persons with disabilities, minorities, indigenous peoples,[49] low island populations[50] and people living in vulnerable situations.[51] Their discrimination and exclusion make them particularly vulnerable to the adverse effects of climate change. Due to inadequate resources and migration policies, the most vulnerable populations are often unable to escape environmental degradation.[52] Hence, the crucial importance of considering climate action from the perspective of climate justice.[53] Climate justice essentially involves recognising how climate change affects populations differently, unequally and disproportionately, and redressing the resulting injustices in a fair and equitable manner.[54]

One approach to climate justice is to propose implementing feasible and just climate policies.[55] It is urgent to establish an operational protection framework through a functional recognition of climate-displaced persons. Such recognition must be inclusive, taking into account the specific vulnerabilities of the people concerned.

45 M Bourban 'Climate justice and international negotiations' (2017) 27 *Négociations* 7.
46 M Borderon and others 'Migration influenced by environmental change in Africa: A systemic review of empirical evidence' (2019) 41 *Demographic* Research 522. Climate and environmental changes create new social inequalities, in addition to reinforcing existing inequalities. M Joseph & H van Hootegem 'At the intersection of social and climate justice' (2020) 114 *Politique* 18.
47 GA Mastaki 'Climate change and displaced children in Africa: A dual challenge to a sustainable future' (2025) 1 *African Journal of Climate Law and Justice* 25-36; UNICEF *Children displaced by climate change – Preparing for a future already underway* (2023).
48 McLean & Brahim (n 25) 3.
49 A de Mesnard 'Environmental displacement and indigenous peoples: Rethinking the responsibility of states and the international community' PhD thesis, University of Lyon, 2019.
50 C Cournil & F Gemenne 'Island populations facing climate change: Migrations to anticipate' (2010) 10 *Vertigo* 1-16.
51 E Pérez & C Brouillette 'No transition without climate justice' (2020) 807 *Relations* 17.
52 B Alex & F Gemenne 'Impacts of climate change on migration flows by 2030 Report No 1' (2016) 7.
53 Pérez & Brouillette (n 51) 17.
54 F Sultana 'Critical climate justice' (2022) *The Geographical* Journal 118.
55 P André & M Bourban 'Ethics and climate justice: Between moral and amoral motivations' (2016) 2 *The Ethics Forum* 6.

3 Towards functional recognition of climate-displaced persons

Current recognition of climate displacement is insufficient because it lacks the depth to create a regulatory framework that promotes the defence of the rights of people forced to flee their country due to climate change.[56] 'Climate refugees' would encompass people forced to leave their homes due to clearly demonstrated impacts of climate change.[57] The concept of 'climate refugee' exists through international recognition of the challenges faced by people affected by climate change.[58] The lack of a clear international legal framework to address the needs of people displaced by climate change has prompted calls from various sectors for a new international instrument to protect so-called 'climate refugees'.[59] Those referred to as environmental refugees in fact are merely migrants, receiving no special treatment on the international stage.[60] Among the principles of a just transition are the guarantee of equity, inclusion and respect for human rights.[61] An international legal framework for climate-related migration must reconcile the protection of the collective identity of displaced groups with the fundamental rights of each individual.[62]

As a matter of justice, the environment is understood in terms of the social, political or health consequences of its changes. Factors related to climate change are both facilitators and barriers to securing livelihoods.[63] In the absence of, and/or pending, a universal status to protect climate-displaced persons, it is crucial to shift paradigms and adopt a functional recognition based on human rights. This involves recognising the real needs of those affected, which are manifold, including access to services, protection, dignified mobility and compensation. The question no longer is who is legally a 'climate refugee', but who needs effective climate protection. Given that mobility linked to the consequences of environmental change is generally internal,[64] national laws must reflect this.

56 SL Arenilla & CH Rada 'Climate change and forced migration' (2020) 11 *Migraciones Internacionales* 1-20.

57 C Cournil 'Environmental refugees: Issues and questions surrounding an emerging category' (2010) 22 *Migrations Société* 75.

58 A Costi 'On the definition and status of "climate refugees": An initial reflection' (2010) 16 *NZACL Yearbook* 394.

59 J McAdam '"Protection" or "migration"? The "climate refugee" treaty debate' in J McAdam *Climate change, forced migration, and international law* (2012) 187.

60 H Ghofran & N Amel 'The applicability of international law to environmental refugees' (2021) 1 *The Algerian Journal of Political Sciences and International Relations* 357.

61 OXFAM 'Just transition: Definition, origins, examples and challenges' (2025), https://www.oxfamfrance.org/inegalites-mondiales/transition-juste-definition-origines-exemples-enjeux/ (accessed 27 April 2026).

62 B Mayer 'The international legal challenges of climate-induced migration: Proposal for an international legal framework' (2011) 22 *Colorado Journal of International Environmental Law and Policy* 391.

63 T Kwanhi and others 'Conceptualising climate-induced migration in Africa' (2024) 52 *Environmental Development* 2.

64 UNESCO *Impact of environmental changes on human migration: Case study: Senegal and Côte d'Ivoire* (2014) 28.

The functional recognition of climate-displaced people is based on human rights, enshrined at both national and international levels.[65] First-generation human rights (civil and political rights) would ensure that climate-displaced persons can be identified, heard, consulted and protected against arbitrary treatment throughout all processes, from displacement to resettlement.[66] Second-generation rights (economic, social and cultural rights) would enable the restoration of concrete conditions of existence, a fundamental need for climate-displaced people.[67] Third-generation rights (collective or solidarity rights) would enable climate-displaced people and communities in Africa to be placed on a path towards environmental and climate justice. This commitment to moving beyond post-displacement protection by addressing climate inequalities and ensuring that no one is left behind and, through functional recognition, gives concrete expression to the ambition of a just transition in Africa. For this to be implemented and sustained, it must be underpinned by procedural guarantees and robust safeguards.

4 Procedural safeguards as a condition for equitable recognition

The increased intensity of natural disasters, rising sea levels and the scarcity of drinking water are generally considered the three main impacts of climate change likely to trigger significant migration flows.[68] In the face of institutional vulnerability, it is important to protect space for mobility by strengthening the capacity of individuals and communities to use mobility to cope with the impacts of climate change.[69] The arrival of climate migrants can put pressure on the services, infrastructure and economy of the host area.[70] Procedural safeguards must be observed. In achieving a just transition, the state has a central role to play, 'by developing the policies and programmes that will guide the transition pathway and by setting detailed objectives for the transition destination'.[71]

65 However, it should be noted that the implementation and effectiveness of international law remain relative due to the nature of the texts concerned, their conditions of application in the domestic law of states and the restrictions that their recognition by a state may entail. JM Crouzatier *International health law* (2009) 107; D Kamwanga Kiliya *On the effectiveness of fundamental rights in international law: A comparative analysis of the United Nations and Council of Europe systems* (2012) 41.

66 These include, in particular, the right to life, the right to human dignity, the right to security, the right to information, the right to participation, and the principle of non-discrimination.

67 The right to an adequate standard of living, the right to adequate housing, the right to food, the right to health, the right to work, the right to education, the right to social security, and the right to water.

68 Alex & Gemenne (n 52) 7-8.

69 G Morello & J Rizk 'Conflicts, climate change and the shrinking space for mobility in the central Sahel' (2022) 69 *RMF* 24.

70 GJ Abel and others 'Climate, conflict and forced migration' (2019) 54 *Global Environmental Change* 339.

71 T Ledger *The role of the state in a successful just transition: Defining an effective state in transition* (2024).

Within traditional legal frameworks, the marginalisation of people displaced by the effects of climate change is also characterised by procedural failings: the lack of participation by displaced communities and limited access to information and justice. A just transition should enable those affected by climate change to participate in defining and governing it.

With regard to climate-displaced persons, judicial recourse may prove relevant and complementary, particularly in strengthening the principle of *non-refoulement*[72] and addressing the issue of loss and damage.[73] Climate justice concerns the identification of the moral dimensions of climate change and the duties they impose on actors, based on their capacity to assume them and their responsibility for the moral harm linked to climate change.[74] Access to environmental justice guarantees every citizen effective access to judicial and administrative proceedings. It also sets out how citizens can assert their rights before a court. People who have been displaced or are at risk of displacement can bring cases before national, regional or international courts regarding violations of their fundamental rights, forced eviction, relocation without adequate safeguards, or state inaction in the face of climate risks.

Safeguards should complement the objectives of facilitating sustainable development and improving adaptive capacity. The capacity to adapt, to be resilient, and to preserve or sustain livelihoods and well-being is central to understanding migrations influenced by environmental changes and to mechanisms for responding to environmental risks.[75] Failure to adapt to climate change leads to migration as a means of survival.[76] The integration of climate-displaced persons into national policy strategies may reflect leaders' growing awareness of its importance. Safeguards, as instruments for implementing a just transition in Africa, require economic, social and structural mechanisms.

The Kampala Convention imposes an obligation on state parties to meet the needs of displaced persons and to provide the necessary funding for their

72 The principle of *non-refoulement*, while fundamental to the protection of refugees, does not adequately address the challenges posed by climate-induced displacement. While this principle prohibits the expulsion or forced return of a person to a country where they would risk inhuman or degrading treatment, it remains limited by the traditional framework of asylum law, which does not take into account the environmental causes of displacement. GA Mastaki 'Climate displaced persons at the border: Between non-refoulement and access to international protection' (2025) 3 *Bulletin of Asylum Law and Practice* 3.

73 R Thissen *Justice to the rescue of the planet? The judicial lever in the service of climate justice* (2021).

74 A Saad 'Toward a justice framework for understanding and responding to climate migration and displacement' (2017) 10 *Environmental Justice* 99.

75 AE Collins 'Applications of the disaster risk reduction approach to migration influenced by environmental change' (2013) 27 *Environmental Science & Policy* 113.

76 Certain environmental conditions can be beneficial to people's livelihoods and well-being, and thus act as an asset in attracting migrants to certain places; other environmental conditions can have adverse effects on these same livelihoods and well-being, and thus encourage people to leave their homes, or even, in the worst-case scenario, to flee these places. RA McLeman, 'On the origins of environmental migration' (2017) 20 *Fordham Environmental Law Review* 404.

protection and assistance,[77] while opening the door to international aid.[78] The African Union (AU) coordinates the mobilisation of resources to protect and assist displaced persons.[79] Adaptation funds help countries adapt to the impacts of climate change and reduce the risks it poses, notably by protecting communities and strengthening economic resilience.[80] In developing countries seeking to achieve climate-related goals, the Green Climate Fund is a major global source of funding for projects aimed at a paradigm shift. [81]

Disasters caused by climate change force victims to leave their homes, either temporarily or, in many cases, permanently. As a result of climate change, people are moving to the nearest small towns and urban areas. These areas often lack the infrastructure and financial resources to cope with such growth.[82] Any relocation must take place with the consent of the communities and individuals concerned. This process involves informing, negotiating and engaging in dialogue with those affected by the displacement, explaining the reasons for and modalities of the relocation and proposing alternatives that the authorities should consider.[83] Planned relocations must be based on human rights, such as the right to food, water, housing and health.[84] Furthermore, measures for the allocation of new land by public authorities must be organised, along with those aimed at securing these lands.

Just as it is necessary to prevent climate-induced displacement of people, so too must one consider how to manage it. Climate change is causing, and continues to cause, population displacements that result from these changes.[85] A significant impact of climate change is the increase in the frequency and severity of certain hazards.[86] Climate change will affect urban and rural areas with increasingly frequent and violent hazardous events.[87] With regard to climate risks, insurers are constantly reviewing their coverage for natural disasters and their efforts to prevent environmental damage.[88]

77 Arts 3(2)(d) & 9(2)(b) Kampala Convention.
78 Arts 3(2)(d), 5(6) & 3(1)(j) Kampala Convention.
79 Art 8(3) Kampala Convention.
80 J Fosse 'Financing the transition to a green economy in the Mediterranean' (2017) *AFKAR/IDEES* 50-51.
81 M Caldwell & G Larsen *Improving access to the Green Climate Fund: How can the Fund better support institutions in developing countries?* (2021).
82 Mixed Migration Centre *Climate Mobility in the Khartoum process countries: An exploration of interventions* (2022).
83 T Tabe 'Climate change migration and displacement: Learning from past relocations in the Pacific' (2019) 8 *Social Science* 10.
84 J Schade 'Climate policy migrants: New challenges in the face of displacement caused by climate change' (2012) 88 *Cultures & Conflicts* 85-110.
85 J Mativo 'Climate change displacement litigation in Africa: A human rights and refugee law-based approach' (2024) *Climate Litigation and Justice in Africa* 155.
86 V Kolmannskog *Climate change, disaster, displacement and migration: Initial evidence from Africa* (2009).
87 K Warner 'Global environmental change and migration: Governance challenges' (2010) 20 *Global Environmental Change* 2.
88 R Moreau 'Sustainable development and insurance' (2009) 76 *Insurance and Risk Management* 62.

Procedural safeguards and protection mechanisms must therefore be differentiated and tailored to the specific vulnerabilities of the affected populations, so as not to leave anyone behind. This ensures a truly equitable recognition of climate-induced population displacements in Africa, within the framework of a just transition. This transition must be guided by respect for the human rights of those in need of protection.

5 Conclusion

The current and ongoing marginalisation of people displaced by the effects of climate change in Africa reveals a contemporary climate injustice. Although regional legal frameworks partially recognise certain dimensions of climate-induced internal displacement, the absence of a fully protective status for climate-displaced persons in Africa keeps these populations in a state of legal vulnerability, leading to social and economic vulnerability. In the face of this shortcoming, functional recognition based on human rights appears to be a suitable way forward. It no longer focuses solely on the formal designation of 'climate refugee', but shifts the debate towards the effective fulfilment of the fundamental needs of those affected. Through the human rights-based functional approach, the protection of climate-displaced persons in Africa becomes part of the universality and indivisibility of these rights. In this context, a just transition in Africa would go beyond mere energy or economic issues to incorporate human mobility as a central issue of social justice. It must therefore integrate climate, poverty, mobility, security and social justice into the African model of just transition. To be effective, functional recognition relies on the institutionalisation of robust procedural guarantees and appropriate operational safeguards. Depending on the specific vulnerabilities of the populations concerned, these instruments must be tailored to avoid reproducing structural inequalities. A transition that aims to leave no one behind in Africa will be one that, beyond ecological adaptation, makes the protection of climate-displaced people a legal and political imperative for more humane and inclusive climate governance.

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Law, labour, and the limits of justice: Reimagining the normative foundations of just transition in Africa's energy future

*Olalekan A Bello**
Lecturer, Leicester Law School, University of Leicester, United Kingdom
https://orcid.org/0000-0002-0876-3673

Abstract: Across Africa, the global demand for energy transition has intensified the debate around who will shoulder the cost of decarbonisation and who stands to benefit from clean energy investment. Workers and communities in fossil fuel-dependent economies are under strain from three different directions: declining sectors, rising costs of energy, and lack of social security systems. However, the international and regional legal frameworks aimed to protect them remain fundamentally aspirational. This article thus argues that current just transition frameworks suffer from 'procedural drift'. Drawing on doctrinal legal analysis, political economy critique and comparative case studies of Nigeria and South Africa, the article examines whether the current international, regional and domestic frameworks can deliver substantive labour justice to African workers and communities. It demonstrates that each framework fails, in distinct but related ways, to operationalise one or more of these dimensions for labour markets characterised by informality, fiscal constraint and limited social protection infrastructure. The article concludes that achieving labour justice in Africa's energy transition requires not better implementation of existing norms but a fundamental reconstitution of legal instruments toward substantive redistribution and accountability.

Key words: energy; just transition; labour justice; procedural drift

* PhD (Westminster); olalekan.bello@leicester.ac.uk

1 Introduction

Africa currently stands at a crossroads regarding the way in which to respond to the global energy transition. On the one hand, the international climate regime calls for a progressive decarbonisation process involving the elimination of fossil fuels and the fast-paced investment in renewable energy sources. On the other hand, the material realities of most African economies pose an inherently contradictory set of challenges. The most significant challenges include approximately 600 million people without access to electricity, oil and minerals that provide budgetary and livelihood revenues, and social protection that covers only part of the population. The just transition concept has been heralded as emerging purposely to bridge these pressures by promising that the energy shift will protect workers, create decent employment and distribute transition costs fairly.[1] This article asks whether the law has been equal to that promise. The answer to the question is that it has not, and this failure is not simply a matter of inadequate implementation. Instead, it is structural, embedded in the procedural orientation of the frameworks, while the Paris Agreement acknowledges the imperative of a just transition in its Preamble, but imposes no binding labour obligations.[2] The International Labour Organisation (ILO)'s 2015 Guidelines establish a comprehensive social dialogue framework, but cannot be enforced against states or employers.[3] The African Union (AU)'s Climate Change Strategy, for its part, articulates ambitious commitments to employment and social protection but contains no protocols for their delivery,[4] while the African Continental Free Trade Area (AfCFTA) creates institutional space for labour harmonisation, but has not yet produced enforceable labour standards.[5] As will be seen later, domestic climate legislation in Nigeria, South Africa and Kenya mandates consideration of a just transition without specifying the legal content of that consideration, its beneficiaries or its funding sources.

The result is what I refer to in this article as 'procedural drift': a pattern in which legal frameworks substitute participation processes, aspirational declarations and flexible commitments for enforceable obligations, thereby enabling formal compliance without substantive protection. It must be stressed that procedural

1 On this, see African Development Bank African Economic Outlook 2022 (AfDB 2022) 51-52; IEA Africa Energy Outlook 2022 (International Energy Agency 2022) 15; WHO 'Burning opportunity: Clean household energy for health, sustainable development and wellbeing of women and children (World Health Organisation 2016).

2 Paris Agreement to the United Nations Framework Convention on Climate Change (adopted 12 December 2015, entered into force 4 November 2016) TIAS No 16-1104 (Paris Agreement) Preamble, 12th recital.

3 International Labour Organisation (ILO) Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All (2015) (ILO Just Transition Guidelines) paras 12-18.

4 African Union Climate Change and Resilient Development Strategy and Action Plan 2022-–2032 (2022) (AU Climate Strategy) paras 45-52.

5 Agreement Establishing the African Continental Free Trade Area (adopted 21 March 2018, entered into force 30 May 2019) 58 ILM 1024 (AfCFTA) art 3(e); on this view, see STM Makore 'Examining the role of the African Continental Free Trade Agreement in advancing labour standards' (2025) 37 *South African Mercantile Law Journal* 21-47.

drift is not a random outcome. Rather, it reflects the political economy of international climate negotiations, where labour protections were subordinated to the imperative of securing broad state participation. It also demonstrates the structural constraints on African governance, where fiscal limitations, debt burdens and the structural power of transnational capital limit what domestic legislation can realistically deliver. It is therefore argued that overcoming procedural drift requires a different understanding of what labour justice demands in the African context. Labour justice, as defined here, is not satisfied by participatory mechanisms alone. It requires enforceable redistribution: of climate finance, technological capability, and decision-making authority. The mechanisms for such redistribution of resources exist or can be developed using the available doctrinal materials of international human rights instruments, trade instruments and domestic constitutional law. However, the task is to identify such mechanisms, define their legal content and explain how they can be implemented in the two case studies considered in this article: Nigeria and South Africa.

Existing literature has examined national transition plans, environmental justice failures and structural vulnerabilities within global value chains, but has insufficiently translated these analyses into enforceable legal prescriptions.[6] The article, therefore, examines how international climate law, African regional human rights and trade instruments, and domestic climate and labour laws interact with extractive sector governance and Africa's position within global transition value chains. It asks whether existing legal frameworks can deliver substantive labour justice, what analytical framework best explains the distributional conflicts embedded in those value chains, and which legal mechanisms can operationalise enforceable labour protection within international, regional and domestic law. These questions are examined against historically produced vulnerabilities that continue to shape African state capacity and the continent's position within the global order.[7]

Methodologically, the article combines doctrinal and comparative case study analyses. It distinguishes binding legal obligations from non-binding guidelines

6 See SM Patrick and others 'Just energy transition from coal in South Africa: A scoping review' (2025) 112 *Environmental Science and Policy* 103660; V Ibezim-Ohaeri 'Struggles for a just energy transition in Nigeria's Niger Delta: Just for whom?' (2025) 56 *IDS Bulletin* 1; GA Agbaitoro & EO Ekhator 'Just energy transition in Africa: Towards social inclusion and environmental rights-based imperatives' (2025) 10 *Business and Human Rights Journal* 34; O Abe '(Re)examining the intersection between energy justice and just transition in Africa' (2024) 42 *Journal of Energy and Natural Resources Law* 351; P Behuria 'The injustice of just transitions: How the neglect of the green division of labour cements African dependencies (2025) 122 *Energy Research and Social Science* 104007; H Ayazi 'African just transitions' (2023) Othering and Belonging Institute Report.

7 T Mkandawire 'Thinking about developmental states in Africa' (2001) 25 *Cambridge Journal of Economics* 289, 295. Also see A Faus Onbargi & D Malerba 'Surveying just transition pathways in global climate policy' (2026) 26 *Climate Policy* 145; L Rajamani 'The 2015 Paris Agreement: Interplay between hard, soft and non-obligations' (2016) 28 *Journal of Environmental Law* 337; A Quijano 'Coloniality of power, eurocentrism, and Latin America' (2000) 15 *Nepantla: Views from South* 533; W Mignolo *The darker side of Western modernity: Global futures, decolonial options* (2011) 89-156.

and political commitments, while locating legal frameworks within the material conditions of commodity dependence, capital flows, debt and regulatory capacity.[8] Nigeria and South Africa serve as the primary comparative cases because they represent distinct configurations of fossil fuel dependence and labour structures, while Kenya and the Democratic Republic of the Congo (DRC) illustrate specific issues related to mineral governance, renewable energy investment and green hydrogen.[9] The analysis is informed by critical legal theory, particularly the distinction between procedural fairness and substantive outcomes.[10] The article, therefore, proceeds by developing its conceptual framework and the idea of procedural drift, examining international and African legal frameworks and the structural conditions of African energy economies, analysing the Nigerian and South African cases, and proposing reforms centred upon enforceable social protection, transition finance, technology transfer and accountability.

2 Conceptualising just transition, labour justice and procedural drift

The concept of just transition originated in the North American labour movement, not in climate policy. Tony Mazzocchi of the Oil, Chemical and Atomic Workers Union, first articulated it in the early 1990s as a demand that the costs of environmental remediation fall upon capital and the state rather than displaced workers.[11] This original formulation was explicitly redistributive: Workers should not pay for environmental progress they did not cause. The concept, according to Stevis and Felli, was introduced into international labour law through climate advocacy efforts by the International Trade Union Confederation, which eventually influenced the 2015 ILO Guidelines.[12] Concurrently, climate justice arose in response to criticism of the United Nations Framework Convention on Climate Change (UNFCCC) market-based mechanisms, grounded in arguments concerning intergenerational equality and the idea of proportionate mitigation costs in accordance with responsibility for emissions.[13]

The merging of these two streams, however, has produced several productive tensions. While labour justice addresses issues related to collective bargaining, occupational safety and social protection, climate justice involves a perspective on historical responsibility, the differential capabilities and vulnerabilities of

8 See B Fine and Z Rustomjee *The political economy of South Africa: From minerals energy complex to industrialisation* (1996) 12.
9 AL George & A Bennett *Case studies and theory development in the social sciences* (2005) 21.
10 A Love 'A just energy transition through the lens of Third World Approaches to International Law' (2023) 21 *Opole Studies in Administration and Law* 11.
11 T Mazzocchi 'An answer to the jobs-environment conflict?' (September 1993), cited in J Mijin Cha *A just transition for all: Workers and communities for a carbon-free future* (MIT Press 2024) 25.
12 D Stevis & R Felli 'Global labour unions and just transition to a green economy' (2015) 111 *International Environmental Agreements* 29; ILO Just Transition Guidelines (n 3) para 8.
13 H Bulkeley & P Newell *Governing climate change* (2015) 89-112; also see C Okereke 'Climate justice and the international regime' (2010) 1 *WIREs Climate Change* 462.

stakeholders, and the vulnerability of specific population groups.[14] There is also a profound contradiction since, according to Kara, the assumptions of labour law regarding employment and territorially limited regulation hardly reconcile with the perspective of climate justice that emphasises supply chains and the atmospheric commons.[15]

This tension is resolved in practice by subordinating the redistributive content of just transition to a manageable process. For this, Stevis and Felli trace the concept's migration from radical redistribution to policy discourse,[16] a trajectory that Newell and Mulvaney describe as the emergence of just transition as a 'managerial technique for smoothing the political economy of decarbonisation'.[17] As the concept has been institutionalised in international frameworks, I argue that although its emancipatory vocabulary has been retained, its structural demands have been progressively diluted. While the ILO Guidelines centralise social dialogue and decent work, the Paris Agreement recognises the need for a just transition. However, neither of these instruments provides clarity on who owes what to whom, on funding or on the enforcement of these obligations.

In Africa, where most of the energy and extractive industry work force is involved in artisanal mining, informal fuel trading or agricultural processing rather than formal industrial employment, this dilution has profound ramifications.[18] This is because the conceptual categories of just transition, shaped by the experience of Northern industrial economies, do not map onto African labour markets. Drawing on Chen, they assume the existence of a workforce to be 'transitioned' in formal industrial sectors, of social protection systems to be extended, and of tripartite institutions capable of negotiating terms.[19] The consequence is that where these conditions do not exist, the concept floats free of material grounding.

2.1 Labour justice as a substantive claim: A definition

In this article, I reconceptualise 'labour justice' by drawing on the international climate regime's Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC) principle. The principle recognises that developed states bear greater responsibility for historical emissions and, therefore, should bear greater transition costs.[20] This also draws on Fraser's distinction between

14 On this tension, see X Wang & K Lo 'Just transition: A conceptual review' (2021) 82 *Energy Research & Social Science* 102291.
15 See, generally, S Kara *Cobalt red: How the blood of the Congo powers our lives* (2023).
16 Stevis & Felli (n 12).
17 P Newell & D Mulvaney 'The political economy of the just transition' (2013) 179 *The Geographical Journal* 132.
18 See US Department of Labour *Forced labor in cobalt mining in the Democratic Republic of the Congo* (DOL Report 2024).
19 MA Chen 'The informal economy: Definitions, theories and policies' (WIEGO Working Paper 1, 2012).
20 See for commentary D Shapovalova 'In defence of the principle of common but differentiated responsibilities and respective capabilities' in B Mayer & A Zahar (eds) *Debating climate law* (2021) 63-75.

recognition and redistribution,[21] Rawls's difference principle, insofar as it requires that inequalities benefit the worst-off.[22] From these, 'labour justice' can be understood as the equitable distribution of the costs and benefits of the energy transition across workers and communities, and as operating across three interconnected dimensions. The first, financial redistribution, should ensure that workers and communities affected by the transition receive income support, social protection and community investment. This should be funded through enforceable obligations on states, employers and international climate finance institutions, rather than by voluntary pledges subject to fiscal volatility.[23] The second, technological redistribution, requires investment in transition to generate skilled employment in African economies. This is achievable through local content requirements, technology transfer obligations and beneficiation mandates, rather than importing technology that bypasses domestic labour markets.[24] The third, decision-making redistribution, should see workers and communities exercising binding authority over transition decisions that affect their livelihoods, through participation mechanisms that go beyond tripartite consultation to include legally enforceable co-governance rights.[25] This definition departs from purely procedural accounts of just transition by insisting that participatory mechanisms, however well designed, cannot by themselves achieve the substantive redistribution that labour justice requires. It encompasses both formal and informal workers and communities whose livelihoods depend on energy economies without direct employment in them. This extension beyond formal employment is essential for Africa, where informal workers, as we shall see, comprise the majority of those affected by transition and are categorically excluded from the legal protections that just transition frameworks presuppose.

2.2 Procedural drift: A diagnostic concept

The concept of 'procedural drift' is adopted to describe systematic patterns observable across international, regional and domestic just transition frameworks. Here, legal instruments substitute participation processes, aspirational declarations and flexible commitments for enforceable obligations.[26] It does not simply describe weak implementation; rather, it describes a structural characteristic of legal design in which frameworks are deliberately or effectively constructed to enable formal compliance without substantive

21 N Fraser 'From redistribution to recognition? Dilemmas of justice in a post-socialist age' in A Phillips (ed) *Feminism and politics: Oxford readings in feminism* (1998) 430.
22 J Rawls *A theory of justice* (1971), on the difference principle.
23 ILO Just Transition Guidelines (n 3).
24 UNCTAD 'Trade and Development Report 2023: Growth, debt and climate – Realigning the global financial architecture (United Nations Conference on Trade and Development 2023).
25 On this, see DJ Doorey *The law of work: Common law and the regulation of work* (2016) 2-8; K Alsos & SC Trygstad 'Do participation structures affect workers' voice?' (2023) 44 *Economic and Industrial Democracy* 410-431.
26 This view draws on the 'due process' principle; see JL Mashaw *Due process in the administrative state* (1985).

protection in Africa.[27] Procedural drift manifests in five recurring features: first, obligation language that mandates consideration of labour interests without specifying outcomes. Here, frameworks require states to 'take into account' or 'consider' just transition without prescribing what a compliant outcome looks like.[28] Second, it manifests as process rights without substantive entitlements: Frameworks create consultation rights for workers without guaranteeing that the outcomes of consultation bind decision makers. Third, it highlights aspirational finance without quantified obligations: Frameworks acknowledge the need for finance but do not specify minimum flows, funding sources or enforcement mechanisms.[29] Fourth, it shows in flexibility clauses that delegate substantive content to states with vastly unequal capacity to deliver. In this context, the Paris Agreement's nationally determined contribution architecture is the clearest example,[30] and the same pattern appears in AU strategies and domestic climate plans. Fifth, it highlights the absence of individual or collective enforcement rights: Frameworks lack mechanisms through which workers or communities can seek binding remedies when transition commitments are not honoured.[31]

2.3 Global governance hierarchies and transition costs

Within the current global just transition framework, African states occupy a structurally disadvantaged position. As Dunlap and Jakobsen, and Sovacool and others, have observed, current regimes of green extractivism simultaneously require African states to abandon fossil fuel revenues and intensify the extraction of cobalt, lithium and copper, which are essential for renewable technologies.[32] However, this portends a shift toward new forms of resource dependence rather than developmental transformation.[33] Reports from the Organisation for Economic Co-operation and Development (OECD)/AU and the United Nations Conference on Trade and Development (UNCTAD) also confirm that this pattern reproduces historical forms of peripheral specialisation, in which African labour supplies primary commodities for metropolitan energy transitions while remaining excluded from value-added manufacturing.[34]

27 Here I mean it is both weak and fragmented; see M Koskenniemi *From apology to utopia: The structure of international legal argument* (2005).
28 ILO (n 3).
29 S-A Robinson & M Dornan 'International financing for climate change adaptation in developing countries' (2017) 17 *Regional Environmental Change* 1103-1115.
30 D Bodansky 'The legal character of the Paris Agreement' (2016) 25 *Review of European, Comparative & International Environmental Law* 142-150.
31 Stevis & Felli (n 12).
32 A Dunlap & J Jakobsen *The violent technologies of extraction: Political ecology, critical agrarian studies and the capitalist worldeater* (2020); B Sovacool and others 'Sustainable minerals and metals for a low-carbon future' (2020) 367 *Science* 30.
33 As above.
34 UNCTAD 'Economic Development in Africa Report 2024: Unlocking Africa's trade potential' (United Nations Conference on Trade and Development 2024); OECD/African Union Commission 'Africa's Development Dynamics 2024: Skills for Africa's productive transformation' (OECD 2024).

However, the European Union (EU)'s Carbon Border Adjustment Mechanism and Corporate Sustainability Due Diligence Directive illustrate this hierarchy directly. Both instruments impose labour and environmental standards on imports that, in practice, are more protective of European workers and consumers than of the African producers they regulate.[35] Transition mineral mining in the DRC and Zambia, as documented by Amnesty International and Kara, occurs under conditions of informal labour, hazardous environments, and suppression of collective bargaining that would be legally intolerable in the jurisdictions where the minerals are in high demand.[36] The result is jurisdictional arbitrage, in which Western economies acquire the environmental benefits of transition while externalising labour and ecological costs onto African peripheries. The creation of the AfCFTA may offer a partial corrective, as discussed later in this article. However, the challenge identified by Asafu-Adjaye remains that justice requires not merely the application of universal labour standards, but a restructuring of global value chains that currently make African labour expendable for metropolitan decarbonisation.[37]

3 International legal framework and its limits

This part critically evaluates the ILO Guidelines in the context of the reference to just transition under the Paris Agreement. From an operational perspective, although they signify genuine progress in recognising labour interests within climate governance, the instruments embody assumptions about state capacity, labour market structure and legal enforceability that fundamentally misalign with African realities.[38]

3.1 The Paris Agreement and just transition

The Paris Agreement represents the most significant instrument of the international climate regime, which makes its treatment of just transition merit careful doctrinal attention. The Agreement's just transition language lies in the Preamble, acknowledging 'the need to take into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities'.[39] This formulation is significant as an acknowledgment; however, it lacks binding legal force. This is

35 Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism [2023] OJ L 130/52; Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence [2024] OJ L 1760.

36 Amnesty International 'Powering change or business as usual? Forced evictions at industrial cobalt and copper mines in the Democratic Republic of the Congo (Amnesty International 2023); Kara (n 15) 89-156.

37 P Asafu-Adjaye 'Labour provisions for the African Continental Free Trade Area: Some policy options' (2025) 1 *LRS Policy Brief* 2.

38 See KW Mohammed 'Political economy, marginalisation, and human security: Just energy transition in Africa' (2026) 184 *Energy Policy* 113892.

39 Paris Agreement (n 2) Preamble, 12th recital.

because the preambular language in international conventions provides context but does not create obligations, unlike operative articles. Article 2 is commonly mistaken for the just transition article. However, it sets out the Agreement's principal objectives, including limiting global temperature rise to 'well below 2°C above pre-industrial levels' and pursuing efforts to limit the temperature increase to '1.5°C above pre-industrial levels'. It also highlights the adaptive capacity goal and seeks to promote financial flows aligned with a pathway to low greenhouse gas emissions. Paragraph 2 also provides for the principle of equity and the common but differentiated responsibilities of the states.[40] These provisions are foundational for understanding the Agreement's approach to differentiated obligations, but do not impose specific just transition requirements. The relevant national obligations regarding just transition, insofar as they arise under the Agreement, flow from the nationally determined contribution (NDC) architecture of articles 4 and 7, which require states to communicate and progressively strengthen their climate plans but leave substantive content to national determination.[41] This procedural orientation is not accidental. As Rajamani demonstrates, the deliberate use of flexible language in the Paris Agreement reflects the political economy of its negotiation, where broader state participation required abandoning binding emissions targets.[42] Labour protections were subordinated to the same imperative. The result, as Kilimcioğlu observes in the context of South Africa's Just Energy Transition Partnerships (JETP), is a framework that prioritises procedural justice, ensuring that just transition commitments are made and communicated, without guaranteeing substantive outcomes.[43]

For African states, the procedural flexibility of the Paris Agreement's architecture proves to be a double-edged sword. While it formally respects developmental sovereignty, it delegates the substantive content of just transition to states with profoundly unequal capacity to deliver. The NDC architecture assumes that states can symmetrically assess employment impacts, design social protection systems and manage workforce transitions. These assumptions, as Amani demonstrates, ignore how structural adjustment programmes and debt burdens have systematically eroded African regulatory capacity over decades.[44] The Agreement's transparency framework, comprising the global stocktake and the enhanced transparency framework under articles 13 and 14, contains no social indicators for labour market outcomes or social protection coverage.[45] This renders African workers' welfare invisible within the regime's accountability structures.

40 Paris Agreement (n 2) arts 2(1)(a)-(c), 2(2).
41 For commentary on these provisions, see Bodansky (n 30); and World Resources Institute 'Article 2.1(c) of the Paris Agreement, explained' (WRI 2023).
42 Rajamani (n 7).
43 B Kilimcioğlu 'Procedural justice and due process principle in the context of just energy transition: Learning from South Africa' (2025) 102 *Business and Human Rights Journal* 215.
44 K Amani 'How the structural adjustment era continues to shape urban Africa's energy future' (Social Science Research Council 2025).
45 Paris Agreement (n 2) arts 13-14; Bodansky (n 30).

3.2 The ILO Guidelines for a Just Transition: Contested significance

The ILO Just Transition Guidelines, adopted in 2015 as a recommendation of the ILO governing body, are the most comprehensive attempt in international law to specify the content of labour protection within climate policy. They establish a tripartite model of social dialogue that centres on decent work, social protection floors and labour market policies as necessary accompaniments to the environmental transition. Their normative content integrates environmental sustainability into the ILO Decent Work Agenda,[46] thus theoretically grounding the notion of climate action within an existing body of labour rights, rather than market efficiency.

However, the Guidelines are recommendations, not conventions. They do not contain supervisory mechanisms and individual complaint procedures that give binding force to international labour standards. Their effectiveness thus depends entirely on domestic institutionalisation through social dialogue processes, in economies that frequently lack the tripartite structures the Guidelines assume. This assumes that autonomous trade unions with sectoral coverage, employer organisations capable of collective bargaining, and administrative state capacity to deliver social protection.[47] The ILO itself acknowledges that only 17 per cent of the unemployed in sub-Saharan Africa receive unemployment benefits, making the Guidelines' emphasis on social protection floors aspirational in most African contexts.[48]

Despite acknowledging that just transition will require capital-intensive retraining and income support programmes, the Guidelines are silent about the financing mechanisms through which states under fiscal constraint might meet these obligations.[49] This omission arguably, in effect, creates a normative framework that expresses what should be achieved without indicating how it will be funded. Therefore, for African states under debt distress, the gap between aspiration and capacity is not merely a technical problem, but a structural feature of the global financial architecture.

3.3 Comparative assessment: A normative mismatch?

In examining the Paris Agreement and ILO Guidelines together in African contexts, a systematic normative mismatch across five dimensions is evident. These dimensions are summarised in the comparative table presented in part

46 ILO Just Transition Guidelines (n 3) paras 8-14.
47 ILO 'Rules of the game: A brief introduction to International Labour standards' (2023); see also ILO Just Transition Guidelines (n 3), introductory section.
48 ILO 'World Social Protection Report 2020-2022: Social protection at the crossroads' (2021) 45.
49 ILO Just Transition Guidelines (n 3) paras 28-32; R Pollin & B Callaci 'The economics of just transition: A framework for supporting fossil fuel-dependent workers and communities in the United States' (2019) 58 *Labour Studies Journal* 135.

5, but warrant preliminary analysis here. First, both frameworks assume a linear process of energy transition from fossil fuel industrialism to renewable economies. This, for Brew-Hammond and others, mischaracterises African energy landscapes, in which increased energy access, management of residual fossil fuels and integration of renewables must occur simultaneously, in the absence of the historical precedent of universal electrification.[50] Second, they presuppose the existence of regulatory states capable of implementing policies of social protection and environmental regulation. However, governance in Africa is marked by the fragmentation of authority, predominance of the informal economy and the power of transnational corporations, which always exceeds regulatory capabilities. Third, both frameworks treat transition costs as primarily affecting formal industrial workforces in declining fossil fuel sectors, ignoring the informal populations, artisanal miners and fuel distribution workers who face transition impacts without institutional voice.[51] Fourth, both are silent on financing mechanisms adequate to African fiscal conditions, creating unfunded mandates that expose the gap between normative aspiration and material possibility. Lastly, neither framework creates individual or collective enforcement rights that workers or communities could invoke before domestic or international tribunals.[52]

The lived experience of these mismatches is documented in the contexts that appear repeatedly in this article. Coal miners in South Africa's Mpumalanga province take on transition commitments in presidential speeches and international partnership documents, yet face retrenchment without adequate social protection.[53] Artisanal cobalt miners in the DRC supply materials essential for global electric vehicle transitions under conditions of extreme precarity, entirely outside the coverage of either the Paris Agreement's mechanisms or the ILO's prescriptions. These are not implementation failures; they are the predictable outcomes of frameworks designed without regard for the structural conditions of African energy economies.

4 African energy economies and attendant fragilities

The configuration of African energy economies contradicts the underlying assumptions of international just transition frameworks. For example, in petroleum-exporting countries, including Nigeria, Angola and Algeria, rents

50 A Brew-Hammond, GS Mensah & O Amponsah 'Energy poverty in sub-Saharan Africa: Poverty amidst abundance' in A Halff, BK Sovacool & J Rozhon (eds) *Energy poverty: Global challenges and local solutions* (2014) 45.

51 See S Sassen *Expulsions: Brutality and complexity in the global economy* (2014); Abe (n 6) 351.

52 ILO World Employment and Social Outlook 2022: Informality and the Future of Work (2022).

53 E Nel & L Marais 'South Africa's sustainability transition: The case of the Mpumalanga Province and its coal-dependent communities' in M Halonen, M Albrecht & I Kuhmonen (eds) *Rescaling sustainability transitions* (2025) 247; Amnesty International (n 367); Kara (n 15).

from oil and gas production have traditionally supported state machinery and elite consumption, with little industrial development and limited universal energy access.[54] The petroleum sector in Nigeria employs only 0,1 per cent of the working population, while generating 60 per cent of budget revenues.[55] Such an economic structure produces a unique vulnerability. The population that will be affected by the energy transition is not the formal industrial workers who could be easily reskilled, but the informal population involved in the hydrocarbon supply chain, fuel distribution and the spending of the Petrodollar.

The problem of energy poverty adds another layer of vulnerability. The approximately 600 million Africans lacking access to electricity, a demographic particularly affected by the health risks of biomass cooking, are part of the transition not accounted for by any international framework.[56] Thus, for the transition to be just, it must be more than a shift from fossil fuels to renewables; it must also address the issue of energy poverty that millions of Africans have failed to resolve. This makes Africa's just transition qualitatively different from northern just transitions. It is not a transition from an abundance of fossil fuels to the sufficiency of renewables, but a simultaneous struggle to access energy, control extraction, and ensuring that the burden of the transition does not fall on populations who have never reaped the benefits of the modernity they are meant to leave behind.

4.1 Neoliberalism: Legacy, investment flows and labour market

Africa's just transition governance operates within an institutional landscape shaped by decades of neoliberal reforms. The International Monetary Fund (IMF)'s conditionalities imposed on states in the 1980s and 1990s destroyed public energy utilities, privatised state enterprises and weakened regulation on the continent.[57] The legacy of neoliberalism is also observable in the current climate finance architecture, where investments for a just transition pass through blended financing schemes and public-private partnerships, with the prioritisation of investors' gains over labour protection rights. Previous research analysing the experiences of South Africa and Nigeria[58] has already described this phenomenon in detail.

Investment flows into Africa's renewable energy sector show the same pattern. As Eberhard and Gratwick observe, solar and wind plants in Kenya provide

54 M Ross *The oil curse: How petroleum wealth shapes the development of nations* (2012) 45-78; J Ovadia *The petro-developmental state in Africa: Making oil work in Angola, Nigeria and the Gulf of Guinea* (2016).
55 NNPC Limited Disclosures 2022 (Nigerian National Petroleum Corporation 2023); CBN 2022 Annual Economic Report (Central Bank of Nigeria 2023).
56 IEA Africa Energy Outlook 2022 (n 1) 15; WHO (n 1).
57 On this, see R King *The neoliberalisation of heritage in Africa* (2025); Amani (n 44).
58 See the analysis in the cited prior scholarship, including on the South African JETP and the Nigerian Energy Transition Plan context.

employment mostly during the construction phase. However, they offer few permanent operational jobs and skills that are not available in the local labour market for technology-intensive positions.[59] Also, in Namibia and Mauritania, new projects in green hydrogen production promise industrial transformation but risk becoming another example of enclave economies characteristic of fossil fuel extractivism.[60] Indeed, the investment agreements in such ventures as power purchase agreements and the contracts signed by host states always favour financial and investor protection measures over those of labour. In this case, according to Mushemeza and Okiira, local content regulations are never stringent enough and can be side-stepped via sub-contractors.[61] This should not be considered purely a matter of policy preference, as the neoliberal legacy manifests in juridical infrastructure. It endures in the standard terms of energy contracts, the investment treaty architecture, and the conditionalities attached to climate finance, systematically constraining the space for labour-protective regulation. This structural constraint must be confronted directly by any legal reform framework.

4.2 Labour market dualism and the reinforcement of inequality

African labour law systems, with their colonial heritage and subsequent influence from post-independence developmentalism and neoliberal economic policies, exhibit a structural duality that transition governance threatens to widen. Arguably, this is why formal sectors with legal protections, as Cassim and others observe, coexist with vast informal economies excluded from regulatory coverage.[62] To this end, mining legislation has historically distinguished between industrial operations and artisanal mining, with the latter criminalised or marginalised despite employing significantly more labourers than formal extraction.[63] Consequently, as demand for cobalt, lithium and copper accelerates amid global growth in electric vehicle and battery manufacturing, this juridical distinction enables the systematic externalisation of labour costs. As documented in the DRC context by Amnesty International and Kara, formal operations maintain superficial compliance with international standards while relying on informal supply chains in which child labour, hazardous conditions and

59 A Eberhard & K Gratwick 'Independent power projects in sub-Saharan Africa: Lessons from five key countries' (World Bank 2011); D Ockwell & R Byrne 'Improving technology transfer through climate finance: Implications for theory and practice' (2016) 16 *Climate Policy* 4.

60 OECD 'Hyphen hydrogen energy ammonia – Namibia' (OECD Case Study 2024); S Bisping & F Loria *Green hydrogen in Namibia: Unequal partners? Risks and realities of German-Namibian hydrogen cooperation* (2025).

61 E Mushemeza & J Okiira 'Local content frameworks in the African oil and gas sector: Lessons from Angola and Chad' (2016) ACODE Policy Research Series 72; US Department of Labour (n 18).

62 A Cassim and others 'Informality and inclusive growth in sub-Saharan Africa: Evidence and lessons from Latin America' (2016) Working Paper 201602, DPRU, University of Cape Town.

63 J de Haan, K Dales & J McQuilken 'Mapping artisanal and small-scale mining to the Sustainable Development Goals' (2020) University of Delaware (Minerals, Materials and Society programme in partnership with PACT).

suppression of collective action prevail.[64] While the AU Mining Vision and domestic mining codes articulate local content and beneficiation commitments, implementation remains constrained by capacity limitations, regulatory capture and the structural power of transnational corporations, which threatens capital flight.[65]

The outcome is a juridical environment in which just transition commitments circulate as discursive resources for state and corporate legitimacy without substantively transforming labour conditions. This necessitates, as Ostřanský of the International Institute for Sustainable Development has argued in the roadmap for rethinking investment treaties, a fundamental restructuring of property relations and trade regimes that currently subject African workers to a subordinate position within the just transition process.[66]

4.3 Comparative case studies: Nigeria and South Africa

The translation of just transition norms into national legal frameworks reveals how political-economy contexts fundamentally shape the possibilities for labour justice. This part examines Nigeria and South Africa as contrasting cases that illuminate the variable geometry of transition governance across African energy economies.

4.3.1 Nigeria: Petro-dependency, transition planning and labour's peripherality

The position of Nigeria in global energy markets illustrates the contradictions that rentier fossil fuel economies face in the just transition. As Africa's largest oil producer, with hydrocarbon extraction generating approximately 90 per cent of foreign exchange earnings and 60 per cent of fiscal revenue,[67] Nigeria exemplifies the petro-dependency conundrum identified by Karl and others.[68] The petroleum sector directly employs less than 0,1 per cent of the formal workforce, but sustains a vast informal economy related to fuel distribution, artisanal refining and services.[69] This creates a distinctive challenge for the population deserving transition protection; it is dominated by an informal workforce whose

64 Amnesty International (n 37); Kara (n 15).
65 AU Africa Mining Vision (African Union 2009); T Ambe-Uva 'Whither the state? Mining codes and mineral resource governance in Africa' (2017) 51 *Canadian Journal of African Studies* 81.
66 J Ostřanský *Rethinking investment treaties: A roadmap* (International Institute for Sustainable Development 2024).
67 NNPC Limited (n 56); CBN (n 56).
68 See TL Karl *Oil-led development: Social, political, and economic consequences* (2007); TL Karl *The paradox of plenty: Oil booms and petro-states* (1997).
69 ILO Nigeria Decent Work Country Programme III (DWCP) 2023-2027 (2023) 34; M Watts 'Petro-violence: Community, extraction, and political ecology of a mythic commodity' in M Watts & N Peluso (eds) *Violent environments* (2001) 189.

dependence on hydrocarbon supply chains is invisible to standard just transition frameworks.

Nigeria's Energy Transition Plan, launched in 2022 with an ambitious net-zero target for 2060, exemplifies the limits of contemporary transition planning in this context. While the Plan acknowledges the necessity of a just transition and estimates investment requirements of approximately $10 billion per year,[70] its labour provisions remain underdeveloped and its implementation mechanisms largely undetermined. The Petroleum Industry Act 2021, which has comprehensively restructured Nigeria's oil governance through its provisions on fiscal terms and regulatory authority, however, makes minimal provisions for workforce transition in its local content sections.[71] To this extent, Nigeria's treatment of gas as a transition fuel, which the plan retains for the foreseeable future, can be argued to embed continued fossil fuel dependence, pending a structural economic transformation that the plan does not concretely schedule.[72]

Yet, the dimensions of energy poverty in Nigeria add further complexity. A plethora of evidence from the Niger Delta, the source of Nigeria's petroleum wealth, shows that, despite its proximity to power-generation infrastructure, most households lack access to the national electricity grid. It is also a region where decades of environmental degradation from extraction activities have accumulated.[73] The implication of these realities is that a transition that reduces petroleum operations without resolving the energy access deficit will impose costs on communities already marginalised by extractive processes without generating alternative employment. As Oyefusi and others have shown, Nigeria illustrates how petro-dependency without industrial employment creates a situation in which just transition discourse circulates without real labour protection, and the frameworks designed for industrial workforces encounter structural incompatibility with rentier economies.[74]

The implications of Nigeria's case for the labour justice dimensions are financial, technological and decision making. Financially, Nigeria's transition planning lacks enforceable social protection obligations, quantified funding commitments or a mechanism for converting fiscal revenues into transition support for informal

70 Sustainable Energy for All '*Nigeria Energy Transition and Investment Plan update* (November 2024) 7-10.

71 See Petroleum Industry Act 2021 (Nigeria), secs 4–6, sec 94 on local content.

72 IEA Africa Energy Outlook 2022 (n 1); also see G Owoeye and others 'The technical and policy challenges of renewable and sustainable energy transition in Nigeria' (2025) *NIPES Journal of Science and Technology Research* 1.

73 See OS Edobor & G Baffoe 'The paradox of poverty and resource wealth: Stakeholder perspectives on environmental degradation in Nigeria's Niger Delta' (2025) *Journal of Developing Societies* 546; JC Ebegbulem, D Ekpe & TO Adejumo 'Oil exploration and poverty in the Niger-Delta region of Nigeria' (2013) 4 *International Journal of Business and Social Science* 279.

74 A Oyefusi 'Oil and the probability of rebel participation among youths in the Niger Delta' (2008) 45 *Journal of Peace Research* 539; also see, for comparison, D Reay 'The uneven foundations of a just transition for workers: A UK perspective' (2024) 6 *Frontiers in Climate* 1498156.

workers. Technologically, the Petroleum Industry Act's local content provisions are weakly enforced and do not extend to the informal economy. In decision making, labour participation in transition planning remains consultative rather than binding, and the vast informal workforce dependent on petroleum supply chains has no institutional voice in transition governance.

4.3.2 South Africa: Coal dependence, labour and spatial inequality

South Africa presents a contrasting configuration where fossil fuel dependence has generated substantial formal employment and a powerful labour organisation, creating both the capacity for worker protection and distinctive obstacles to rapid decarbonisation. The country's electricity system remains approximately 80 per cent coal dependent, directly employing approximately 120 000 workers and sustaining perhaps ten times that number in dependent industries and communities.[75] Unlike Nigeria's enclave extractive system, South African coal mining has historically generated an embedded labour organisation through the National Union of Mine Workers,[76] creating institutional capacity for worker voice that is simultaneously a resource for and a constraint on transition governance.

South Africa's Just Energy Transition Partnership (JETP), announced at COP26 with an international commitment of $8,5 billion by France, Germany, the UK, USA and the EU, is the most notable effort to implement a just transition in Africa.[77] The Investment Plan of the Partnership aims to phase out coal in Mpumalanga province while protecting workers' rights and promoting economic diversification.[78] A critical examination, however, reveals important tensions. The $500 million allocated for social protection and job creation is insufficient for the approximately 100 000 workers facing direct retrenchment, and only approximately 4 per cent of the initial $8,5 billion commitment arrived as grants rather than loans. This raises significant concerns about the debt implications of transition finance for a state already under fiscal pressure.[79] Also, the Plan's emphasis on renewable energy and green hydrogen investments may generate fewer permanent jobs than the coal sector, while the skills requirements for

75 MJ Cole, E Canpolat & B Sijapati 'Profiling risk in South Africa's just transition: Who is left behind?' (2025) 129 *Energy Research and Social Science* 104351; I Todd & D McCauley 'Assessing policy barriers to the energy transition in South Africa' (2021) 158 *Energy Policy* 112529.

76 S Buhlungu & A Bezuidenhout 'Union solidarity under stress: The case of the National Union of Mineworkers' (2008) 33 *Labor Studies Journal* 262.

77 S Selvaraju and others 'Just Energy Transition Partnership grants and country platforms: Lessons from Indonesia and South Africa' (2025) Grantham Institute, London School of Economics, https://www.lse.ac.uk/granthaminstitute/publication/just-energy-transition-partnership-grants-and-country-platforms-lessons-from-indonesia-and-south-africa/ (accessed 22 March 2026).

78 As above.

79 Patrick and others (n 6); on the 4% grant figure, see M Aklin 'The political logic of just transition policies' (2025) 25 *Climate Policy* 319.

these industries risk excluding existing workforces without substantial retraining investment.[80]

The spatial inequality dimension of South Africa's labour dynamics compounds these challenges. For example, Mpumalanga's coal communities were established under apartheid as labour reserves with single-industry economies and limited diversification.[81] The legal framework governing this transition, including the Presidential Climate Commission's Just Transition Framework, the Climate Change Act 22 of 2024, and municipal planning instruments, struggles to address these spatial dimensions in line with constitutional commitments to socio-economic rights and spatial justice.[82] For these, a transition that fails to incorporate substantial spatial restructuring risks concentrating new investment in urban centres with superior infrastructure while abandoning coal-dependent communities to long-term unemployment. The South African case also demonstrates how formal labour organisation, while creating capacity for worker protection, simultaneously excludes informal workers in waste picking, informal mining, and service sectors who face transition impacts without institutional voice. As Swilling and others stress, the very formality that enables legal protection for mineworkers reproduces the categorical exclusion that the transition must overcome.[83]

Just as in the case of Nigeria, the implications for the labour justice dimensions in South Africa are financial, technological and decision making. Financially, JETP's structure prioritises loans over grants, creating debt burdens rather than redistributive finance, and the allocation for social protection is inadequate relative to the affected workforce. Technologically, the emphasis on renewable energy and green hydrogen investments risks skill-set displacement without corresponding transfer obligations. In decision making, the Presidential Climate Commission provides structured worker consultation but not binding co-governance authority over transition decisions.

The structural features that transcend the distinctive configurations of both countries emerge from the Nigeria-South Africa comparison. Both cases exhibit institutional fragility in the face of transition imperatives. In Nigeria, regulatory capacity is undermined by rentier state dynamics and fiscal volatility, while South Africa's institutions struggle with implementation gaps despite more developed

80 On this, see COSATU 'Submission to the Presidential Climate Commission on the Just Energy Transition Investment Plan (JET-IP)' (2023) Congress of South African Trade Unions; A Karg, J Gupta & Y Chen 'Just energy transition partnerships: An inclusive climate finance mechanism or a geopolitical tool?' (2025) 125 *Energy Research & Social Science* 104103.

81 See L Marais, E Nel & R Donaldson 'Secondary cities in South Africa: National settlement patterns and urban research' in L Marais, E Nel & R Donaldson (eds) *Secondary cities and development* (2016) 1.

82 Climate Change Act 22 of 2024 (South Africa) secs 15–19; Presidential Climate Commission Just Transition Framework for South Africa (2022).

83 M Swilling, JK Musango & J Wakeford 'Developmental states and sustainability transitions: Prospects of a just transition in South Africa' (2015) 5 *Journal of Environmental Policy & Planning* 1.

formal frameworks. Both cases also exhibit distributive blind spots shaped by the categories through which legal frameworks recognise labour. While Nigeria's transition planning focuses on fiscal stability, it neglects informal labour dependent on petroleum distribution, South Africa's planning addresses formal mine workers, but insufficiently attends to informal sector participants and spatially concentrated community impacts. These blind spots are not accidental omissions; they are echoes of social classes that have been marginalised in industrial modernity.

Most significantly, both cases reveal the difficulty of transitional justice due to uneven bargaining power among labour, capital and the state. In Nigeria, multinational oil corporations and state elites dominate energy governance while labour remains peripheral. In South Africa, unions possess substantial institutional power but are challenged by transnational climate finance conditionalities and investor demands that constrain the possibilities for worker-protective transition outcomes. Thus, legal frameworks in both jurisdictions, including petroleum legislation, Climate Change Acts and transition partnerships, prioritise investment security and fiscal stability over labour protection. This priority reflects the structural power of mobile capital relative to territorially fixed labour in ways that legal reform must directly address if transition justice is to be achieved.[84]

5 Regional and domestic legal frameworks: promises and gaps

This part examines AU's climate frameworks, the potential of AfCFTA, and the trajectory of domestic climate legislation to assess whether these instruments can go beyond the limitations of international frameworks. The analysis will demonstrate that while African instruments articulate distinctive priorities regarding energy access, development sovereignty and vulnerable populations, they remain fettered by implementation deficits, fiscal dependencies and the structural power of transnational capital. As we shall see, the result is a pattern of procedural drift where ambitious commitments circulate without operational force, particularly regarding labour market transformation.

5.1 The African Union climate architecture: Labour justice deficit

The AU has developed an elaborate climate governance architecture that positions the continent as an active agent in global transition rather than a passive recipient of international norms. The AU Climate Change and Resilient Development Strategy and Action Plan 2022-2032 sets out ambitious continental objectives prioritising African ownership of transition pathways and rejecting the false

84 UK Parliament Climate Finance for Equitable Transitions (CLiFT) Written Evidence on Just Energy Transition Partnerships (2024); Institute for Economic Justice 'A worker-centred framework for financing the just transition' (Institute for Economic Justice 2025).

choice between decarbonisation and industrial development.[85] The African Common Position on Energy Access and Just Energy Transition complements this by insisting on the primacy of universal energy access alongside transition imperatives, recognising that an estimated 600 million Africans lack electricity at a time the continent faces external pressure to abandon fossil fuel assets.[86]

However, the legal status of these instruments requires clarity. While the AU Climate Change Strategy is a policy strategy adopted by AU organs, it is not a binding treaty. Its obligations on member states are political rather than juridical because they are expected to align their national policies with its objectives, but face no legal consequences for non-compliance. The African Common Position is a political declaration adopted by the AU Executive Council. It carries moral and political weight in international negotiations and provides a legitimate basis for African states to resist internationally imposed transition timelines, but it creates no enforceable obligations on states or other actors.

A close examination of their substantive content confirms their limitations. Although the Strategy acknowledges the employment and labour justice implications of climate action and makes a passing reference to the ILO Guidelines, it contains no specific protocols for workforce transition, social protection, harmonisation or enforcement of labour rights across member states.[87] This also manifests in the Common Position, which emphasises financial flows and technology transfer, while treating labour impacts as derivative concerns.[88] This reflects a broader pattern in AU governance, where aspirational declarations precede institutional capacity to create normative frameworks that rely on member-state implementation, without any mechanism to ensure compliance.[89] The African Commission on Human and Peoples' Rights (African Commission) has now addressed these gaps through its Resolution 586 of 2024, which explicitly calls for scaled-up financial flows, protection of populations in vulnerable situations and consideration of just transition modalities. This Resolution is yet the most advanced articulation of just transition within African human rights law and draws on the broader jurisprudential development around the collective rights provisions in the African Charter on Human and Peoples' Rights (African Charter).[90] However, as Kah and Mbom observe, it remains a resolution, not

85 AU Climate Strategy (n 4) paras 12-28; African Union Agenda 2063: The Africa We Want (African Union 2015).

86 African Union Executive Council African Common Position on Energy Access and Just Energy Transition (Lusaka: 41st ordinary session, 15 July 2022) (African Common Position) para 14.

87 P Behuria 'The injustice of just transitions: How the neglect of the green division of labour cements African dependencies' (2025) 122 *Energy Research & Social Science* 104007.

88 African Union Executive Council (n 86) paras 3-4.

89 See C Nbazira 'Twenty years of redundancy, progression and significant strides: The African Commission on Human and Peoples' Rights and socio-economic rights' (2006) 6 *African Human Rights Law Journal* 358.

90 African Commission on Human and Peoples' Rights 'Resolution on the preparation of a General Comment on the right to development in Africa' ACHPR.Res.586 (LXXIX) 2024, para 6 (scaled-up financial flows) and para 9 (populations in vulnerable situations); see also 'Resolution on Climate Change and Human Rights in Africa' ACHPR/Res.342 (LVIII) 2016.

a binding decision, and the African Commission lacks jurisdictional reach to adjudicate individual labour disputes or enforce social protection standards.[91]

5.2 AfCFTA: Potentials and limits

AfCFTA represents one of the potential instruments to reshape Africa's place in the world of energy and labour governance.[92] For Yang and others, as the biggest free trade area given the number of participating countries, it could enable harmonisation of the regulation of energy, labour and climate change beyond the capabilities of individual states.[93] The Agreement's Protocol on Trade in Services and its emerging investment provisions also create institutional spaces where continental labour mobility and environmental standards could be developed in mutually reinforcing ways.[94] The potential for collective energy sovereignty through regional integration is particularly significant. AfCFTA's collective bargaining potential could be leveraged to establish coordinated positions on technology-transfer terms, climate-finance conditionalities and transition mineral-processing requirements. This could facilitate the replacement of fragmented national markets with a unified African negotiating position capable of resisting external conditionality. The AU Protocol on Free Movement of Persons, Right of Residence and Right of Establishment, ratified in 2022 and not yet in effect, offers additional possibilities for labour mobility to support cross-border workforce transitions amid the evolution of energy economies.[95]

However, it is important to clearly distinguish between these two instruments, as they are sometimes conflated. The Protocol on Free Movement of Persons, Right of Residence and Right of Establishment is an AU protocol separate from the AfCFTA, developed under the broader AU integration agenda. The AfCFTA itself addresses trade in goods, trade in services and investment, but does not include the free movement provisions of the separate AU protocol. Any analysis of labour mobility in the context of African energy transition must maintain this distinction. AfCFTA's specific provisions on labour matters remain limited. The Agreement contains minimal references to worker protection beyond general commitments to ILO standards, and labour standards were

91 HK Kah & JN Mbom 'Human rights in Africa and challenges of the African Commission on Human and Peoples' Rights (ACHPR)' (2024) 8 *International Journal of Research and Innovation in Social Science* 736.

92 AfCFTA (n 5); K Kuhlmann & AL Agutu 'The African Continental Free Trade Area: Toward a new legal model for trade and development' (2020) 51 *Georgetown Journal of International Law* 753.

93 X Yang and others 'Environmental policies and green technologies: Impacts on energy sustainability in the African continental free trade area' (2025) 238 *Renewable Energy* 121876.

94 AfCFTA (n 5); Protocol on Trade in Services; T Apiyo & PN Ngang 'Africa's energy potential under the African Continental Free Trade Area: Case study of East Africa' (2024) DOI: 10.1080/13673882.2024.12466428.

95 Protocol on Free Movement of Persons, Right of Residence, and Right of Establishment (adopted 2022, not yet in force); A Bisong 'Labour mobility as a key element of the AfCFTA: What role for the AU's free movement protocol?' (2022) ECDPM Briefing Note 148.

not central to AfCFTA negotiations.[96] The regulatory harmonisation required for substantive labour protection still lags well behind tariff negotiations in the implementation trajectory. Thus, without explicit labour protection protocols, the AfCFTA risks accelerating the race to the bottom in regulatory standards, undermining just transition objectives, as more industrialised economies capture value-added employment while less developed states remain confined to resource extraction.[97] The promise of energy sovereignty through regional integration thus remains contingent on political choices not yet reflected in the Agreement's legal architecture.

5.3 Domestic climate legislation: Aspirations versus operational impetus

Domestic climate legislation has evolved exponentially across Africa, with Nigeria, South Africa and Kenya, among the states that have incorporated comprehensive transition language into decarbornisation frameworks. An appraisal of their legal architecture reveals a recurring pattern of aspirational commitment without operational force. South Africa's Climate Change Act 2024 provides the most advanced example. The Act is a binding domestic statute. It imposes a legal obligation for climate action and requires consideration of socio-economic implications and just transition principles in sectoral response plans. It also establishes a Presidential Climate Commission with advisory responsibilities regarding just transition planning and requires climate change response strategies to address employment implications.[98] These provisions have entered into force, although the full commencement of the Act's regulatory mechanisms and some implementing regulations remain outstanding. However, while the Act's just transition provisions are notable for their breadth, they appear to share the characteristic weakness across the field. As Tamasiga observes, there is no specific enforcement mechanism for worker protection, no guaranteed funding streams for social protection, and no clear standards against which transition plans could be judicially reviewed by affected workers or communities.[99]

Nigeria's Climate Change Act 2021 is similarly a binding domestic statute that establishes a National Council on Climate Change, a carbon budget framework, and a requirement to mainstream climate considerations across sectoral policies.[100] However, the Act's provisions regarding labour protection remain underdeveloped. As Olujobi and Odogbo note, the National Council's mandate contains no mandatory labour consultation requirements, and the Act's social dimensions are subject to ministerial discretion without substantive

96 AfCFTA (n 5) art 3(e); Makore (n 5).
97 See P Tamasiga 'Workforce transition in South Africa's just energy transition: An analysis of needs, policy gaps and socioeconomic implications' (2025) Megatrends Afrika Policy Brief, German Institute of Sustainability and Development 3.
98 Climate Change Act 2024 (South Africa) secs 15-19.
99 Tamasiga (n 97) 5-6.
100 Climate Change Act 2021 (Nigeria) secs 4-6.

standards.[101] Kenya's Climate Change Act of 2016, amended in 2023, establishes county-level climate planning and an emerging carbon market framework, with increasing references to just transition in national action plans. The framework's principal focus is adaptation and mitigation, with employment impacts treated as secondary considerations.[102] However, this hierarchy of concern reflects the structure of international climate finance, which primarily funds mitigation and adaptation rather than labour protection.

5.4 Comparative assessment and outcomes

The analysis of international, regional and domestic instruments permits a comparative assessment of how each framework performs against the three dimensions of labour justice earlier discussed. Several patterns emerge from this comparison. First, across all instruments, financial redistribution is either absent or aspirational, with no instrument providing quantified, enforceable obligations on funding sources, minimum flows or individual entitlements. Second, technological redistribution is almost entirely unaddressed: No instrument imposes binding technology transfer obligations or local content standards with meaningful enforcement. Third, decision-making redistribution is universally limited to consultation processes as no instrument provides workers with binding co-governance rights or veto authority over transition decisions. Fourth, enforceability is mostly developed at the domestic level through judicial review, but the substantive standards against which domestic plans could be reviewed remain underdeveloped. The overall pattern is consistent with the concept of procedural drift: Frameworks proliferate and language develops, but the redistributive content necessary for substantive labour justice remains consistently absent. Table 1 below summarises this assessment.

101 OJ Olujobi & IS Odogbo 'Strategic evaluation of the 2021 Nigeria Climate Change Act: Surmounting challenges, paving the way for success, and envisioning future trajectories' (2024) 10 *Social Sciences & Humanities Open* 100928.

102 Climate Change Act 2016 (Kenya), as amended by the Climate Change (Amendment) Act 2023; Kenya National Climate Change Action Plan 2023-2027 ch 5.

Table 1: 'Just transition' instruments, legal status, and labour justice assessment

Instrument	Legal Status	Financial redistribution	Technological redistribution	Decision-making redistribution	Enforcement
Paris Agreement Preamble (just transition)	Binding treaty; Preamble language is non-obligatory	Acknow-ledged but unquantified	Not addressed	Nationally determined; no worker participation standard	Non-specific to labour
Paris Agreement Art 2 (equity/ CBDR-RC)	Binding treaty obligation	Contextual (finance flows in Art 2(1)(c))	Not addressed	State-level differen-tiation; no labour compo-nent	Facilitative only
ILO Guidelines 2015	Non-binding recommen-dation (soft law)	Social protection referenced; no funding mechanism	Training and retraining; no transfer obligation	Tripartite social dialogue recommen-ded	No enforcement mechanism
AU Climate Change Strategy 2022–2032	Policy strategy (non-binding)	Finance flows referenced; no quantified commitment	Technology transfer aspirational	Member state implemen-tation; no regional standard	No enforcement mechanism
African Common Position on Energy	Political declaration (non-binding)	Finance flows emphasised	Technology transfer requested	State-level; no labour participation standard	No legal force
ACHPR Resolution 586/2024	Human rights resolution (authori-tative non-binding)	Scaled-up flows called for	Not addressed	Vulnerable populations prioritised	Persuasive; no enforcement jurisdiction
AfCFTA (Agreement + Protocols)	Binding treaty; investment protocol binding	Minimal; no transition-specific provisions	Services protocol creates space; not operationa-lised	General ILO references; no specific labour standard	Dispute settlement; labour claims not covered

South Africa Climate Change Act 22/2024	Domestic statute (binding)	No guaranteed funding streams	Employ-ment implications to be considered	Consul-tation required; not binding on outcomes	Judicial review available; weak substantive standards
Nigeria Climate Change Act 2021	Domestic statute (binding)	No transition social protection fund	No local content obligation for transition	Ministerial discretion; no mandatory consultation	Judicial review in principle; ministerial discretion limits scope
Kenya Climate Change Act 2016/2023	Domestic statute (binding)	Not addressed	Skills development referenced	County planning required	Judicial review available

6 Recommendations and conclusion

The preceding analysis demonstrates the systematic failure of existing frameworks across the three dimensions of labour justice. This part proposes a legal reform framework designed to overcome procedural drift through specific, enforceable mechanisms. The framework does not propose a new international treaty, which would face obvious political obstacles, but works within and extends available doctrinal materials in existing legal regimes.

6.1 A decolonial and worker-centred approach

A decolonial critique of existing just transition frameworks identifies their embeddedness within developmental teleologies that position African economies as perpetually catching up to northern industrial modernity. As Zografos has argued, the dominant transition narrative assumes a linear evolution from fossil fuel extraction through industrial employment to post-industrial service economies.[103] This is a historical sequence that Amin demonstrated long ago to misrepresent African realities where most populations never experienced mass formal industrialisation.[104] African workers are being asked to transition from economies they have never fully inhabited into futures shaped by others' development priorities. A worker-centred governance framework requires a fundamental reorientation of legal subjectivity. Current instruments construct the worker as what Fraser calls 'an object of management', a category requiring retraining and social protection to facilitate macro-economic transformation.[105]

103 C Zografos 'The contradictions of Green New Deals: Green sacrifice and colonialism' (2022) 80 *Soundings* 37.
104 S Amin *Unequal development: An essay on the social formations of peripheral capitalism* tr B Pearce (1976).
105 Fraser (n 21); also see G Standing *The precariat: The new dangerous class* (2011).

The reconstituted framework proposed here constructs workers as agents of transition governance, with legally enforceable rights to participate in decisions affecting their livelihoods, to receive adequate social protection funded by identifiable sources, and to claim redress when transition commitments are not honoured. The African Charter provides the normative foundation for such rights through its emphasis on peoples' self-determination and economic development rights under articles 19 to 24.[106] Thus, jurisprudential development of these provisions in the transition context is required but not unprecedented.

The concept of free, prior and informed consent (FPIC), developed primarily for indigenous territorial rights under international instruments, provides a useful model for worker participation rights, although the legal framework differs. FPIC in the extractive industries addresses indigenous territorial sovereignty over land and natural resources; worker participation rights in the transition context address employment relations and workplace governance under labour law principles.[107] Where, as in many African contexts, communities have customary resource relationships that intersect with employment in extractive industries, hybrid consent mechanisms drawing on both frameworks may be appropriate. However, the doctrinal basis and the institutional forum differ: FPIC claims are adjudicated by human rights bodies, whereas worker co-governance rights are enforced by labour tribunals and industrial relations mechanisms. The proposed framework uses FPIC-like procedural standards, specifically meaningful consultation with binding outcomes, without conflating labour rights with indigenous rights.

6.2 From voluntary guidelines to enforceable social protection guarantees

To transform the just transition from a voluntary guideline to an enforceable guarantee, four components of specificity currently absent in the existing framework are required. The transformation of the just transition from voluntary guidelines to binding guarantees requires four elements of specificity that are currently lacking in frameworks: eligible beneficiaries, triggering events, funding mechanisms and enforcement fora. For eligible beneficiaries, all workers, formal and informal, employed in the extractive and processing industry, transportation and distribution should be included. This category would also include workers in industries economically dependent on the extractive industry's supply chains, including artisanal refining and fuel distribution, as well as communities whose primary livelihood derives from the industry. Such communities are to be defined by an economic dependence threshold established in domestic legislation. This

106 African Charter on Human and Peoples' Rights (adopted 27 June 1981, entered into force 21 October 1986) 1520 UNTS 217 arts 19-24; also see *Centre for Minority Rights Development & Others v Kenya* (2009) AHRLR 75 (ACHPR 2009) (*Endorois*).

107 UN Declaration on the Rights of Indigenous Peoples, GA Res 61/295 (13 September 2007) A/RES/61/295 art 32; D Szablowski 'Operationalising free, prior, and informed consent in the extractive industry sector?' (2010) 30 *Canadian Journal of Development Studies* 111.

definition extends coverage beyond formal employment in ways that current frameworks do not, and it can be incorporated into domestic climate change acts and petroleum legislation through amendment.

Triggering events should include plant or mine closure; sector phase-down plans approved under national climate change frameworks; foreign divestment from fossil fuel assets exceeding a specified threshold; and the commencement of transition mineral extraction without an approved community benefit agreement. Automatic triggering ensures that social protection obligations arise at the point of transition impact rather than depending on discretionary ministerial action.

Funding mechanisms should include mandatory transition levies on fossil fuel companies (a rate of 1 to 2 per cent of gross revenue would be consistent with existing African petroleum fiscal regimes and defensible under domestic tax law). The same should apply to renewable energy project developers (at approximately 0,5 per cent of project value, integrated into power purchase agreement terms) and transition mineral exporters (at 1 to 3 per cent of export value, consistent with existing mineral royalty frameworks). Proceeds should be deposited in a constitutionally protected national Just Transition Fund, insulated from general revenue appropriation. This design is compatible with domestic tax law across most African constitutional systems, where earmarked levies tied to regulated activities are well established. Compatibility with investment treaty obligations requires designing the levies as general regulatory measures of broad application rather than measures targeting specific foreign investors, which would provide a defence to expropriation claims under most bilateral investment treaty standards. The AfCFTA Protocol on Investment's public-interest carve-outs under article 46 provide additional shelter for the social-protection rationale.[108]

Enforcement fora should include domestic High Courts with mandatory standing for trade unions, community organisations and individual workers. This would involve an expanded jurisdiction for the African Court on Human and Peoples' Rights through an Optional Protocol on Socio-Economic Rights and Transitional Justice, enabling individual and collective petition rights. This should also include a specialised African Labour Tribunal within the AU system, modelled on the African Committee of Experts on the Rights and Welfare of the Child, but with adjudicatory jurisdiction over individual and collective claims arising from transition obligations.

Duration and content of benefits should include income replacement at a level not less than 70 per cent of previous earnings for formal workers for a minimum of five years, 60 per cent for informal workers for a minimum of three years, and employer-funded or state-funded healthcare continuation throughout the

108 AfCFTA Protocol on Investment (2023) art 46; RS Avi-Yonah 'Hanging together: A multilateral approach to taxing multinationals' in T Pogge & K Mehta (eds) *Global tax fairness* (2016) 113.

benefit period. Access to retraining programmes with skills should be assessed against actual labour market demand in the transition economy rather than generic green economy projections. The ILO Guidelines' reliance on existing social protection infrastructure proves inadequate where that infrastructure was never constructed. The proposed framework creates legal obligations for social protection rather than assuming its existence, constitutionalising entitlements that are individually enforceable against states and, through the employer levy mechanism, against employers and investors benefiting from transition processes.

6.3 Binding finance, technology and accountability commitments

The historical responsibility of developed states for climate change creates legal and moral obligations that current frameworks operationalise inadequately. Climate finance is to be redefined as a reparative obligation in line with international law of state responsibility and the Declaration on the Right to Development.[109] There are clear doctrinal implications in this reframing: The reparative obligation differs from a voluntary pledge in its legal weight, and its violation is considered an internationally wrongful act rather than a political disappointment. The Paris Agreement's NDC architecture, with its nationally determined flexibility, is structurally incompatible with binding finance obligations. The proposed framework would supplement the Paris Agreement through a separate protocol or a binding decision of the Conference of the Parties, establishing differentiated responsibilities with automatic triggers. This would make developed states' emission-reduction commitments legally linked to specified minimum financial and technology-transfer flows to states meeting defined vulnerability criteria. Failure to deliver would constitute a breach of international obligations, triggering state responsibility and available remedies. For African workers, this creates enforceable claims to technology transfer that generates employment rather than merely importing equipment, and to climate finance that funds social protection rather than merely subsidising private investment.

Technology transfer obligations should specify not merely the transfer of intellectual property licences, but the establishment of local manufacturing capacity and skills development programmes as conditions of transition project approval. The African Mining Vision's principles regarding mineral beneficiation and local content provide partial models for this approach,[110] although their implementation has been weak. The proposed framework would require that transition projects above a specified investment threshold establish domestic

109 UN General Assembly 'Declaration on the Right to Development' Res 41/128 (4 December 1986) A/RES/41/128; M Salomon 'Legal cosmopolitanism and the normative contribution of the right to development' (2008) LSE Law, Society and Economy Working Paper 2/2008.

110 AU Africa Mining Vision (n 65); also see N Nhede 'Africa's mining policy reset signals a shift toward beneficiation' (Energy Capital Power 2025), https://energycapitalpower.com/africas-mining-policy-reset-signals-a-shift-toward-beneficiation/ (accessed 29 March 2026); P Jourdan 'Continental frameworks for mineral resource governance in Africa: Strategies for enhanced domestication' (International IDEA Stockholm Sweden 2025).

supply chains, training programmes linked to domestic educational institutions, and technology licensing terms that permit local adaptation and improvement. Accountability mechanisms should enable African states and affected workers to enforce these commitments against defaulting developed states and private actors. The UN Human Rights Council's resolutions on the right to work in the context of climate change and on human rights and climate change provide an existing framework for accountability,[111] although their non-binding character limits their practical force. The African Commission's Resolution 586 represents a nascent recognition of enforceable financial obligations in the African human rights system, and jurisprudential development is required to confer individual enforceability on its provisions.

6.4 Worker assemblies and co-governance mechanisms

The decision-making dimension of labour justice requires institutional mechanisms that go beyond the tripartite social dialogue model of the ILO Guidelines to binding co-governance arrangements. The proposed framework would require states, as a condition of approving transition plans, to establish worker and community assemblies with four powers: first, the right to receive full information about transition plans in advance of approval; second, there would be the right to nominate independent technical experts to assess the plans. The third right is the right to propose alternative transition pathways; and, fourth, in cases where the assembly rejects a proposed plan, a mandatory re-engagement process before final approval, with judicial review available if the assembly's substantive concerns are not adequately addressed. This framework falls short of a full veto right, which would create unworkable governance, but goes significantly beyond current consultation requirements by making worker and community concerns legally cognisable in the approval process. Community benefit agreements, on the model identified by Gunton and Markey in natural resource governance, should be legally required for all transition projects above a specified scale, with their terms enforceable in domestic courts and before the proposed African Labour Tribunal.[112]

6.5 Conclusion

This article has argued that contemporary just transition governance does not adequately deliver substantive labour justice in Africa because its prevailing

111 UN Human Rights Council 'The right to work in the context of climate change' Res A/HRC/RES/55/9 (5 April 2024); 'Human Rights and Climate Change' Res A/HRC/RES/53/6 (13 July 2023); UN Secretary General Synthesis Report on Opportunities, Best Practices, Actionable Solutions, Challenges and Barriers Relevant to Just Transition and the Full Realisation of Human Rights for All People A/HRC/60/52 (2025) paras 45-52.

112 C Gunton & S Markey 'The role of community benefit agreements in natural resource governance and community development: Issues and prospects' (2021) 73 *Resources Policy* 102152.

legal architecture privileges procedural inclusion, flexibility and dialogue over redistribution, enforcement and accountability. The concept of procedural drift explains why the expansion of normative commitments has not translated into material protection. Applying the article's three dimensions of labour justice, financial, technological and decision-making redistribution, demonstrates that no existing framework examined provides comprehensive protection across all three dimensions. The proposed reforms, therefore, move beyond aspirational commitments by advancing enforceable social protection guarantees, binding technology transfer obligations linked to local manufacturing and skills development, and legally meaningful worker participation in transition decision making.

The comparative analysis further demonstrates that transition justice cannot be pursued through a uniform legal model. Nigeria's rentier petroleum economy requires protection that extends beyond formal employment to informal workers and affected communities, while South Africa's coal transition requires responses to organised labour displacement, spatial inequality and community exclusion. The article remains limited by its reliance on doctrinal analysis and secondary scholarship and by its focus on two primary jurisdictions, but these limits define rather than displace its central claim: Inclusion without redistribution cannot secure labour justice. The necessary legal materials already exist within international law, the African Charter, domestic constitutional frameworks and the AfCFTA. The central task, therefore, is to construct, from them, enforceable mechanisms capable of redistributing financial resources, technological capacity and decision-making power. Africa's energy transition is underway; whether it produces justice will depend substantially on whether law is used not merely to organise participation, but to secure materially fair outcomes.

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Energy transition and the ILO Guidelines on just transition: A comparative analysis of Nigeria and South Africa

*Oluwatobi D Oladipo-Ologundudu**
Researcher, Ismail Mahomed Centre for Human and Peoples' Rights, University of Venda, South Africa
https://orcid.org/0009-0006-0959-0803

Abstract: Climate change has prompted several nations, including Nigeria and South Africa, to legislate renewable energy laws to facilitate the transition from fossil fuels. In Nigeria and South Africa, however, this transition presents challenging socio-economic variables, particularly the possible displacement of workers in the fossil fuel industry. The International Labour Organisation (ILO) Guidelines on Just Transition emphasise the protection of workers through initiatives that encourage job security, social dialogue and the rights to organise and bargain collectively, thereby cushioning the adverse effects of the energy transition. Against this backdrop, questions arise regarding Nigeria's capacity to simultaneously achieve its net-zero emissions target by 2060 and safeguard the interests of fossil fuel workers. South Africa is also phasing out coal and transitioning to renewable energy. For this energy transition to be just, the lives and communities dependent on high-emission energy industries must not be left behind. In view of the ILO's just transition imperatives, this article undertakes a comparative doctrinal analysis of the energy transition legal frameworks of Nigeria and South Africa to assess their regulatory readiness for a just transition.

* LLM (Venda); 24065467@mvula.univen.ac.za. This article is based on the LLM by research dissertation of the author, completed at the University of Venda, South Africa.

The article concludes with lessons to reinforce both Nigeria and South Africa's regulatory frameworks, thus enhancing their capacity to deliver a just and equitable energy transition.

Key words: fossil fuel workers; just transition; ILO Guidelines; Nigeria; South Africa; regulatory framework

1 Introduction

The global race towards decarbonisation has produced an increasing body of academic literature on energy transition law, climate governance and labour protection.[1] Global South energy transition scholarship has focused on the distributive effects of net-zero, elite state capture of green energy investments, low youth engagement in developing green economies, and the alienation of vulnerable groups from decision-making and benefit-sharing agreements.[2] The International Labour Organisation (ILO) established a framework, known as Guidelines for a Just Transition towards Environmentally Sustainable Economies and Societies for All (ILO Guidelines), in 2015. This framework has subsequently been approved by governments, employers and workers' institutions,[3] indicating a normative reinforcement of the 'just transition' principle, a theory that consolidates labour standards, social dialogue and social protection in environmental reform.[4] However, implementing this framework is not always simple.

For instance, at the United Nations Framework Convention on Climate Change (UNFCCC)'s Conference of the Parties (COP26) in Glasgow, Scotland, in November 2021, Nigeria announced its commitment to achieving net-zero greenhouse gas emissions by 2060.[5] This commitment is rooted in a transition framework anchored on the Constitution of the Federal Republic

1 D Gribkova & Y Milshina 'Energy transition as a response to energy challenges in post-pandemic reality' (2022) 15 *Energies* 3; T Acheampong & M Tyce 'Navigating the energy transition and industrial decarbonisation: Ghana's latest bid to develop an integrated bauxite to aluminium industry' (2024) 107 *Energy Researach & Social Science*103337; AO Jegede 'Should they "just" leave? Global energy transition, climate change and the protection of workers' rights in South Africa' (2021) 19 *Oil, Gas and Energy Law Journal* 1.

2 KW Mohammed, E Sefah & SA Paalo 'Africa's just energy transition: Political economy, marginalisation, and human security' (2026) *Energy Policy* 214.

3 International Labour Organisation 'The MNE declaration and a just transition to environmentally sustainable economies and societies' 12 December 2024, https://www.ilo.org/mne-declaration-and-just-transition-environmentally-sustainable-economies (accessed 21 May 2026).

4 International Labour Organisation 'Guidelines for a just transition towards environmentally sustainable economies and societies for all' 2015, https://www.ilo.org/publications/guidelines-just-transition-towards-environmentally-sustainable-economies (accessed 24 April 2026).

5 Department of Climate Change, Federal Ministry of Environment, Nigeria '2050 Long term vision for Nigeria (LTV 2050) – Towards the development of Nigeria's long term low emissions development strategy (LT LEDS)' 2021, https://unfccc.int/sites/default/files/resource/Nigeria_LTS1.pdf#:~:text=At%20COP26%20in%20Glasgow%2C%20Nigerian%20President%20Muhammadu,Nigeria%20can%20achieve%20its%20new%20climate%20ambition (accessed 24 April 2026); Energy Transition Plan 'Reducing emissions and powering development' 2024, https://energytransition.gov.ng/ (accessed 24 April 2026).

of Nigeria (1999) (CFRN), which serves as the foundation for environmental rights protection;[6] the Petroleum Industry Act (PIA), which administers the decarbonisation of the oil and gas industry;[7] and the Climate Change Act (NG-CCA), which prescribes standards towards achieving net-zero emissions.[8] Nevertheless, Nigeria's economy remains unduly reliant on oil and gas exports, accounting for 80 to 90 per cent of export income and over half of federal income.[9] Additionally, the oil sector in Nigeria is an employer of labour, which will be discussed in the next part of this article.

In South Africa, likewise, only about 16,22 per cent of electricity is derived from renewable sources, with solar power contributing 11,28 per cent and wind power accounting for 4,94 per cent.[10] Hence, the news of the closure of five of its power stations elicited negative reactions, primarily due to the imminent loss of jobs.[11] This structural dependence reflects South Africa's historical investments in coal-fired infrastructure and its generous coal reserves.[12] Statistics from the first quarter of 2024 show that 45,5 per cent of people aged 15 to 34 years are unemployed.[13] The interplay of these statistics raises doubts about energy stability and inclusion. Regardless of these challenges, South Africa has positioned the 'just transition' at the heart of its climate policy and regulatory framework, most conspicuously through the adoption of a Just Transition Framework (JTF) and the Just Energy Transition Investment Plan (JET-IP) (2023-2027),[14] among other policy frameworks.

Consequently, employing a doctrinal research methodology and a comparative approach, this article questions the normative and institutional consistency of relevant laws in Nigeria and South Africa with the ILO Guidelines, particularly whether they can successfully deliver a labour-friendly transition. It argues that although Nigeria has established a new legal framework for decarbonisation, it is largely climate-oriented rather than worker-oriented, offering little protection for workers who will bear the social and economic costs of the transition. The article further asserts that tensions between Nigeria's climate commitments and

6 The Constitution of the Federal Republic of Nigeria, 1999 (as amended up to 2023) (Act 24).
7 Petroleum Industry Act (2021) (Act 6).
8 Climate Change Act (2021) (Act 11).
9 EITI 'Nigeria' 2015, https://eiti.org/countries/nigeria (accessed 24 April 2026).
10 Department: Forestry, Fisheries & the Environment, Republic of South Africa 'Minister Dion George welcomes decline in coal share and growth in renewables in South Africa's electricity mix' 2 April 2025, https://www.dffe.gov.za/mediarelease/george_welcomeingdeclineincoashare#:~:text=Breadcrumb,technologies%20in%20our%20energy%20system (accessed 16 April 2026).
11 C Strambo, J Burton & A Atteridge *The end of coal? Planning a 'just transition' in South Africa* (2019).
12 S Erdogan and others 'On cutting coal dependency for establishing a cleaner energy mix: A proposal for energy transition strategy in South Africa' (2025) *Energy Strategy Reviews* 58.
13 Department of Statistics 'South Africa' 27 January 2025, https://www.statssa.gov.za/?p=17266#:~:text=South%20Africa%2C%20like%20many%20countries,3%2C5%25%20in%202021 (accessed 10 April 2025).
14 Presidential Climate Change Commission 'South Africa's Just Energy Transition Investment Plan (JET IP)' (2022), https://www.climatecommission.org.za/south-africas-jet-ip. (accessed 9 March 2025).

its continued dependence on hydrocarbon development weaken the coherence of its transition strategy. In the case of South Africa, it questions its legislative and regulatory competence in delivering a just transition aligned with the normative purpose of the ILO Guidelines, particularly in labour protection, social dialogue, institutional coherence and enforceability.[15] This article critically examines gaps in both states' laws and policies and situates the issues within a comparative perspective.

2 Energy workers' dilemma in Nigeria and South Africa

Reports as of 2022 indicate that Nigeria's oil and gas sector employed approximately 65 000 workers directly and 250 000 indirectly.[16] Nigerian workers are highly susceptible to poverty, unemployment and underemployment as a result of employers' refusal to provide contracts to their workers in order to avoid financial and contractual obligations.[17] In the Ogoni area of Nigeria's Niger Delta,[18] reports indicate poor wages and toxic work environments, with incidences of workers earning less than US $100 monthly and the non-confirmation of appointments. This leaves them without terms of service, social protection coverage or formal procedures for engagement,[19] resulting in severe labour insecurity. The effect of this casualisation of jobs is that workers are forced to accept dangerous conditions without hazard pay, health care or pensions, and the absence of systems that address grievances incites bloody communal clashes.[20] These systemic incompetencies highlight the importance of introducing just transition protections into Nigeria's energy transition framework. Already disadvantaged workers in the unstable energy market will likely suffer disproportionately unless legal frameworks for social protection, retraining and meaningful participation are integrated into Nigeria's transition governance.

South Africa, a fossil-fuel-dependent,[21] middle-income economy,[22] is one of the most carbon-intensive energy systems in the world.[23] It is currently contending

15 A Sheehama and others *How does South Africa's just transition framework compare to the International Labour Organisation Just Transition Guidelines?* (2023).
16 P Tarfa and others 'Oil and Gas Sector Impact Assessment Report. Review Report, MRV System' 2024, https://climateactiontransparency.org/sites/default/files/uploads/2024/06/Deliverable-3a.-Final-Oil-and-Gas-Sector-Impact-Assessment-Report-210524.docx.pdf (accessed 25 April 2026).
17 Thomson Reuters Foundation & Trust Law *A guide to workers' rights in Nigeria* (2023).
18 The Niger Delta produces some of the largest, and highest quality, oil deposits in the world and doubles as the centre of Nigeria's oil production. See M Watts, I Okonta & DV Kemedi *Economies of violence: Petroleum, politics and community conflict in the Niger Delta, Nigeria* (2004).
19 GU Ojo & H Mustapha *Just transition in Nigeria: Case of agricultural and oil sectors* (2019).
20 B Aye *NUPENGASSAN: Combatting precarious work in the Nigerian oil industry* (2017).
21 C Magazzino and others 'Modeling the dynamic nexus among coal consumption, pollutant emissions and real income: Empirical evidence from South Africa' (2020) *Environmental Science and Pollution Research* 27.
22 World Bank Group 'Data for South Africa, upper middle income' 2026, https://data.worldbank.org/?locations=ZA-XT (accessed 3 April 2026).
23 P Mirzania and others 'Barriers to powering past coal: Implications for a just energy transition in South Africa' (2023) *Energy Research & Social Science* 101.

with decarbonisation and structural socio-economic inequalities, including a widespread unemployment rate of over 40 per cent and regional inequalities evident in coal-mining provinces such as Mpumalanga.[24] Coal accounts for 74,31 per cent of electricity, mainly through the state-owned utility Eskom.[25] South Africa's coal mining sector employs an estimated 82 000 workers, while Eskom employs nearly 50 000 workers in its coal-fired power stations,[26] with some hundred thousand added jobs indirectly contingent on the sector.[27] The workforce, however, is split with permanent and unionised workers benefiting from moderately comprehensive labour protections and collective bargaining agreements;[28] contractual workers experiencing insecure employment, weaker protections and lower wages;[29] and artisanal/illegal miners, being mostly neglected in formal labour negotiations.[30]

Failure to embed just transition protections in regulatory frameworks may mean that the transition in Nigeria and South Africa overlooks and exacerbates existing workforce challenges in the fossil fuel sector. This article addresses the possibility of transitioning without inclusion using the ILO Guidelines as a framework for assessment.

3 The normative framework of ILO Guidelines

The ILO Guidelines typically refer to a comprehensive policy framework to guide countries' transition to low-carbon, environmentally sustainable economies. It is intended to protect jobs, lower inequality and highlight social justice as the focus of climate action.[31] They espouse nine policy areas, including social protection and social dialogue.[32] These policy areas are established by binding ILO conventions, such as collective bargaining (No 98) and social security (No

24 J Hanto and others 'South Africa's energy transition – Unraveling its political economy' (2022) *Energy for Sustainable Development* 69.

25 Energy Council of South Africa 'Our ongoing coal dependency' 2026, https://energycouncil.org.za/mzansi/coal/#:~:text=South%20Africa%20has%20an%20extensive,and%20indirectly%20employed%20in%20Coal (accessed 16 April 2026).

26 Strambo and others (n 11).

27 S Pai & JL Broadhurst 'South Africa is moving away from coal – How mines and power stations could be used for green energy and farming' *The Conversation* (web blog) 16 February 2026, https://theconversation.com/south-africa-is-moving-away-from-coal-how-mines-and-power-stations-could-be-used-for-green-energy-and-farming-274249 (accessed 16 April 2026).

28 Bomkazi 'SA Power utility workers negotiate 15% salary demand' *Channel Africa* (web blog) 3 November 2025, https://www.channelafrica.co.za/channelafrica/news/sa-power-utility-workers-negotiate-15-salary-demand/#:~:text=South%20Africa's%20(SA)%20National%20Union,frustrate%20wage%20talks%20at%20Eskom (accessed 16 April 2026).

29 MJ Cole, E Canpolat & B Sijapati 'Profiling risk in South Africa's just transition: Who is left behind?' (2025) *Energy Research & Social Science* 129.

30 'South Africa's informal miners fight for their future in coal's twilight' *Africa News* (web blog) 17 November 2022, https://www.africanews.com/2026/01/07/south-africas-informal-miners-fight-for-their-future-in-coals-twilight/#:~:text='Artisanal'%20or%20'illegal'?,to%20stamp%20out%20the%20activity (accessed 16 April 2026).

31 International Labour Organisation (n 4).

32 L Olsen & C la Hovary *User's manual to the ILO's guidelines for a just transition towards environmentally sustainable economies and societies for all* (2021).

102).[33] The ILO Guidelines emphasise decent work as the primary objective of the transition, advocating that environmentally sustainable economies be characterised by quality jobs, reduced inequality and poverty alleviation, so that no one is left behind.[34] This is a reflection of the ILO's broader mandate. Rather than remaining peripheral to climate policy, labour protection is integrated into the decent work agenda, positioning it as the focus of climate policy governance.[35] By highlighting the importance of coherence and coordination in economic, environmental and social policy frameworks, it encourages an inclusive approach to integrating climate action into broader development strategies, such as the United Nations (UN) Sustainable Development Goals (SDGs).[36]

Social dialogue is another focal point and central feature of the ILO Guidelines. It defines social dialogue as the engagement between governments, employers and workers' organisations on economic and social policy concerns.[37] As prerequisites for a just transition, it prescribes the participation of workers and trade unions in policy design and implementation, the respect for collective bargaining mechanisms and inclusivity in negotiated transition policies.[38] This positions social dialogue as both a procedural requirement and an institutional strategy for achieving equity in the energy transition. The ILO Guidelines further advocate inclusive social protection programmes, such as unemployment benefits, income support, pensions and social security, in order to mitigate the downsides of structural economic change and associated risks across all life cycles.[39] The purpose is to manage the fair distribution and/or redistribution of the costs and benefits of the transition, thereby preventing social exclusion and perpetuating existing inequalities.[40]

Additionally, the ILO Guidelines feature anticipatory labour market policies such as reskilling and upskilling strategies, education and training for green jobs, and employment services to enable labour mobility to maximise employment opportunities and minimise decarbonisation-related job losses

33 International Labour Organisation 'Social security convention, 1952 no 102' 2011, https://www.ilo.org/resource/ilo-social-security-minimum-standards-convention-1952-no-102 (accessed 27 April 2026); Olsen & La Hovary (n 32).
34 International Labour Organisation (n 3).
35 International Labour Organisation 'Just transition towards environmentally sustainable economies and societies', https://www.ilo.org/topics-and-sectors/just-transition-towards-environmentally-sustainable-economies-and-societies#:~:text=The%20world%20of%20work%20is,social%20dialogue%20and%20stakeholder%20engagement (accessed 19 April 2026).
36 International Labour Organisation (n 3); United Nations Department of Economic and Social Affairs 'The 17 goals', https://sdgs.un.org/goals (accessed 22 April 2025).
37 International Labour Organisation 'Social dialogue and tripartism', https://www.ilo.org/topics-and-sectors/social-dialogue-and-tripartism#:~:text=What%20is%20social%20dialogue?,87%25%20of%20ILO%20Member%20States (accessed 19 April 2026).
38 Olsen & La Hovary (n 32).
39 International Labour Organisation 'Social protection', https://www.ilo.org/topics-and-sectors/social-protection#:~:text=ILO%20calls%20for%20stronger%20social,See%20all%20events (accessed 19 April 2026).
40 C Behrendt, M Bierbaum & V Schmitt *Thematic brief – Social protection* (2021).

simultaneously.[41] The ILO Guidelines embody the importance of merging economic adjustment with employment outcomes. It does this by promoting sector-specific and enterprise-level policies to administer structural change, assisting sustainable enterprises, promoting green industries, and ensuring that industrial transformation produces decent work.[42] The Guidelines also address new workplace hazards presented by the green energy transition, such as heat stress, extreme weather events, exposure to hazardous chemicals, air pollution and infectious diseases.[43] This is done by highlighting the maintenance and improvement of occupational safety and health standards,[44] and addressing unanticipated threats posed by new technologies and industries.[45] This guarantees the reliability of labour protections in several evolving economic scenarios.

While the ILO Guidelines constitute soft law,[46] they acquire normative weight from their alliance with binding conventions. They are also recognised in climate dialogues under the Paris Agreement, which champions 'the imperatives of a just transition of the workforce'.[47] As a result, the ILO Guidelines serve as necessary performance indicators to inform local climate law and policy tools.[48] Alignment with the ILO Guidelines demands institutionalised dialogue in transition policy, legal coverage of workers' rights during structural reforms, social protection and retraining schemes, and a harmonised industrial policy that links decarbonisation to job creation.

3.1 Legal significance of ILO Guidelines

Generally, because the ILO Guidelines are non-enforceable, they are therefore non-binding recommendations to member states.[49] They are also categorised under the non-binding umbrella of soft law, which includes recommendations, declarations and opinions.[50] Although similar to legal provisions, they are not established on any legal basis or connected to any institutional frameworks

41 International Labour Organisation *Just transition policy brief – The role of active labour market policies for a just transition* (2023).
42 International Labour Organisation *Sectoral policies department, 2020-21 highlights* (2021).
43 International Labour Organisation *Just transition policy brief – Occupational safety and health in a just transition* (2023).
44 International Labour Organisation 'Promotional framework for occupational safety and health convention' 2006 (No 187)' (2006), https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C187. (accessed 20 April 2026).
45 As above.
46 L Hennebel & H Tigroudja 'The place of soft law standards in international human rights law' in L Hennebel & H Tigroudja (eds) *International human rights law: A treatise* (2025) 92.
47 Paris Agreement to the United Nations Framework Convention on Climate Change, TIAS No 16 – 1104 (2015).
48 International Labour Organisation 'ILO guidance note – Integrating skills for just transition in nationally determined contributions (NDCs) 3.0' 2025, https://www.ilo.org/sites/default/files/2025-03/ILO%20Internal%20Guide_Integrating%20skills%20for%20just%20transition%20in%20NDCs_Final%20Version_27032025%20%282%29.pdf (accessed 1 May 2026).
49 Hennebel & Tigroudja (n 46).
50 European Industrial Relations Dictionary 'Soft law', https://www.eurofound.europa.eu/en/european-industrial-relations-dictionary/soft-law (accessed 16 May 2025).

responsible for their adoption. However, they may have both practical and legal force.[51] They are quasi-legal instruments with a prescriptive capacity to influence legal practice, occupying an indeterminate space between law and politics.[52] Soft law possesses moral and political power to influence states' consent, which is necessary for establishing binding international law, thereby transforming it into hard law.[53] It is also a vehicle for direct normative answers on hard topics, such as environmental or human rights issues, where affected parties are incapable of negotiating binding agreements.[54] It can facilitate the interpretation of treaties, aid the development of customary international law and provide an evidentiary foundation for *opinio juris*.[55]

Academic literature observes that soft law reduces the gap between political commitments and binding obligations, which facilitates the advancement of international law.[56] It addresses the weaknesses of the bilateral nature of treaties and customs by drawing on unconventional normative sources, but with a lower status than hard law.[57] In contrast to the potential threat it poses to the clarity of legal boundaries, it is characterised by lower financial and sovereignty burdens, speed, flexibility and legitimacy.[58] Thus, it has been suggested that one way by which soft law can become legally binding is through its metamorphosis into hard law, based on the presumption that state usage has transformed the status of the principles[59] and, in this case, the ILO Guidelines. States can achieve this by adding soft law principles to treaties intended to legislate hard law, or by consistently applying them, together with *opinio juris*, to transform soft law into customary law.[60] The implication is that the state believes it is legally bound to adhere to such a principle or guideline. Obligation is described as an injunction to act in a particular way or to refrain from acting in a particular way.[61] While soft law is ordinarily non-binding, courts have defined it as persuasive authority. On the Declaration on the Rights of Indigenous Peoples, the Norwegian Supreme Court in *Finmark Estate Agency & Others v Nesseby Regional Society & Others* (*Nesseby*) reflected on international law principles and state support, by holding

51 E Korkea-Ahor 'EU soft law in domestic legal systems: Flexibility and diversity guaranteed?' (2009) 3 *Maastricht Journal of European and Comparative Law* 271.
52 ZM Khil 'Theoretical foundations of soft law: Conceptual boundaries, normative distinctions and taxonomic feasibility' SSRN Working Paper, 1 December 2024).
53 M Olivier 'The relevance of soft law as a source of international human rights' (2002) 2 *Comparative and International Law Journal of Southern Africa 289*.
54 P-M Dupuy '*Soft law and the international law of the environment*' (1991) 12 *Michigan Journal of International Law 420*.
55 M Goldmann' We need to cut off the head of the king: Past, present and future approaches to international soft law' (2012) 25 *Leiden Journal of International Law* 335.
56 A Ahmed & MJ Mustofa 'The role of soft law in environmental protection: An overview' (2016) 2 *Global Journal of Politics and Law Research* 1-18; Khil (n 52).
57 Olivier (n 53).
58 C Lipson 'Why are some international agreements informal?' (1991) 45 *International Organisation* 495; F Sindico 'Soft law and the elusive quest for sustainable global governance' (2006) 3 *Leiden Journal of International Law* 829; KW Abbott & D Snidal 'Hard and soft law in international governance' (2000) *International Organisation* 421.
59 Olivier (n 53).
60 CM Chinkin 'The challenge of soft law: Development and change in international law' (1989) 38 *The International and Comparative Law Quarterly* 850.
61 Abbott & Snidal (n 58).

that the declaration, although non-binding, was 'a central document within the law of indigenous Peoples'.[62]

4 Energy framework and ILO Guidelines: Nigeria and South Africa

This part addresses the extent to which strategic energy-related instruments in Nigeria and South Africa are compatible with the ILO Guidelines. These instruments are Nigeria's Constitution (1999); the Climate Change Act (2021); the Petroleum Industry Act (2021); the National Adaptation Plan Framework (2020); the National Climate Change Policy (2021-2030); and the Energy Transition Plan (2022). National statutes to be considered for South Africa are its Constitution (1996); the Climate Change Act (2024); the Just Transition Fund (2023-2027); the Just Energy Transition Partnership (2021); the Just Energy Transition Investment Plan (JET IP); and the National Development Plan (2030), to ascertain their regulatory capacity to achieve a just transition.

4.1 Constitutional foundations of Nigeria and South Africa

In assessing the regulatory capacity of Nigeria's just transition frameworks to achieve net-zero emissions while protecting workers' rights, the Constitution of the Federal Republic of Nigeria (1999) (CFRN), an essential document that encapsulates the highest ambitions of the state, is critical. Chapter II of the CFRN, particularly sections 17 and 20, itemises socio-economic objectives, including social justice and environmental protection, respectively. These provisions, however, are unenforceable under section 6(6)(c).[63] While section 40 protects workers' rights to form or join any political party, trade union or other association to protect their interests, the right to bargain collectively for better working conditions remains uncertain.[64] Nonetheless, this is a vital element of the ILO Guidelines. Furthermore, the complex nature of Nigeria's constitutional framework presents difficulties for the enforcement of the transition criteria set out in the ILO Guidelines. This is primarily because Nigeria observes a dualist strategy, as stipulated in section 12, requiring legislative assimilation before international instruments, including soft law such as the ILO Guidelines, can apply.

Comparatively, the Constitution of the Republic of South Africa, 1996 (SA Constitution), guarantees justiciable socio-economic rights in Chapter 2, including the rights to fair labour practices,[65] equality[66] and access to adequate

62 HR-*2018*-456-P (Case 2017/860).
63 Constitution of the Federal Republic of Nigeria (n 6).
64 As above.
65 Sec 23 South African Constitution.
66 Sec 9.

housing.[67] It also provides the directive principles in section 24, which confer on the state the responsibility for protecting the environment for present and future generations.[68] Even though section 24 is directly justiciable, its broader interpretation in climate governance remains undeveloped. Conversely, unlike exclusively aspirational directives, fundamental rights, such as the right to fair labour practices and collective bargaining, set forth a constitutional basis for unifying labour mandates in climate policy.[69] The justiciability of these rights implies that the courts can hold the state accountable when taking steps toward their fulfilment, thereby opposing the submission that such judicial actions violate the separation of powers.[70] The SA Constitution, thus, provides a reliable normative foundation for just transition claims that protect workers' rights. Furthermore, section 233 of the SA Constitution mainly adopts a qualified dualist approach to treaties, requiring parliamentary action for domestic impact.[71] It mandates that courts consider international law when interpreting the Bill of Rights, indicating openness to international standards, particularly human rights norms. An instance of this is highlighted in *S v Makwanyane & Another*, where the Constitutional Court relied on international law to defend the abolition of the death penalty.

4.2 Nigeria and South Africa Climate Change Acts

Nigeria's Climate Change Act (2021) (NG-CCA) provides for a 2050-2070 net-zero target window, creates a carbon budget for its achievement,[72] and establishes the National Council on Climate Change (NCCC) in section 3(1).[73] The NG-CCA, however, fails to provide specific just transition or labour protection clauses.[74] Section 3 further enumerates the functions of the NCCC, including coordinating climate policy, but it lacks statutory provisions for labour union representation, thereby making the NG-CCA climate-centred rather than labour-centred. This is inconsistent with the ILO Guidelines, which advance 'effective social dialogue' as the foundation of a just transition.[75] Hence, Nigeria's social protection framework remains incoherent, relying on *ad hoc*, small-scale programmes rather than an integrated legal framework.[76]

67 Sec 26.
68 The Constitution of the Republic of South Africa, 1996, (8 April 2026), https://www.gov.za/documents/constitution/constitution-republic-south-africa-1996-04-feb-1997 (accessed 1 May 2026).
69 M Conradie 'The constitutional right to fair labour practices: A consideration of the influence and continued importance of the historical regulation of (un)fair labour practices pre-1977' (2016) *Fundamina (Pretoria)* 22.
70 G Allsop 'Chapter 12: Socio-economic rights' in *Constitutional Law for Students: Part 2* (2020); *Certification of the Constitution of the Republic of South Africa* 1996 (4) SA 744 (CC).
71 Constitution of the Republic of South Africa (n 68).
72 Department of Climate Change (n 5).
73 Climate Change Act (n 8).
74 As above.
75 International Labour Organisation *Just transition policy brief – The role of social dialogue and tripartism in a just transition towards environmentally sustainable economies and societies for all* (2022); Olsen & La Hovary (n 32).
76 J Hagen-Zanker & R Holmes *Social protection in Nigeria – Synthesis report* (2012).

South Africa's Climate Change Act (2024) (SA-CCA) is a landmark statute that explicitly establishes a legislative framework for climate action and energy transition planning.[77] The Act, in its objects, aims to 'enable the development of an effective climate change response and a long-term just transition to a low-carbon and climate-resilient economy and society'.[78] SA-CCAs' definition of just transition is commendable because it signals a departure from strict policy-level commitments and places a legal responsibility on the government to promote justice and equity as integral components of transition planning.[79] However, SA-CCA indicates lapses in the implementation of critical provisions, as vital clauses central to the operationalisation of the just transition may be deferred or subject to supporting regulation, leading to uncertainty about enforceability.[80]

4.3 Nigeria Petroleum Industry Act and South Africa Just Transition Framework

Section 53 of Nigeria's Petroleum Industry Act (PIA) restructures Nigeria's oil sector by incorporating Nigeria's national oil company, the Nigerian National Petroleum Company Limited (NNPC Ltd), as a commercial entity. It also establishes Host Community Development Trusts (HCDTs) under section 235 for local development, alongside new licensing and tax regulations in sections 71 to 73.[81] Section 4 provides a comprehensive legal and fiscal framework for Nigeria's oil sector, including the creation of new regulatory bodies, such as the Nigerian Upstream Petroleum Regulatory Commission (NUPRC) and the Nigerian Midstream and Downstream Petroleum Regulatory Authority (NMDPRA), in section 29.[82] Although it focuses on communal benefits, PIA is largely silent on workforce transition, redundancy protections, or retraining responsibilities. Nigeria's undue reliance on fossil fuel income creates political resistance to rapid decarbonisation. The removal of fuel subsidies, for instance, a prerequisite for transitioning to renewables, generated strong social and political resistance because fuel prices directly impacted livelihoods and transportation

77 JustSA 'Climate Change Act 2024' (web blog), 2024, https://www.justsaportal.org.za/resources/climate-change-act-2024#:~:text=Summary:%20The%20Climate%20Change%20Act,for%20present%20and%20future%20generations (accessed 9 April 2026).

78 Government Notice 5050, *GG*, 23 July 2024, 50966 (Climate Change Act).

79 S Mzwakali 'South Africa's Climate Change Act – A legal milestone with implementation challenges' *Daily Maverick*, *Maverick Earth* (web blog) 2024, https://wwwmdailymaverick.co.za/article/2024-08-13-south-africas-climate-change-act-a-legal-milestone-with-implementation-challenges/#:~:text=South%20Africa's%20Climate%20Change%20Act%20establishes%20a%20comprehensive%20framework%20aimed,rather%20helps%20to%20rectify%20them. (accessed 9 April 2026).

80 Department of Forestry, Fisheries and the Environment, Republic of South Africa 'Appendix: Deferred Provisions of the Climate Change Act, 2024 (Act No 22 of 2024)' 2025, https://www.dffe.gov.za/sites/default/files/legislations/cca_deferredprovisions_g52319pn251.pdf (accessed 9 April 2026); N Schimdt 'SA's Climate Change Act comes into effect but key provisions delayed' *Energise* (web blog) (2025), https://www.energize.co.za/article/sas-climate-change-act-comes-into-effect-but-key-provisions-delayed#:~:text=Without%20clear%20financial%20incentives%20and,proclamations%20can%20be%20accessed%20here (accessed 9 April 2026).

81 Petroleum Industry Act (n 7).

82 As above.

costs.[83] The lack of safety nets due to insufficient public funds also contributed to public tensions.[84] To further complicate Nigeria's regulatory landscape, PIAs fiscal reforms incentivise continuous hydrocarbon development,[85] and may conflict with carbon budgets under section 19 of its CCA.[86] This internal normative incoherence raises doubts about the state's genuine direction in the energy transition.

South Africa's JTF, with the supporting JET IP (2023-2027) was launched in 2022 to operationalise the just energy transition strategy based on energy justice. It envisions the protection of affected workers and communities; improvement of energy security and access; industrial growth, innovation, and economic diversification; and inclusivity.[87] JET IP integrates South Africa's nationally determined contribution (SA-NDC) under the Paris Agreement,[88] to facilitate a low carbon transition roadmap in phases, mitigate the social and economic effects of decarbonisation while welcoming the attendant economic opportunities, among others.[89] Different from other policy statements,[90] JET IP positions the just transition within a multi-stakeholder governance structure made up of the Presidential Climate Commission (PCC), labour representatives, communities and private sector stakeholders. It outlines six implementation portfolios, including electricity infrastructure; new energy vehicles; green hydrogen; Mpumalanga just transition; skills; and municipalities.[91] Despite these landmarks, JET IP, rather than being a binding statute, remains just a policy instrument whose effectiveness depends on the feasibility of related programmes

83 IA Adekunle & IO Oseni 'Fuel subsidies and carbon emission: Evidence from asymmetric modelling' (2021) *Environmental Science and Pollution Research International* 28; BS Ajibola 'From Covid-19 to fuel subsidy removal in Nigeria: Assessing the political opportunities for local grievance' (2024) *Urban Governance* 4.

84 J Lain & T Vishwanath 'The Covid-19 crisis in Nigeria: What's happening to welfare? New data call for expanded social protection in Africa's most populous country' World Bank (web blog) (2021), https://blogs.worldbank.org/en/africacan/covid-19-crisis-nigeria-whats-happening-welfare-new-data-call-expanded-social-protection (accessed 2 May 2026).

85 ENR Advisory *The Petroleum Industry Act, 2021. What next for upstream players?* (2021).

86 Climate Change Act (n 8).

87 Just Energy Transition 'Implementing South Africa's Just Transition' (2022), https://justenergytransition.co.za/#:~:text=In%20November%202022%2C%20at%20COP27,2024:%20Moving%20Forward%20with%20Implementation (accessed 9 April 2026).

88 The Presidency, Republic of South Africa 'Just Energy Transition Implementation Plan 2023-2027' (2023), https://justenergytransition.co.za/wp-content/uploads/2024/10/JET-Implementation-Plan-2023-2027-1.pdf (accessed 9 April 2026).

89 Just Energy Transition 'Empowering just energy transition in South Africa' (2022), https://justenergytransition.co.za/our-approach#:~:text=International%20Support%20and%20Core%20Principles,energy%20access%20and%20improving%20livelihoods (accessed 9 April 2026).

90 The Netherlands, Japan, the US, Germany and Italy with their 'Energy Transition Policy', 'Green Growth Strategy', 'Federal Energy Policy', 'Energywendie' and 'Energy Transition Governance' respectively, are examples of nations that have faced criticisms for adopting top-down approaches without robust, formalised multi-stakeholder frameworks or social dialogue platforms, often resulting in worker resistance, public distrust, and an unequitable transition. See J Radtke & O Renn 'Participation in energy transitions: A comparison of policy styles' (2024) *Energy Research & Social Science* 118.

91 Just Energy Transition 'Resource hub' (2022), https://justenergytransition.co.za/resource-hub#:~:text=The%20Just%20Energy%20Transition%20Implementation,JET%20PMU%20in%20the%20Presidency. (accessed 9 April 2026).

and on the influence of labour and community leaders on policy implementation, not just on consultative roles.[92]

4.4 Nigeria National Adaptation Plan Framework and South Africa Just Energy Transition Partnership

Nigeria's National Adaptation Plan Framework (2020) (NAPF) strongly reflects the imperatives laid out by the ILO Guidelines, particularly social dialogue, even though the term is not exactly used. Relevant ministries, departments and agencies (MDAs) and stakeholders from government, civil society organisations (CSOs), academia and the international community were consulted during the development of the NAPF.[93] Thus, the NAPF provides for stakeholder engagement as one of its guiding principles, stating that it will adopt a comprehensive approach in its implementation, engaging all stakeholders from all backgrounds and specialities,[94] signifying that the process of the National Adaptation Plan (NAP) will be inclusive, transparent and participatory. In launching the NAP process, NAPF guarantees the conduct of policy briefings and grassroots mobilisation with youth and women's groups, the private sector, local knowledge networks and other important stakeholders, to create awareness.[95] It also promises to serve as a platform for wider climate change governance institutional arrangements, suited for sub-national and community inclusion, merging several sectoral adaptation planning and decision-making levels, such as national, state and local governments.[96] This aligns with the *inclusive* and *participatory* elements of the ILOs social dialogue, projecting the voices of workers, employers, CSOs and vulnerable communities. While NAPF contains no stipulations on forced labour, collective bargaining or workers' health and safety, which are all elements of social protections, it guarantees social equity on gender-based issues. This includes access to vital resources so that female farmers, for instance, will be prioritised in nationwide adaptation efforts and provided with sufficient health information to protect themselves and their families from health disasters.[97] Although it mentions the SDGs, particularly in the context of economic, social and environmental sustainability issues,[98] all other aspects of social protection, particularly in the context of workers' rights, seem less developed, making the NAPF more focused on climate risks, vulnerability and adaptation than on labour law protections.

In alignment with the ILO Guidelines, especially the concept of social dialogue, South Africa's Just Transition Energy Partnership (2021) (JETP)

92 COSATU *Submission to the Presidential Climate Commission on the Just Energy Transition Investment Plan (JET IP)* (2023).
93 Federal Ministry of Environment *Nigeria's National Adaptation Plan Framework* (2020) v.
94 Federal Ministry of Environment (n 93) 15 & 18.
95 Federal Ministry of Environment (n 93) 33.
96 Federal Ministry of Environment (n 93) vii, viii & 4.
97 Federal Ministry of Environment (n 93) ch 4 19.
98 Federal Ministry of Environment (n 93) ch 5 23.

guarantees the involvement of organised labour and business stakeholders in the transition process for reskilling and upskilling, job creation and other related actions, ensuring that workers are the primary beneficiaries. This affirms the ILO's principle of including those who are directly affected.[99] JETP also includes the PCC in its design to administer stakeholder engagement, an inter-ministerial committee, and an inclusive task force comprising South African and international partners for coordination, consensus building and oversight.[100] These are institutionalised platforms that facilitate ongoing dialogue, patterned after the ILO Guidelines, which view institutional bodies as spaces for social partners to interact.[101] Furthermore, JETP identifies three priority areas for job creation and future economy support: the electricity sector, NEV and Green Hydrogen.[102] These are indicative of the ILOs social protection imperative. JETPs Political Declaration emphasises benefiting from transition opportunities and protection against the energy transition through a just, equitable and inclusive transition for workers and affected communities where no one is left behind.[103] It acknowledges the need for the full involvement of organised labour and business stakeholders in structured programmes of reskilling and upskilling, job creation, and the provision of related support, ensuring that workers are the primary beneficiaries in the transition to a greener future.[104] These incidents demonstrate respect for workers' rights to employment, to have a say, and not to be left behind in transition policies, signalling a commitment to decent work.

4.5 Nigeria National Climate Change Policy and South Africa Just Energy Transition Investment Plan

Nigeria's National Climate Change Policy (2021-2030) (NCCP) explicitly provides for *multi-stakeholder engagement to facilitate sustainable development and climate-proof* the economy in adherence to the ILO Guidelines' social dialogue.[105] It also declares that its ultimate goal is to ensure that Nigeria achieves low-carbon, climate-resilient and gender-responsive sustainable socio-economic development.[106] Consequently, its implementation measures include developing and implementing strategies for partnership and stakeholder involvement to improve climate change management.[107] NCCP also integrates Nigeria's

99 The Presidency, Republic of South Africa 'South Africa establishes a historic international partnership to support a just transition' 2 November 2021, https://www.thepresidency.gov.za/south-africa-establishes-historic-international-partnership-support-just-transition (accessed 17 September 2025).
100 As above.
101 The Presidency, Republic of South Africa (n 99).
102 Presidential Climate Commission 'South Africa's Just Energy Transition Investment Plan (JET-IP)' https://www.climatecommission.org.za/south-africas-jet-ip (accessed 21 September 2025).
103 The Presidency, Republic of South Africa (n 99).
104 As above.
105 Federal Ministry of Environment Department of Climate Change *National Climate Change Policy for Nigeria* (2021-2030) 15.
106 As above.
107 Federal Ministry of Environment Department of Climate Change (n 105) 47.

nationally determined contributions (NG-NDCs).[108] Furthermore, NCCP, as part of its policy goals, aims to enhance Nigeria's resilience in the social, cultural, economic and ecological spheres,[109] and adopts gender equality and social inclusion as guiding principles.[110]

Its adoption of *gender-responsive measures and the inclusion of vulnerable communities is indicative of a commitment to* social justice and protection. It acknowledges the need for investment decisions that promote water security, resilient growth, and development by supporting employment and job sustainability, as well as social stability.[111] NCCP also guarantees the development of gender-responsive, socially inclusive and climate-resilient water and sanitation facilities as a policy measure to create jobs.[112] While this aligns with the decent work agenda of the ILO Guidelines, NCCP, however, does not explicitly operationalise labour rights, such as collective bargaining, workers' safety or the prohibition of forced labour, nor are there clear provisions on workers' health and safety. Also, it fails to outline specific procedural requirements, such as time frames and formal procedures for employer-labour input for social dialogue in many scenarios. Additionally, the generic nature of the term 'stakeholder' may not always allow for inclusion of affected or labour-specific actors. These details, therefore, are insufficient to command adequate compliance with ILO standards.

By contrast, the unveiling of JET IP was accompanied by broad public discussion through the cabinet, the inter-ministerial committee and the PCC, whose mandate is to facilitate dialogue among various societal stakeholders.[113] JET IP's consultation process appears to align with the ILO Guidelines, which emphasise that dialogues must not just be symbolic but also meaningful.[114] It involves public consultation through a 'JET Grants Register' that allows for an accessible tracking system for grants under the JET IP, which is updated every quarter.[115] The JET IP provides for institutional transparency, a focal element of the ILO's social dialogue, enabling stakeholders and affected persons to identify and leverage available resources.[116] The Political Declaration provides for the protection of affected communities, coal miners, women and the youth, with reference to an equitable and just transition.[117] This reflects the ILO standard on the inclusion of vulnerable/marginalised people, ensuring that their voices

108 Federal Ministry of Environment Department of Climate Change (n 105).
109 Federal Ministry of Environment Department of Climate Change (n 105) 15.
110 Federal Ministry of Environment Department of Climate Change (n 105) 45-46.
111 Federal Ministry of Environment Department of Climate Change (n 105) 30.
112 As above.
113 The Presidency, Republic of South Africa 'President Ramaphosa outlines the Just Energy Transition Investment Plan' 2022, https://www.presidency.gov.za/president-ramaphosa-outlines-south-africas-just-energy-transition-investment-plan?/ (accessed 17 September 2025).
114 The Presidential Climate Commission (n 102).
115 Just Energy Transition 'About the JET investment register', https://justenergytransition.co.za/jet-investment-register (accessed 17 September 2025).
116 The Presidency, Republic of South Africa (n 113).
117 As above.

are heard, and the equitable distribution of benefits and burdens.[118] Moreover, JET IP supports South Africa's objective of achieving a low-carbon economy and a climate-resilient society by creating good jobs in emerging sectors, such as electric vehicles, green hydrogen, renewable energy and manufacturing.[119] It also highlights elements of skills development and training in the new value chain, job creation and employment in addressing poverty, and worker support in transitioning out of the coal industry.[120] The JET Grants Register serves the purpose of ensuring the alignment of the JET grant funds utilisation with South Africa's low-carbon economy, just energy transition objectives, particularly job creation and driving rapid and inclusive economic growth.[121] It presents a comprehensive view of the allocated funds to support JET IP through the supply of grant finance.[122] The grants register serves as an indicator of accountability in the application of investments for the benefit of workers and implicitly signifies respect for fair treatment rights in the workplace, thereby operationalising components of decent work and social protection in the energy transition.

4.6 Nigeria Energy Transition Plan and South Africa National Development Plan

Conducted by the Nigeria Energy Transition Office, Energy Transition Plan's (ETPs) 'Stakeholder Engagement Learnings' objectively assesses sectoral stakeholder engagements and partnerships to broaden understanding of ETP, extract insights, identify gaps, nurture connections and build confidence in the ETPs targets and objectives, while also identifying obstacles to its successful implementation.[123] ETP also emphasises 'fair, inclusive and equitable energy transition', thus indirectly referencing social dialogue and fairness.[124] It is, however, uncertain whether compulsory institutionalised social dialogue, for instance, is legally enforceable or whether CSO oversight roles are stipulated. Also, the systematic engagement of labour/employer organisations remains ambiguous. The 'learned' engagements may be retrospective rather than binding in policy formation. In pursuit of its net-zero ambitions and alignment with the ILO Guidelines' goal of creating decent jobs, ETP projects that approximately 340 00 jobs will be created by 2030 and around 840 000 jobs by 2060, primarily in the power, cooking and transport sectors of the economy.[125] Although ETP can provide more clarity on how these job opportunities align with ILO's minimum standards, it objectifies stakeholder engagements through its 'stakeholder

118 International Labour Organisation ILO Flagship Report *Social dialogue report 2024: Peak-level social dialogue for economic development and social progress* (2024).
119 Presidential Climate Commission (n 102).
120 The Presidency, Republic of South Africa *South Africa's Just Energy Transition Investment Plan (JET IP) for the initial period 2023-2027* (2022).
121 The Presidency, Republic of South Africa *Purpose of the grants register*.
122 As above.
123 Nigeria Energy Transition Office *Stakeholder Engagement Learnings (Jan-June 2023)*.
124 Nigeria's Energy Transition Plan 'Key objectives', https://www.energytransition.gov.ng/objectives/ (accessed 29 September 2025).
125 Nigeria's Energy Transition Plan (n 124).

engagement learnings',[126] which is indicative of the ILOs social dialogue element in creating decent jobs. While its emphasis remains on facilitating a *just transition*, job creation and the protection of workers and communities affected by the transition from fossil fuels,[127] it fails to guarantee actionable workplace rights, such as collective bargaining, safe working conditions or protections against discrimination. Also, much of its emphasis is aspirational.

On the other hand, South Africa's National Development Plan (2030) NDP guarantees the active participation of citizens and all sectors in its development, fostering societal partnerships, building capable institutions and establishing local and international partnerships.[128] NDP was designed for every South African, across all strata, to facilitate government accountability.[129] The government's partnership with sectors, provinces and municipalities enables its implementation via medium-term strategic frameworks. Also, environmental sustainability, a focal point in chapter 5 of the NDP, necessitates engagement with the environmental, business and labour sectors.[130] Underpinning all the climate-related policies, the NDP is characterised by partnerships, civil society participation, scientifically proven monitoring and evaluation, and constitutional alignment via sections 23 and 39, thus strengthening institutional social dialogue.[131]

NDP was designed to address poverty *reduction, unemployment and inequality*, identifying economic growth, employment and skills development as the focal points of its strategies.[132] Some of its milestones include increasing employment from 13 million in 2010 to 24 million by 2030, skills development, and promoting inclusive growth, particularly by considering marginalised groups based on gender and disability.[133] The Plan calls for broader *partnerships across society, expanding the* roles of state-owned enterprises in artisan training, developing 30 000 qualified artisans annually to mitigate extreme poverty, and advocating stronger inclusion of the right to work and skills development.[134] Although NDP is not a labour-related policy, its commitments closely mirror fundamental workplace rights such as employment, non-discrimination, inclusive participation and decent work. It also embodies many decent work elements, including income and labour standards, and acknowledges that growth must be inclusive. It contends that infrastructure and public works policies must

126 As above.
127 As above.
128 National Planning Commission, Department: The Presidency, Republic of South Africa 'National Development Plan: Vision 2030' https://www.nationalplanningcommission.org.za/National_Development_Plan/?/ (accessed 18 September 2025).
129 National Planning Commission, Department: The Presidency, Republic of South Africa (n 128).
130 National Planning Commission, Department: Presidency, Republic of South Africa *Chapter five: Ensuring environmental sustainability and an equitable transition to a low carbon economy.*
131 As above.
132 *South Africa's Low Emissions Development Strategy 2050* (2020).
133 As above.
134 Executive Summary *National Artisan Development Programme*.

provide, beyond just jobs, meaningful work.[135] NDP's Vision 2030 repeatedly emphasises 'decent work and sustainable livelihoods', highlighting job creation, especially in labour-intensive sectors, reducing inequality and improving the quality of life.[136] As part of its objectives, it aims to reduce unemployment, increase the employment-to-population ratio and promote work that provides dignity, among others.[137]

5 Conclusion and way forward

The article assesses how Nigeria's and South Africa's energy transition frameworks are normatively and institutionally aligned with the ILO Guidelines, and their capacity to support a labour-friendly transition from the fossil fuel sector. The analysis demonstrates that Nigeria's framework is only partially compatible with the ILO Guidelines and remains primarily focused on climate governance rather than worker protection. In contrast, South Africa's energy transition framework represents an ambitious effort to integrate justice into climate and transition planning. Its regulatory recognition of just transition multi-actor and cross-sectoral administrative systems also indicates significant progress. Six principal findings are indicated in this article. First, while the dualist nature of the CFRN prevents the automatic assimilation of ILO Guidelines into domestic law, the SA Constitution embraces their direct assimilation, thereby guaranteeing the justiciability of workers' rights. Second, both the NG-CCA and PIA lack enforceable provisions on labour protections such as worker participation, retraining, reskilling, social protection and transition planning. The opposite, however, is the case for SA-CCA and JTF, with fairly reasonable integration of environmental and labour protections. Third, while Nigeria's NAPF strongly embodies the ILO Guidelines' social dialogue themes, it appears to be more focused on climate risks, vulnerability and adaptation than on the protection of workers' rights.

By contrast, South Africa's JETP demonstrates an unqualified commitment to and respect for workers' rights by embodying decent work, social dialogue and social protections, ensuring that they are not left behind in transition policies. Fourth, Nigeria's NCCP fails to operationalise labour rights, nor does it provide clear clauses on workers' health and safety or even stakeholder engagement. Also, in terms of outlining specific procedural requirements, such as time frames and formal procedures for various employer-labour input in social dialogue, it can only boast of partial compliance with ILO standards. By comparison, South Africa's JET IP operationalises various components of decent work and social protection in the energy transition, particularly through its grants register. Fifth, even though Nigeria's ETP seeks to guarantee a just transition through job creation and

135 National Planning Commission, Department: Presidency, Republic of South Africa (n 130).
136 As above.
137 As above.

worker protection, much of its emphasis remains aspirational. For South Africa's NDP, its commitments mirror the ILO's fundamental workplace rights, such as employment, non-discrimination, inclusive participation and decent work. Finally, a fundamental disconnect is evident between Nigeria's commitment to decarbonisation and the progressive legal and fiscal encouragement of hydrocarbon development, creating uncertainty about the overall direction of the transition process. South Africa's energy regulatory instruments, on the other hand, reveal strong themes of just energy and legislative connectivity.

Nigeria's energy regulatory challenges, however, can be addressed. It must take a cue from South Africa by integrating the ILO Guidelines into its regulatory frameworks to facilitate a just transition, enabling retraining/reskilling/upskilling and ensuring general respect for workers' rights amid the transition from the fossil sector. Civil society may utilise the ILO Guidelines in their activism on the rights and welfare of workers in the Nigerian fossil sector. Also, in deserving cases, the Court may treat the ILO Guidelines as persuasive authority to fill policy and legal gaps regarding just transition. In the case of South Africa, the government must demonstrate strong political will to implement these frameworks and not leave workers behind. Although South Africa's integration of social protection into policy frameworks is moderately aligned with the ILO Guidelines, a statutory just transition fund dedicated to coal-dependent regions can be created, while the correlation between retraining initiatives and real job engagement can be enhanced.[138] Furthermore, fragmented labour protection measures should be integrated into a unified, just-transition labour protection regime. Stronger integration between environmental and labour law is recommended to ensure that climate-induced job losses and skills transition are comprehensively addressed. Barring such an approach, Nigeria and South Africa's energy transition regulatory frameworks risk recreating and reinforcing inequities under a 'green' veil, thus transitioning without the inclusion of energy workers, who are the most vulnerable in the transition.

138 S Lowitt, *Finance and the just transition* (2021); Partnership for Action on Green Economy 'From framework to practice: Translating South Africa's just transition vision into action' / (2026), https://www.un-page.org/news/framework-practice-translating-south-africa-just-transition-vision-action/#:~:text=In%20South%20Africa's%20northeastern%20province,voice%20in%20shaping%20the%20future (accessed 12 April 2026); J Bohlmann and others 'South Africa's move to greener energy is creating new jobs, but benefits aren't evenly spread' (2026), https://www.up.ac.za/news/south-africas-move-greener-energy-creating-new-jobs-benefits-arent-evenly-spread#:~:text=Our%20research%20findings%20show%20that,new%20opportunities%20are%20broadly%20accessible (accessed 12 April 2026).

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Legal and institutional pathways to energy transition in Nigeria: Challenges, opportunities and reform imperatives

*Olanrewaju Adebowale Aladeitan**
Professor of Energy and Natural Resources Law, Department of Public Law, University of Abuja, Nigeria
https://orcid.org/0000-0002-6817-7457

*Solomon Vendaga Ater***
Research and Programmes Associate, SabiLaw Foundation, Nigeria
https://orcid.org/0009-0009-1763-074X

*Joseph Kolapo Toriola****
Postgraduate Student, Department of Public Law, University of Abuja, Nigeria
https://orcid.org/0009-0001-0944-7285

Abstract: The global energy transition is reshaping international energy governance, finance and law, yet resource-dependent developing economies such as Nigeria face the difficult task of reconciling continued exploitation of hydrocarbons with the transition to cleaner energy. This article examines whether Nigeria's existing legal and institutional architecture is capable of supporting that transition. Using a doctrinal research methodology, it analyses relevant legislation, policies and institutional arrangements governing energy transition.

* BL (Abuja) PhD (Abuja); olanrewaju.aladeitan@uniabuja.edu.ng
** BL (Abuja) LLB (Abuja); soloater12@gmail.com
*** LLB (Okada);toriolakolapo@gmail.com

It argues that Nigeria's principal challenge is not the absence of transition-related laws and institutions, but the fragmented and poorly coordinated manner in which they operate. The article concludes that a coherent, predictable and adequately resourced governance architecture is essential to translating Nigeria's energy-transition commitments into sustained implementation. It recommends harmonising existing laws and institutional mandates, strengthening inter-agency coordination and technical capacity, expanding dedicated financing mechanisms, and addressing policy and security constraints that impede energy development.

Key words: climate change; electricity; energy security; energy transition; renewable energy

1 Introduction

Energy is indispensable to economic development, industrialisation, technological advancement and social welfare.[1] Access to reliable, affordable and sustainable energy remains a fundamental prerequisite for economic growth, poverty reduction, environmental sustainability and national competitiveness.[2] However, increasing concerns over climate change, environmental degradation, energy security and access and the long-term sustainability of fossil fuel dependence have prompted a fundamental rethinking of how energy is produced and consumed.[3] For Nigeria, the transition presents both significant opportunities and complex challenges. The country possesses abundant renewable energy resources, including solar, wind, hydropower, biomass and geothermal energy. If Nigeria's renewable energy potential is effectively harnessed and integrated into the national grid, it could significantly increase electricity generation beyond the 5 105 megawatts recorded in July 2024.[4]

However, on the challenge side, Nigeria remains heavily dependent on crude oil and natural gas, with the petroleum sector still dominating a substantial source of government revenue and foreign exchange earnings.[5] This dependence is a delicate policy and legal dilemma. On the one hand, Nigeria must honour its

1 AS Vendaga 'Decentralisation of the Nigerian Electricity Industry (NESI): Prospects and challenges' BarristerNG (web blog) 9 December 2023, https://barristerng.com/decentralization-of-the-nigerian-electricity-industry-nesi-prospects-and-challenges-by-ater-solomon-vendaga%C2%B7/ (accessed 1 December 2025).

2 Y Devarajan and others 'Advancing SDG-7 for affordable and clean energy: Decentralised energy access pathways, policy-finance barriers, and AI-enabled transition strategies' (2026) 45 *International Journal of Sustainable Energy*, https://doi.org/10.1080/14786451.2026.2620883 (accessed 1 December 2025).

3 Yuan Yang and others 'Energy transition: Connotations, mechanisms and effects' (2024) 52 *Energy Strategy Reviews* 101320.

4 OJ Olujobi and others 'Carbon emission, solid waste management and electricity generation: A legal and empirical perspective for renewable energy in Nigeria' (2022) 22 *International Environmental Agreements: Politics, Law and Economics* 599; D Adaji 'Power generation hits three-year high of 5,105MW' *The Punch* 8 August 2024, https://punchng.com/power-generation-hits-three-year-high-of-5105mw/ (accessed 21 August 2026.)

5 OJ Olujobi and others 'COVID-19 pandemic: The impacts of crude oil price shock on Nigeria's economy, legal and policy options' (2022) 14 *Sustainability* 11166, https://doi.org/10.3390/su141811166. (accessed on 1 December 2025).

international climate obligations and progressively decarbonise its economy; on the other, it must safeguard energy security, economic development, employment and fiscal stability within a predominantly hydrocarbon-based economy. This article argues that Nigeria's transition is hindered less by inadequate laws than by fragmented institutions, weak coordination and limited implementation capacity. The challenge, therefore, lies not merely in replacing fossil fuels with renewable energy, but in establishing a coherent legal and institutional framework capable of managing a just, orderly and economically sustainable transition.

Recognising these realities, Nigeria has undertaken a series of legislative, regulatory and policy reforms designed to facilitate energy transition. At the international level, Nigeria is a party to the Paris Agreement and has committed itself to achieving net-zero greenhouse gas emissions by 2060.[6] Domestically, this commitment has been reinforced through the enactment of the Climate Change Act, 2021, the Petroleum Industry Act, 2021, and the Electricity Act, 2023, together with the adoption of the National Energy Transition Plan and other renewable energy policies. Collectively, these instruments seek to promote low-carbon development, improve electricity access, encourage renewable energy investment, strengthen climate governance and enhance the sustainability of the Nigerian energy sector.[7] The Fifth Alteration to the 1999 Constitution further advances electricity-sector decentralisation by enabling states to establish and regulate electricity markets within their jurisdictions. This creates greater scope for state-led and decentralised renewable energy projects.[8] Despite these reforms, however, their impact remains constrained by weak implementation, institutional fragmentation and limited coordination among relevant agencies.

The implementation of these legal reforms is supported by an evolving institutional framework comprising the National Council on Climate Change, the Nigerian Electricity Regulatory Commission, the Nigerian Upstream Petroleum Regulatory Commission, the Nigerian Midstream and Downstream Petroleum Regulatory Authority, the Energy Commission of Nigeria, the Rural Electrification Agency, and other specialised institutions responsible for regulating various aspects of Nigeria's energy sector. These institutions perform complementary regulatory, supervisory and policy functions intended to facilitate the country's transition towards a more diversified, sustainable, and resilient energy system.

6 C Nriezedi-Anejionu 'Nigeria net-zero 2060' African Law & Business (Web blog) 31 July 2025, https://www.africanlawbusiness.com/expert-views/nigeria-net-zero-2060/ (accessed 29 June 2026).

7 Nigeria Energy Transition Plan 'Natural Gas', https://www.energytransition.gov.ng/natural-gas/ (accessed 29 June 2026).

8 Enugu, eg, has established a state electricity regulatory framework and adopted the Enugu State Off-Grid Electrification Regulations 2025, creating a clearer basis for state-led and decentralised renewable energy projects.

Despite these significant legislative and institutional developments, the effectiveness of Nigeria's energy transition framework remains subject to considerable legal and regulatory challenges. The existing framework is characterised by fragmented legislation, overlapping institutional responsibilities, inconsistent policy implementation, regulatory uncertainty, weak inter-agency coordination, inadequate enforcement mechanisms, and the absence of a comprehensive legislative framework specifically dedicated to energy transition. While several statutes and policies regulate aspects of renewable energy, electricity, climate change, environmental protection and petroleum operations, they do not operate within an integrated legal framework capable of providing coherent governance for Nigeria's transition towards a low-carbon economy. Again, the co-existence of legislation promoting continued hydrocarbon development alongside laws encouraging decarbonisation have equally heightened the complexity of Nigeria's transition agenda and raises important questions regarding regulatory coherence, institutional effectiveness and policy consistency.

Consequently, these challenges, together with the inefficiencies around financing constraints, inadequate infrastructure, technological limitations, limited institutional capacity and competing developmental priorities, have continued to stall the transition agenda. In fact, as global investment increasingly shifts towards environmentally sustainable projects, jurisdictions seeking to attract investment in renewable energy require legal systems that provide regulatory certainty, institutional accountability, effective dispute resolution mechanisms and transparent governance structures.[9] For Nigeria, however, fragmented institutional mandates, regulatory uncertainty and weak coordination can increase investment risks and undermine confidence in renewable energy projects. Thus, the quality of a country's legal and institutional framework has become an important determinant of investor confidence, renewable energy deployment and successful energy transition. Against this backdrop, this article examines the legal and institutional framework governing energy transition in Nigeria, with a view to evaluating its effectiveness, identifying existing regulatory and institutional gaps, and proposing reforms capable of strengthening Nigeria's transition towards a secure, sustainable and low-carbon energy future.

To achieve this purpose, the article is structured into five main parts. The first part is the introduction, while part 2 conceptualises energy transition and the energy sustainability trilemma; part 3 analyses the existing legal and institutional frameworks governing the sector; part 4 evaluates the key challenges facing Nigeria and opportunities in the transition agenda; and, finally, part 5 concludes with targeted recommendations for legislative and structural reform.

9 S Azubuike, E Emeseh & DY Amakiri 'Climate change, energy transition, and the Global South: Learnings from the international framework on the ozone layer' (2024) 42 *Journal of Energy & Natural Resources Law* 255-277.

2 Conceptualising energy transition

Energy transition is the shift from reliance on fossil fuels to renewable and cleaner energy sources. It is commonly understood as

> a process of fundamental transformation of the main elements of the energy system towards a new configuration of energy service, embodied in a prolonged chain and complex system involving energy production, storage, transmission and consumption, energy technologies, management, and practices related to energy security, geopolitics, and energy governance.[10]

Historically, three major energy transitions have occurred.[11] The first involved a shift from traditional biomass, particularly firewood, to coal as the dominant energy source. The second transition was marked by the gradual replacement of coal with oil, which became central to industrial development and global transport systems. The third, which remains ongoing and forms the focus of this article, involves the transition away from fossil fuels toward renewable and low-carbon energy systems.[12] Fundamentally, this contemporary low-carbon transition anticipates an energy system increasingly driven by clean electricity, with the overarching objective of achieving net-zero greenhouse gas emissions by 2050.[13]

Unlike energy revolutions of the past, the low-carbon transition is not driven by scarcity or the discovery of new energy resources, but is propelled by the urgent need to mitigate climate change.[14] Thus, it is observed that the transition is driven by the convergence of international climate policy, technological innovation and evolving global finance structures.[15] Of particular relevance are the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement.[16] These instruments provide the primary framework for energy transition. They require participating states to align financial flows with low-emission, climate-resilient development pathways.[17] As a state party to both instruments, Nigeria has undertaken commitments to reduce emissions and pursue low-carbon development, including through its nationally determined contributions (NDCs) and its 2060 net-zero target. These commitments provide an international basis for Nigeria's domestic energy-transition policies and reforms.

10 Yang and others (n 3) 101320.
11 As above.
12 As above.
13 As above.
14 UN Secretariat of the High-Level Dialogue on Energy 'Theme report on energy transition: Towards the achievement of SDG 7 and net-zero emissions' (United Nations 2021).
15 B Tamang 'Global climate change: Challenges, opportunities, and multilateral strategies for sustainable development' (2024) 1 *NPRC Journal of Multidisciplinary Research* 65-77.
16 United Nations Framework Convention on Climate Change 'The Paris Agreement', https://unfccc.int/process-and-meetings/the-paris-agreement (accessed 29 July 2026).
17 As above.

These international instruments are reinforced by domestic policy imperatives such as Renewable Portfolio Standards (RPS), feed-in tariffs, carbon pricing mechanisms, and other regulatory incentives designed to stimulate investment in renewable energy deployment. Other efforts include technological advances that are reducing the cost of renewable energy, especially by making solar and wind among the most competitive sources of new electricity generation, with battery energy storage systems (BESS) playing a crucial role in grid stability and reliability.[18] Similarly, emerging grid-forming batteries now provide functions traditionally supplied by fossil fuel plants. Green hydrogen is also gaining importance in decarbonising hard-to-abate sectors, while hydropower continues to supply dependable baseload electricity that supports the integration of intermittent renewables.[19]

Despite these developments, developing economies such as Nigeria,[20] however, often face high perceived investment risk, weak regulatory frameworks, and the absence of equitable just-transition mechanisms addressing the socio-economic consequences for fossil-fuel-dependent communities.[21] This is compounded by the energy sustainability trilemma of balancing affordability, reliability and environmental sustainability. There is no discussion on energy transition that does not include just transition.

A just energy transition is the process of shifting from fossil fuel-reliant systems to cleaner, renewable sources in a manner that is fair and equitable for all affected, including workers and communities historically dependent on fossil fuels.[22] The concept originated in the labour movement and is now a core principle of international climate governance. The International Labour Organisation (ILO) defines it as greening the economy fairly and inclusively, creating decent work, reducing poverty and leaving no one behind.[23] In Nigeria, just transition is particularly significant because reducing dependence on oil and gas could affect employment, public revenues and livelihoods in oil-producing communities. Nigeria's Energy Transition Plan, therefore, recognises the need to manage potential oil-sector job losses through reskilling, alternative livelihoods

18 O Tatarenko and others 'Case study – Storing green hydrogen to safeguard energy security' (Rocky Mountain Institute 2023), https://rmi.org/insight/case-study-storing-green-hydrogen-to-safeguard-energy-security/ (accessed 1 July 2026).
19 As above.
20 ZYI Abba, N Balta-Ozkan & G Drew 'Catalysing decentralised renewable energy investment in Nigeria: Investor-focused risk evaluation and de-risking strategies' (2025) 7 *Renewable and Sustainable Energy Transition* 100112, https://doi.org/10.1016/j.rset.2025.100112 (accessed 21 August 2026).
21 O Osude 'Energy transition and legal challenges in shifting from fossil fuels to clean energy: A United States perspective' (2023) *International Journal of Law and Societal Studies* 134, https://www.bluemarkpublishers.com/index.php/IJLSS (accessed 1 July 2026).
22 International Labour Organisation 'Just transition towards environmentally sustainable economies and societies', https://www.ilo.org/topics-and-sectors/just-transition-towards-environmentally-sustainable-economies-and-societies (accessed 30 July 2026).
23 As above.

and the creation of employment opportunities in renewable energy and other emerging sectors.[24]

Similarly, the International Energy Agency stresses that net-zero pathways must address employment, affordability, energy access and public participation alongside climate objectives.[25] Heffron and McCauley argue that justice should be a central principle of energy law and policy, since transitions inevitably create both beneficiaries and disadvantaged groups; an effective transition, therefore, requires legal and institutional frameworks capable of ensuring distributive justice, procedural fairness, and restorative measures for affected communities and workers.[26]

3 Legal and institutional framework for energy transition

3.1 Legal framework for energy transition in Nigeria

3.1.1 Constitution of the Federal Republic of Nigeria (1999, as amended)

The Constitution of the Federal Republic of Nigeria (CFRN) is the *grundnorm* that provides the foundation for every other law in Nigeria.[27] Section 4 particularly vests the legislative powers of the Federation in the National Assembly, comprising the Senate and the House of Representatives, and the legislative powers of a state in the House of Assembly and empowers it to make laws for the peace, order and good government of the Federation and states on matters contained in the Exclusive and Concurrent Legislative Lists. This provision provides the constitutional authority for the enactment of legislation such as the Climate Change Act, 2021, the Petroleum Industry Act, 2021 and the Electricity Act, 2023, which collectively established the legal framework for Nigeria's transition.

The Constitution (Fifth Alteration) Act 17, assented to in March 2023, amended Paragraph 14(b), Part II of the Second Schedule by deleting the phrase 'not covered by the national grid system', thereby clarifying the power of states to establish independent electricity markets. This amendment is significant for states such as Lagos, Edo and Kaduna, which had already begun developing their own electricity markets, as it enables states to develop electricity solutions suited to local resources and demand, including off-grid and distributed renewable systems. Enugu's adoption of the Off-Grid Electrification Regulations, 2025 earlier captured in the introduction demonstrates how this decentralisation

24 Nigeria Energy Transition Plan 'Oil and Gas', https://energytransition.gov.ng/oil-gas/ (accessed 21 August 2026).
25 International Energy Agency 'World Energy Outlook 2025: Net Zero Emissions by 2050' (IEA 2025), https://www.iea.org/reports/world-energy-outlook-2025/net-zero-emissions-by-2050 (accessed 30 July 2026).
26 RJ Heffron & D McCauley 'What is the "just transition"?' (2018) 88 *Geoforum* 74, https://doi.org/10.1016/j.geoforum.2017.11.016 (accessed 30 July 2026).
27 Constitution of the Federal Republic of Nigeria 1999 (as amended).

can support state-level frameworks for renewable energy development, making the amendment an important step towards addressing Nigeria's power supply challenges and advancing renewable energy.

Other constitutional provisions, such as sections 16, 17, 19 and 20 of Chapter II of the Constitution, promote environmental protection, sustainable economic development and social welfare, all of which underpin Nigeria's transition to a low-carbon economy. Although these provisions are generally non-justiciable under section 6(6)(c), the courts have recognised that they may acquire enforceable effect through legislation.[28] Nigerian courts have adopted a more expansive approach to their justiciability. In *Attorney-General of Ondo State v Attorney-General of the Federation*,[29] the Supreme Court recognised that Chapter II provisions may acquire enforceable effect through legislation. Accordingly, the non-justiciability of Chapter II does not preclude the pursuit of environmental protection through other enforceable legal rights and statutory mechanisms. This development is particularly relevant to environmental protection. In *Jonah Gbemre v Shell Petroleum Development Company of Nigeria Ltd*,[30] environmental harm was addressed through the enforceable rights to life and human dignity, while *Centre for Oil Pollution Watch v NNPC*[31] demonstrated the courts' willingness to facilitate environmental litigation.

3.1.2 Electricity Act, 2023

The Electricity Act (EA) 2023 repeals the Electric Power Sector Reform Act, 2005 (EPSRA) and consolidates all the laws governing the power sector in Nigeria. EA provides a comprehensive framework to guide accelerated growth in generation capacity, transmission expansion, market development and third-party investment, while promoting local content and strengthening federal-state coordination.[32] Building on the gains of the Fifth Alteration Act, 2023, the Act for the first time provides for the decentralised electricity market by empowering states to make laws that establish independent electricity markets and regulatory authorities.[33] However, the effectiveness of this framework depends on states exercising these powers and on the Nigerian Electricity Regulatory Commission (NERC) transferring regulatory oversight in accordance with the Act.[34] Of particular relevance to this study is the fact that the EA seeks to integrate renewable energy into Nigeria's energy mix through specific mechanisms,

28 Olujobi and others (n 4).
29 *A-G, Ondo State v A-G, Fed* (2002) 9 NWLR (Pt 772) 222.
30 Suit FHC/B/CS/53/05 (unreported).
31 (2019) 5 NWLR (Pt 1666) 518.
32 Electricity Act 2023, Explanatory Memorandum.
33 Electricity Act 2023 sec 2(2).
34 As of July 2026, 16 states have transitioned into their established electricity markets as reported by NERC Nigerian Electricity Regulatory Commission 'The Transition to State Electricity Regulation: Key Takeaways & The New SERC Directory' 22 July 2026, https://nerc.gov.ng/media/the-transition-to-state-electricity-regulation-key-takeaways-the-new-serc-directory/ (accessed 21 August 2026).

including provisions on embedded generation, mini-grids and feed-in tariffs, while establishing a comprehensive legal and institutional framework for the operation of the electricity market in Nigeria.[35]

Similarly, the development and utilisation of renewable energy are among the key objectives of the Act. It promotes embedded generation, hybridised generation, cogeneration and generation from solar, wind, small hydro, biomass and other renewable sources. The Act empowers NERC to oversee the implementation of the renewable provisions. Section 164 of the Act requires NERC to implement multiple measures to increase the contribution of renewable energy to Nigeria's energy mix. Some of the key measures include simplification of licensing and fees regime for issuance of licences to renewable energy service companies; provision of regulations specifying the role of generation licensees, transmission service providers and Independent System Operator distribution licensees in the integration of renewable energy generated capacity into the national grid and distribution network; provision of mini-grid regulations on renewable energy to cater for installation, metering and other requirements for renewable energy mini-grid Systems; review of the extant National Content Development Regulations for the power sector to address local content requirements for local skills acquisition, local production, and assembly of solar photovoltaics (PV) components, deep cycle batteries, electromechanical components of small hydropower technology, wind power, boilers and turbines for cogeneration of less than 30 megawatts or other components specified by NERC for local contents requirements; ensuring stable and long-term favourable pricing mechanism for renewable energy; introduction of feed-in tariffs for all small hydro schemes, all biomass co-generation power plants, solar and wind-based plants irrespective of their sizes, within the terms of the tariffs to be up to 20 years, to guarantee buyers under standard power purchase agreements (PPAs) and provide return on investments; provision of support to REA towards efficient implementation of rural electrification using renewable energy sources specified under EA issuance of renewable energy standards on installation; decommissioning and disposal of renewable energy accessories and monitor compliance in conjunction with other relevant ministries, departments and agencies with mandates on product safety and standards and issuance of guidelines on net-metering for roof-top solar PV systems, small wind power in line with the provisions of this Act regarding the procedure for adoption of guidelines or other regulatory documents by the Commission.[36]

Section 164 extensively provides the measures to address several structural barriers to renewable energy deployment by reducing regulatory burdens, improving investment certainty, supporting decentralised generation and encouraging domestic production. The provision on feed-in tariffs, for instance,

35 Electricity Act 2023 secs 1, 164-171, 80 & 65.
36 Electricity Act 2023 secs 164-165.

seeks to provide long-term price certainty and guaranteed off-take through standard power purchase agreements, thereby improving the bankability of renewable energy projects. Similarly, the provisions on mini-grids and net metering create regulatory pathways for distributed generation and rooftop solar. Section 166 mandates the Federal Ministry of Finance to introduce tax incentives for renewable energy generation and consumption. Consistent with this, the value-added tax reforms under the 2025 Tax Reforms Acts exempt several clean energy products and services, including CNG conversion kits, electric vehicles, CNG conversion services, biogas equipment and renewable energy infrastructure from value added tax. NTA also categorised as zero rated the following electricity generated by generation companies (GENCOs) and supplied to National Grid or Nigeria Bulk Electricity Trading Company (NBET); electricity transmitted by Transmission Company of Nigeria (TCN) to Electricity Distribution Companies (DISCOs).[37] Such fiscal incentives reduce project costs, improve affordability of clean technologies and enhance investor confidence in Nigeria's renewable energy sector. These fiscal reforms demonstrate a gradual shift from general energy subsidies towards targeted incentives that support the country's long-term decarbonisation objectives.

Equally important to the transition agenda, section 168 requires distribution utilities to contract with renewable generators only in accordance with Commission guidelines, with approved feed-in tariffs published in the Federal Gazette.[38] Given Nigeria's rapidly growing energy demand, which cannot be sustainably met by finite fossil fuel sources, the promotion of renewable energy in the Act, particularly for rural electrification, is a welcome development, though its effectiveness depends heavily on implementation.

3.1.3 Mini-Grid Regulations, 2023

The Mini-Grid Regulations, 2023, issued by NERC, improved significantly upon the 2016 regulations. The Regulations provide clearer requirements for licensing, technical standards, tariffs, customer complaints and dispute resolution, while requiring operators to maintain defined service obligations. They also retain important grid-arrival protections: A distribution licensee must give a mini-grid operator 12 months' written notice before extending its network into the mini-grid's area, with arrangements for the continued operation or transfer of the mini-grid and compensation for eligible assets.[39] These provisions improve accountability by subjecting operators to regulatory and customer-protection requirements while reducing the risk that grid expansion will strand private investment. Their significance is particularly evident in Nigeria's electrification strategy, where mini-grids are intended to serve unserved and underserved

37 Nigeria Tax Act 2025 sec 186.
38 Electricity Act 2023 secs 166 & 168.
39 Mini-Grid Regulations 2023 paras 20(2)-(4).

communities; the Rural Electrification Agency's current programmes incorporate service standards, technical requirements, environmental safeguards and reporting obligations into mini-grid projects.[40] By addressing this key regulatory weakness and adopting international best practices, the Regulations mark a pivotal, investor-friendly step for decentralised renewable energy, particularly in underserved rural areas, notwithstanding persistent challenges around financing and tariff viability.

3.1.4 Net Billing Regulation, 2026

The NERC Net Billing Regulation 2026 (Regulation NERC-R-002-2026) is a significant regulatory instrument supporting Nigeria's energy transition agenda by creating a legal framework for the integration of distributed renewable energy systems, particularly rooftop solar photovoltaic (PV) installations, into the national electricity grid.[41] The Regulation is made pursuant to section 226 of the Electricity Act 2023 and establishes the procedures, technical standards, metering requirements, commercial arrangements and settlement mechanisms governing net billing arrangements. From an energy transition perspective, the Regulation advances Nigeria's shift towards cleaner energy by incentivising consumers to generate electricity from renewable sources and export surplus electricity to the distribution network in exchange for billing credits. This transforms electricity consumers into 'prosumers', thereby encouraging private investment in renewable energy technologies and reducing dependence on fossil-fuel-based electricity generation.

3.1.5 NERC Renewable Energy Feed-in Tariffs Regulations, 2015

NERC approved the Feed-in Tariff Regulations for Renewable Energy Sourced Electricity in 2015. The Regulation on Feed-in-Tariff for Renewable Energy Sourced Electricity in Nigeria in 2015 (FIT Regulation) was adopted by NERC to facilitate the integration of renewable into the national grid through a mandatory obligation on NBET, the bulk electricity purchaser, to buy electricity from renewable developers that meet the prerequisites.[42] These Regulations set specific tariffs for renewable power plants with a capacity between 1 and 30 megawatts. The Regulations also mandate that the Nigerian Bulk Electricity Trader (NBET) procure 50 per cent of the electricity generated from these plants, with the remaining 50 per cent to be procured by distribution companies.[43] By virtue of

40 Rural Electrification Agency 'Mini Grid' (Distributed Access through Renewable Energy Scale-Up (DARES)), https://www.dares.rea.gov.ng/mini-grid.html (accessed 21 August 2026).
41 Net Billing Regulations, 2023 Reg 3.
42 Alliance Law Firm 'Renewable energy comparative guide – Nigeria' *Monda* 24 July 2025, https://www.mondaq.com/nigeria/energy/1368422/renewable-energy-comparative-guide (accessed 18 July 2026).
43 Renewable Energy Feed-in Tariffs Regulations 2015 paras 5(f), 6 & 7.

section 231(3) of the Electricity Act, 2023, this regulation continues to have the effect of law insofar as it has not conflicted with the provisions of the main Act.

3.1.6 Petroleum Industry Act, 2021

The Petroleum Industry Act, 2021 (PIA) modernises the legal framework for the oil and gas industry, creating efficient governing institutions, a commercially oriented national petroleum company, a more robust fiscal structure, and improved local content practice. Of particular relevance to Nigeria's energy transition, PIA promotes natural gas as a transition fuel by providing fiscal incentives designed to encourage domestic gas utilisation and the development of gas infrastructure. Under section 302 of the Act, companies engaged in domestic midstream petroleum operations, downstream gas operations and large-scale gas utilisation industries are entitled to the incentives. However, with the consequential amendment of PIA by the Nigeria Tax Act, 2025, which sought to consolidate all fiscal provisions in Nigeria, section 80 of the Nigeria Tax Act grants qualifying investors in gas pipelines an additional five-year tax-free period upon the expiration of the Economic Development Tax Incentive provided under Part II of Chapter 8 of the Act, thereby extending the total tax relief available to eligible gas pipeline investments.

Similarly, PIA establishes a Midstream and Downstream Gas Infrastructure Fund financed by 0,5 per cent of wholesale petroleum and gas sales, deployed as equity investment to increase domestic gas consumption, encourage private investment in high-risk projects and reduce gas flaring.[44] If judiciously deployed, the Fund could support a medium-term shift from oil to gas that meaningfully reduces the sector's carbon intensity, consistent with a gradual, gas-anchored transition to renewables.[45] Nigeria's Energy Transition Plan recognises gas as a transition fuel, particularly for establishing baseload capacity and stabilising the grid to facilitate the integration of renewables. However, the Plan also envisages this role as temporary: Gas consumption is projected to increase by about 25 per cent above the 2019 baseline by 2030 before declining to approximately 50 per cent of the 2019 level as Nigeria approaches its 2060 carbon-neutrality target.[46] This reinforces the need to ensure that gas investment under the PIA supports, rather than delays, the progressive deployment of renewable energy.

PIA also requires NNPC Limited to engage in renewable resource development in competition with private investors, and establishes a Frontier Exploration Fund, financed by rents on petroleum licences and a share of NNPC

44 Petroleum Industry Act 2021 sec 52.
45 O Ukoha 'The PIA and gas as transition fuel' *THISDAY* 6 September 2021, https://www.thisdaylive.com/2021/09/06/the-pia-and-gas-as-transition-fuel/ (accessed 1 December 2025).
46 T Oladapo 'Nigeria: A climate look past and forward' *Climate Scorecard* 18 February 2023, https://www.climatescorecard.org/2023/02/nigeria-a-climate-look-past-and-forward/ (accessed 21 August 2026).

Limited's profit oil and gas, dedicated to frontier acreage development.[47] Due to the high-risk nature of exploration and the avoidance of emission-intensive assets by investors, these funds arguably compete for capital better directed toward gas, hydrogen, solar and wind projects. Nigeria could instead consider redirecting such resources toward a dedicated 'Future Energy Fund' to support broader decarbonisation and abatement technologies. On the World Economic Forum (WEF)'s Energy Transition Index, Nigeria ranked 108th out of 120 countries in 2023, reflecting significant weaknesses in its overall transition readiness. The Index identifies regulatory frameworks, investment conditions, infrastructure, skills and institutional capacity as key enablers of effective transition. While Nigeria performed relatively better on regulation and political commitment, the WEF notes that significant investment, stronger institutional and fiscal frameworks, improved planning and greater policy harmonisation remain necessary to translate these commitments into effective action.[48] This suggests that Nigeria's principal challenge is not simply the absence of policy commitment, but the capacity of its legal and institutional structures to translate existing commitments into coordinated and adequately financed implementation.

Relatedly, the Federal Government's Presidential Compressed Natural Gas Initiative (P-CNGi) aims to convert ten million petrol-powered vehicles to compressed natural gas within 36 months, offering a cheaper, lower-emission alternative to petrol amid escalating fuel costs.[49] While CNG offers real transitional benefits in cost, emissions and energy security, successful implementation requires addressing infrastructure development, safety and public awareness, alongside the longer-term goal of transitioning to electric vehicles and renewable energy. While CNG offers short-term transitional benefits, prolonged investment in CNG vehicles and infrastructure could delay transport electrification by diverting investment from electric vehicles and charging infrastructure. CNG, therefore, should remain a transitional measure within a broader pathway towards electric and renewable-powered transport.

3.1.7 Climate Change Act, 2021

The Climate Change Act, 2021 (CCA) provides a framework for achieving low greenhouse gas emissions, inclusive green growth and sustainable economic development, targeting net-zero emissions between 2050 and 2070.[50] It establishes the National Council on Climate Change, vested with powers to make climate

47 Petroleum Industry Act 2021 sec 9.
48 World Economic Forum 'Fostering effective energy transition 2023' 28 June 2023, https://www.weforum.org/publications/fostering-effective-energy-transition-2023/ (accessed 29 July 2026).
49 M Olajide 'Transitioning to CNG in Nigeria: A paradigm shift toward sustainability and a new hope for Nigerians' *UIMSA Press* 9 July 2024, https://uimsapress.org/transitioning-to-cng-in-nigeria-a-paradigm-shift-toward-sustainability-and-a-new-hope-for-nigerians/ (accessed 19 July 2026).
50 Climate Change Act 2021 sec 1.

policy decisions, and a Climate Change Fund financed by donations, grants, NDC-related international funds, fines, carbon tax, and emissions trading, applied toward advocacy, mitigation and adaptation projects, and incentives for private and public entities transitioning to clean energy.[51] CCA mandates a National Climate Change Action Plan every five years, consistent with an approved carbon budget, and imposes emission-reduction obligations on private entities with 50 or more employees and on public entities, while empowering courts to order the prevention, cessation or compensation of environmentally harmful acts, including climate change harms.[52] Notably, CCA does not itself plan for suitable low-carbon alternatives, leaving Nigeria's fossil-fuel-dependent economy exposed to global oil price volatility and the pressures of the green economy transition.

3.1.8 National Agency for the Great Green Wall (Establishment) Act, 2015

The National Agency for the Great Green Wall (Establishment) Act, 2015 (NAGGWA) provides for the institutional framework for the implementation of the Great Green Wall Programme in Nigeria and addressing drought, desertification and land degradation. To achieve these, NAGGWA establishes National Agency for the Great Green Wall[53] as well as its governing body, the National Council on the Great Green Wall.[54] The functions of National Agency for the Great Green Wall under NAGGWA include implementing the Great Green Wall Programme, coordinating relevant governmental and other institutions, building capacity and skills at federal, state and local community levels, promoting sustainable natural-resource management, rehabilitating degraded land and ecosystems, and ensuring compliance with relevant environmental conventions and agreements.[55] NAGGWA also adopts a decentralised approach to implementation by promoting training, human-capacity development and technology transfer at state, local government and community levels.[56] These provisions provide an important foundation for a locally grounded approach to environmental and climate-transition initiatives, particularly by linking institutional coordination with skills development, technology transfer and community-level participation. However, unlike NOGICDA, NAGGWA does not establish specific local-content quotas or preferential requirements for Nigerian enterprises. Its contribution to local content in the emerging green economy, therefore, lies principally in its capacity-building, technology-transfer and decentralised implementation mechanisms, which could be strengthened to promote greater Nigerian participation in renewable energy, ecological restoration and other green-economy activities.

51 Climate Change Act 2021 secs 15-20.
52 Climate Change Act 2021 secs 23-29.
53 National Agency for the Great Green Wall Act 2015 sec 2.
54 National Agency for the Great Green Wall Act 2015 sec 3.
55 National Agency for the Great Green Wall Act 2015 sec 6.
56 National Agency for the Great Green Wall Act 2015 sec 19(4).

3.1.9 Nigerian Oil and Gas Industry Content Development Act, 2010

The Nigerian Oil and Gas Industry Content Development Act, 2010 (NOGICD) provides the legal framework for local content development in the oil and gas sector, mandating priority for Nigerian companies and personnel, and its principles extend by analogy to the energy transition. It establishes a Governing Council and Nigerian Content Monitoring Board, requires Board approval for major contracts, mandates first consideration for Nigerians in employment and training, caps expatriate management positions at 5 per cent, and requires succession planning, technology transfer, the use of Nigerian professional services, and annual content performance reporting.[57] NOGICDA embodies an interventionist model aimed at the eventual indigenisation of the oil and gas industry, a model that could usefully inform local content requirements in Nigeria's emerging renewable energy sector. However, its oil-and-gas model cannot be transplanted wholesale to renewable energy, given the sector's diverse technologies, smaller-scale projects and dependence on imported equipment. Renewable energy local-content rules should, therefore, adopt a gradual approach focused on skills, technology transfer and domestic manufacturing without imposing rigid requirements that could raise costs or deter investment.

3.2 Nigeria energy transition policies

Nigeria has adopted several energy policies aimed at energy transition. Some of the most relevant policies are examined below:

3.2.1 Nigeria Energy Transition Plan, 2022

Nigeria's National Energy Policy serves as the blueprint for transition, aiming to diversify the energy mix away from fossil fuels. It is operationalised through the Nigeria Energy Transition Plan (ETP), a data-driven, multi-pronged strategy targeting net-zero emissions by 2060 across the power, cooking, oil and gas, transport and industry sectors.[58] Launched on 24 August 2022 by the Federal Government and the Energy Transition Implementation Working Group, ETP is a comprehensive strategy targeting 277 gigawatts of installed power capacity by 2060, treating natural gas as an ideal transitional fuel that provides flexible supply alongside intermittent solar and wind and enables the scaling of hydrogen storage technologies.[59] The Plan focuses on key sectors such as power, cooking, oil and

57 Nigerian Oil and Gas Industry Content Development Act 2010 secs 17, 28-31, 42, 49, 55-56, 60 & 69-71.

58 SE Ajose-Adeogun 'Analysing Nigeria's energy transition plan' *BusinessDay* 15 October 2025, https://businessday.ng/opinion/article/analysing-nigerias-energy-transition-plan/ (accessed 30 July 2026).

59 Sustainable Energy for All 'Nigeria energy transition and investment plan', https://www.seforall.org/our-work/initiatives-projects/energy-transition-plans/nigeria (accessed 30 July 2026).

gas, transport and industry. Its key objectives include poverty eradication for over 100 million people, sustainable economic growth, universal electricity access, mobilisation of private investment, and managed transition of jobs from the traditional energy sector. However, the implementation of ETP has not matched its ambition, as financing constraints, infrastructure deficits and institutional weaknesses continue to limit the translation of its targets into measurable energy-transition outcomes.

3.2.2 National Renewable Energy and Energy Efficiency Policy, 2015

The National Renewable Energy and Energy Efficiency Policy, 2015 (NREEEP) provides a comprehensive policy framework for diversifying Nigeria's energy mix through the deployment of renewable energy and energy-efficiency technologies. The Policy seeks not only to increase renewable energy generation but also to promote investment, research and development, technology acquisition, local technological development and community participation in renewable energy projects. Significantly, it recognises the need to increase indigenous participation in the renewable energy value chain and expressly identifies the achievement of a high level of local content as one of its objectives. It consequently proposes financing mechanisms and incentives to support indigenous investment and enhance the competitiveness of Nigerian participants in the sector.[60]

NREEEP also contemplates a coordinated institutional framework involving the Federal Ministry of Power, relevant ministries, departments and agencies, NERC, SON, NESREA, states, local governments, non-governmental organisations (NGOs) and civil society organisations.[61] It envisages cooperation among these institutions in policy formulation and implementation, while encouraging the establishment of renewable energy and energy-efficiency units at state and local-government levels. This institutional and decentralised approach is particularly relevant to local content development because it creates opportunities for the development of domestic technical capacity and broader participation in renewable energy projects. The Policy further provides for research and development, skills development and the development of local manufacturing capabilities, including the training of skilled personnel for the production, operation and maintenance of renewable energy technologies.[62]

However, the principal weakness of NREEEP lies in the gap between its policy aspirations and its implementation architecture. Although the Policy recognises the need for concrete action, it acknowledges that relevant agencies had not previously been held sufficiently accountable for the coordinated and timely implementation of renewable energy policies. It therefore envisaged the

60 National Renewable Energy and Energy Efficiency Policy 2015 para 24.
61 National Renewable Energy and Energy Efficiency Policy 2015 paras 8-9.
62 National Renewable Energy and Energy Efficiency Policy 2015 para 30.

preparation of a National Renewable Energy Action Plan (NREAP), a National Energy Efficiency Action Plan (NEEAP) and a long-term Integrated Resource Plan, supported by defined targets, timelines and implementation measures.[63] It also proposed a Monitoring and Evaluation Watchdog Group, comprising relevant stakeholders, to monitor progress, prepare periodic reports and oversee the achievement of renewable energy and energy-efficiency targets.[64] The fact that these mechanisms were contemplated as necessary instruments for translating the Policy into action illustrates the inadequacy of relying on broad policy commitments without sufficiently robust institutional and enforcement mechanisms.

3.2.3 National Integrated Electric Policy and Strategy Implementation Plan, 2025

In March 2025, NEC approved the National Integrated Electric Policy and Strategy Implementation Plan (NIEPSIP). The plan, set out in eight chapters, strongly supports integrating renewable energy and addressing climate change, aligning with Nigeria's commitments under international agreements such as UNFCCC and the Paris Agreement. Nigeria has committed to reducing greenhouse gas emissions and achieving net-zero emissions by 2060, supported by ETP and NREEEP.[65] The policy promotes diversifying the energy mix with sources like solar, wind and biomass, encourages energy efficiency, and supports initiatives like the green bonds market. It also aims to reduce reliance on diesel generators by pursuing Sustainable Development Goal 7 (SDG7) for affordable, reliable, sustainable and modern energy access. The National Renewable Energy Action Plan (NREEAP) 2015-2030 targets 30000 megawatts of electricity capacity, with renewables contributing 30 per cent by 2030 but, like NREEEP, it lacks a concrete roadmap or implementation timeline, and no successful projects to date suggest Nigeria is on track to meet this target.[66] Separately, the National Nuclear Programme Strategic Plan (SP-2015) targets 1200 megawatts from Nigeria's first nuclear plant by 2027, and 4800 megawatts from four plants by 2037, though Nigeria's on-grid mix remains dominated by thermal gas (about 80 per cent) and hydro (about 20 per cent), with solar and biomass largely confined to inadequate rural electrification.

63 National Renewable Energy and Energy Efficiency Policy 2015 para 38.
64 National Renewable Energy and Energy Efficiency Policy 2015 para 40.
65 National Integrated Energy Policy – Strategic Implementation Plan 2025 ch 4.
66 P Onuh and others 'Challenges and opportunities in Nigeria's renewable energy policy and legislation' (2024) 23 *World Journal of Advanced Research and Reviews* 2354.

3.2.4 Nigeria's Carbon Market Activation Policy, 2025 and National Carbon Market Framework, 2026

Nigeria's Carbon Market Activation Policy, 2025 (CMAP), the country's first comprehensive carbon market framework, sets out the legal and institutional architecture for domestic and international carbon trading, links Nigeria's market to article 6 of the Paris Agreement, and proposes carbon taxation and emissions trading as future regulatory tools, alongside fiscal incentives and anti-fraud safeguards to ensure market credibility.[67] Building on this, the National Carbon Market Framework, 2026 (NCMF) establishes a national carbon registry, mandatory emissions reporting, and standardised project approval processes, with an estimated revenue potential of up to US $3 billion annually, coordinated by the National Council on Climate Change across the energy, agriculture and waste sectors.[68]

3.3 International agreements and treaties

3.3.1 The Paris Agreement

Nigeria, as a signatory to the Paris Agreement, is committed to transitioning from fossil fuels and reducing emissions through nationally determined contributions (NDCs) containing both conditional and unconditional pledges. The Agreement, adopted by 195 parties at COP21 in December 2015 and entering into force in November 2016, commits states to holding global temperature rise well below 2°C, and pursuing efforts to limit it to 1,5°C, above pre-industrial levels.[69] It represents a landmark in binding multilateral climate governance, though, like most international agreements, it suffers from weak enforceability: While it requires monitoring and reporting of emissions, it cannot compel any state to reduce them.[70] These commitments have influenced Nigeria's domestic transition framework, particularly the Climate Change Act, 2021, which establishes a legal framework for achieving net-zero emissions by 2060, and the National Energy Transition Plan, which translates this commitment into sector-specific pathways for decarbonisation.

3.3.2 United Nations Framework Convention on Climate Change

The United Nations Framework Convention on Climate Change (UNFCCC) was adopted in 1992 and has been in force since 1994. It has attained a near-

67 Federal Ministry of Environment 'Carbon market activation policy' (2025).
68 Federal Government of Nigeria 'National carbon market framework' (2026).
69 United Nations Framework Convention on Climate Change 'United Nations Framework Convention on Climate Change', https://unfccc.int/process-and-meetings/united-nations-framework-convention-on-climate-change (accessed 30 July 2026).
70 IP Amechi 'The Nigerian Petroleum Industry Act and the energy transition: Issues, challenges and opportunities' (2022) 13 *Journal of Sustainable Development Law and Policy* 1.

universal ratification rate having been ratified by 198 countries. UNFCCC aims to stabilise greenhouse gas concentrations at levels that allow ecosystems to adapt naturally while enabling sustainable economic development.[71] It provides the overarching international framework for Nigeria's transition to a low-carbon, green economy, a transition complicated by continued reliance on fossil fuels but supported by policies aimed at expanding renewable energy and achieving net-zero emissions by 2060, and underpins Nigeria's advocacy for equitable climate finance and technology transfer. UNFCCC principles, including common but differentiated responsibilities, climate finance and technology transfer, inform Nigeria's climate policy and are reflected domestically in the Climate Change Act, 2021, NDCs and Energy Transition Plan.

3.3.3 Kigali Communiqué, 2022

The Kigali Communiqué sets seven principles for a just and equitable African energy transition, including universal energy access, the use of gas as a transitional fuel, increased investment, local job creation, greater development finance and technology transfer.[72] Nigeria's ETP reflects these principles by combining universal energy access, poverty reduction, job creation and economic development with a pathway to net-zero emissions by 2060, while recognising gas as a transitional fuel and prioritising renewable-energy expansion.[73]

3.4 Institutional and Regulatory Framework for Energy Transition in Nigeria

3.4.1 Federal Ministry of Power

The Federal Ministry of Power is the executive arm of the Federal Government with the responsibility for the provision of power in the country. The Ministry plays a central, leading role in Nigeria's energy transition by spearheading the implementation of the National Energy Transition Plan, which aims for net-zero emissions by 2060, enhancing energy access, and fostering economic development through renewable energy deployment, increased energy efficiency, and the expansion of natural gas as a transition fuel. The Ministry is responsible for developing policies, attracting investment, fostering local manufacturing, and implementing technical assistance to build a sustainable energy future for Nigeria. A recent example of the ministry's commitment to renewable energy is the 10-year concession granted to Proserve Energy Services Limited.[74] This concession

71 UNFCCC arts 1-2.
72 Surveillance Ghana 'Kigali Communiqué outlines principles for a just and equitable energy transition' (20 May 2022).
73 Nigeria Energy Transition Plan Nigeria Energy Transition Plan, https://energytransition.gov.ng/ (accessed 21 August 2026).
74 Akinwale 'Govt takes ministry building off national grid' *ThisDay* (Lagos) 8 May 2019, https://allafrica.com/stories/201905080209.html (accessed 21 August 2026).

aims to establish a 750 kilowatt solar power supply system, aligning with the ministry's goal to promote renewable energy and contribute to decarbonisation.

3.4.2 Institutions established under EA, 2023

Nigerian Electricity Regulatory Commission

NERC was established in 2005 by the Electric Power Sector Reform Act, 2005 to regulate the Nigerian electricity industry. With the repeal of EPSRA, 2005, it is now established under section 33 of EA, 2023. Its primary duty is to protect the interests of consumers, issue licences to operators/investors, set and review electricity tariffs and, where possible, promote competition. The Federal Government, through NERC, has created an enabling environment for intending investors in the Nigerian Electricity Industry.[75] NERC's main objective is the protection of existing and future consumers' interests in relation to electricity generated and conveyed by distribution or transmission systems. In furtherance of its objective, NERC plays an important regulatory role in expanding access to electricity by facilitating connections to distribution networks, establishing service standards and creating regulatory frameworks that support reliable electricity supply, including the integration of renewable energy into the electricity market.[76] NERC has issued industry codes, market rules and tariff orders, and although it set a target in 2015 to generate a minimum of 2 000 megawatts from renewables by 2020, split evenly between distribution companies and the Bulk Trader, this target has not been achieved, illustrating the gap between regulatory ambition and implementation. Besides, despite NERC's expanded mandate under the Electricity Act, 2023, its capacity to advance renewable energy remains constrained by grid limitations, evolving regulatory mechanisms and persistent market-financing challenges. The emergence of state electricity regulators further requires effective coordination to ensure regulatory consistency for renewable projects operating across state and national grid boundaries.[77]

Rural Electrification Agency

The Rural Electrification Agency (REA) manages the Rural Electrification Fund under sections 142 to 143 of the Electricity Act, 2023 which, unlike its EPSRA, 2005 predecessor, is dedicated specifically to renewable electricity investment in rural and underserved areas, supported by tax incentives and affordable financing for local renewable energy producers.[78]

75 Electricity Act 2023 sec 33(1).
76 As above.
77 A Adeyemi 'Promoting renewable energy through a decentralised electricity regulatory framework – An analysis of Nigeria's Electricity Act 2023' (2024) 15 *Journal of Sustainable Development Law and Policy* 399, 412-435.
78 Electricity Act 2023 sec 129(1)(g).

Nigerian Bulk Electricity Trading Plc

The Nigerian Bulk Electricity Trading Plc (NBET), incorporated in 2010 as the sole licensed bulk purchaser and reseller of electricity, enters power purchase agreements with generation companies and resells to distribution companies under vesting contracts, serving as a credit-worthy counterparty to catalyse private investment in the sector.

Nigerian Independent System Operator

The Nigerian Independent System Operator (NISO) manages the national grid, administers the electricity market, and plans grid expansion to integrate renewable sources, ensuring stability and fair access as the sector decentralises.[79]

Transmission Company of Nigeria

The Transmission Company of Nigeria (TCN) was licensed in 2006 as one of the unbundled successors to the defunct National Electric Power Authority. TCN performs the market operator, system operator, and transmission service provider functions, evacuating generated electricity to distribution companies.

Energy Commission of Nigeria

The Energy Commission of Nigeria (ECN) is established under section 1 of the Energy Commission of Nigeria Act. ECN is Nigeria's apex body for energy planning, policy coordination and research, playing a central role in Nigeria's energy transition. Its functions as provided in section 5 of the Act include promoting energy diversification by coordinating research and development in both conventional and renewable energy sources, including solar, wind, biomass and nuclear energy, through a network of specialised research centres across the country. While ECN has been instrumental in advancing clean energy development, the Electricity Act, 2023 has created overlapping responsibilities with NERC, leaving unresolved institutional boundaries between the ECN's policy coordination role and NERC's regulatory oversight of the electricity sector.

National Council on Climate Change

The National Council on Climate Change (NCCC) is established under CCA, 2021,[80] as Nigeria's apex institution for coordinating climate governance and driving the country's energy transition. NCCC formulates national climate

79 Electricity Act 2023 Part on system operations.
80 Climate Change Act 2021 sec 3.

policies, coordinates implementation across ministries, departments and agencies, administers the Climate Change Fund, and supports the development of market-based mechanisms such as carbon taxation.[81] By requiring public institutions and major private-sector entities to integrate emission reduction measures into their operations, the Council provides the institutional framework for transitioning to a low-carbon economy and achieving Nigeria's climate and energy transition objectives.

National Agency for the Great Green Wall

The National Agency for the Great Green Wall (NAGGW) is established under section 1 of the National Agency for the Great Green Wall (Establishment) Act, 2015 and is responsible for implementing Nigeria's Great Green Wall Programme, particularly measures aimed at combating desertification, restoring degraded land and improving the resilience and livelihoods of affected communities.[82] NAGGW's functions further include providing technical assistance, promoting training and human-capacity development, and facilitating the transfer of appropriate technology to local communities.[83] NAGGW is empowered to coordinate relevant stakeholders and collaborate with frontline states and local government implementation committees in implementing the programme.[84] NAGGW therefore plays an important enabling role in the energy transition by strengthening local capacity and community participation in environmental restoration and other climate-related activities. Its relevance to local content lies principally in its emphasis on human-capacity development, technology transfer and local participation, which can contribute to building the domestic skills and technical capabilities required for Nigeria's emerging green economy.

Nigerian Electricity Management Services Agency

The Nigerian Electricity Management Services Agency (NEMSA) is established under section 172 of the Electricity Act, 2023. It is empowered to enforce statutory technical and safety standards, certifies electrical personnel, and inspects power plants, transmission lines and distribution networks, playing a critical enabling role by ensuring that renewable energy infrastructure meets prescribed technical standards, thereby supporting investor confidence and safe grid modernisation. Their responsibilities relating to energy transition is to ensure technical compliance with electrical standards.

81 Climate Change Act, 2021 sec 5.
82 National Agency for the Great Green Wall Act 2015 sec 6.
83 As above.
84 National Agency for the Great Green Wall Act 2015 sec 7.

4 Challenges and opportunities

4.1 Challenges

4.1.1 Inadequate and inconsistent legal regime for energy transition

Although Nigeria has established several policies and legislative measures to promote energy transition, there is, however, a lack of coherence and alignment between these policies and the broader energy sector regulations.[85] The various policies, guidelines and programmes are too many, repetitive, wordy and conflicting in territorial boundaries to make for effectiveness. For instance, some of such policies, guidelines or programmes include[86] the National Energy Policy, 2022 (NEP); the Nigerian Biofuel Policy and Incentives, 2007 (NBPI); the Captive Energy Generation Regulation, 2008 (CEGR); the National Renewable Energy and Energy Efficiency Policy, 2015 (NREEEP); and the Integrated National Electricity Policy and Strategic Plan (INEPSIP). These numerous policies create uncertainty for regulators and investors alike.[87] Although China's stronger manufacturing base, investment capacity, grid infrastructure and technological development have facilitated greater renewable-energy deployment, policy coherence also plays an important role in providing the stability and direction necessary for sustained investment and implementation. Nigeria's comparatively lower renewable energy contribution of about 21 per cent, against China's 30 per cent, therefore, highlights the need to address not only capacity and infrastructure constraints but also fragmentation within its policy framework.[88]

4.1.2 Absence of comprehensive energy transition legislation

Nigeria's legislative framework support for renewable energy development is the ECN Act, 2004 and EA, 2023. The major function of ECN as provided for in section 5 of the ECN Act, 2004 is the strategic planning and coordination of national policies in the field of energy in all its ramifications. The ECN Act confers on ECN the monopoly on policy making in relation to energy exploitation and distribution on the commission without any specific provision on the exploitation and utilisation of renewable energy. It would have been expected that the recent EA would remedy this legislative framework challenge. However, EA only listed renewable energy promotion and development among the functions of NERC. This is unlike the China's Renewable Energy Law, 2005, as amended in 2009, which laws spelt out the role of renewable

85 Energy Commission of Nigeria, 2022.
86 Onuh and others (n 66) 2372.
87 As above.
88 International Renewable Energy Agency 'Renewable energy roadmap: Nigeria' (IRENA 2023), https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2023/Jan/IRENA_REMap_Nigeria_2023.pdf (accessed 20 July 2026).

energy and periodic percentage contribution to its energy mix.[89] To increase its percentage contribution of renewable energy on its energy mix, Nigeria needs to put in place an effective renewable energy specific legislation in place not as an ancillary or addendum to other legislative framework, but as an independent specific and definite legislation on renewable energy development for Nigeria, as is the case in China. Although the Electricity Act, 2023 and NREEEP provide important elements of a renewable energy framework, their limited specificity and fragmented implementation leave regulatory gaps that create uncertainty for investors and project developers.

4.1.3 Bureaucratic inefficiencies and delays

The regulatory environment is also characterised by procedural delays. For example, renewable energy developers have reported lengthy approval processes involving NERC, the Rural Electrification Agency and environmental authorities, while customs clearance for imported solar equipment has also caused project-delivery delays.[90] These delays increase development costs and can discourage private investment in renewable energy.[91] The lack of effective enforcement mechanisms is another significant barrier. While policies and regulations exist, their enforcement is often weak due to limited institutional capacity and resources. Regulatory bodies such as NERC and REA are tasked with overseeing the implementation of renewable energy projects, but they frequently lack the necessary financial and technical resources to fulfil their mandates effectively.[92]

4.1.4 Poor public awareness of energy transition

One of the key challenges to energy transition in Nigeria is poor public awareness. Nigeria officially launched its Energy Transition Plan in August 2022, to show its commitment towards the decarbonisation of the earth's atmosphere and also drive economic growth. The plan focused on Nigeria's pathway to achieving net-zero emissions by 2060. The then Vice-President, Yemi Osinbajo, and other key players in the energy industry were part of the launch, yet the public awareness remains poor.[93] To that end, a larger population of the citizenry both learned

89 Renewable Energy Law of the People's Republic of China 2005 (as amended 2009) arts 4, 8 & 14.

90 E Dinneya-Onuoha 'Unlocking renewable energy materials in Nigeria: Availability, application, and roadmap for sustainability' (2025) 3 *RSC Sustainability* 2534, https://doi.org/10.1039/D5SU00121H (accessed 21 August 2026).

91 International Renewable Energy Agency, 2020.

92 Energy Commission of Nigeria, 2022.

93 Sustainable Energy for All (SEforALL) 'Nigeria's Vice President launches energy transition plan as country seeks USD 10 billion initial support package' 24 August 2022, https://www.seforall.org/news/nigerias-vice-president-launches-energy-transition-plan-as-country-seeks-usd-10-billion (accessed 20 July 2026).

and unlearned are yet to understand the concept called energy transition.[94] They are yet to be acquainted with what energy transition is all about; how it impacts them, the benefits therein, and the need to follow the plan.[95]

4.1.5 High cost of transitioning

Another key challenge to energy transition in Nigeria is the high cost involved in energy transition.[96] At the launch of Nigeria's energy transition plan, the government stated that it would need about $410 billion (about ₦308 trillion) to reach net-zero by 2060.[97] Although this figure is spread across almost four decades and, therefore, does not represent an immediate funding requirement, it nevertheless implies sustained annual investment of roughly US $10 billion, alongside significant expenditure on infrastructure, technology and institutional capacity.[98] Consequently, energy experts have called for greater mobilisation of international and concessional finance to address Nigeria's energy transition funding gap, given the scale of investment required to implement the ETP.[99] Demonstrating this approach, the UK government pledged a £95 million investment at COP27 to support climate-resilient agriculture (CRA) and sustainable rural economic transformation in Nigeria.[100]

4.1.6 Lack of requisite technological skills

Considering the level of innovation required to fully transition to net-zero carbon emissions, the energy transition plan has been declared a global industrial revolution. This industrial revolution for energy transition requires new technological advancements, especially in electrification.[101] As it stands, Nigeria lacks the requisite technological skills to pursue any of the key advancements.[102]

94 A Mojeed 'Experts discuss challenges impeding energy transition efforts in Nigeria' *Premium Times* 17 February 2025, https://www.premiumtimesng.com/news/more-news/774972-experts-discuss-challenges-impeding-energy-transition-efforts-in-nigeria.html (accessed 20 July 2026).

95 EN Johnson Nchege, MO Enyoghasim & NJ Ogbonna 'Renewable energy adoption in Nigeria: Barriers to implementation and opportunities for growth' (2024) 2 *AEFUNAI Journal of Economics, Finance and Development Studies* 88-98.

96 MS Adaramola, SS Paul & OM Oyewole 'Barriers to renewable energy development in Nigeria: A review' (2020) 33 *Renewable Energy Focus* 8-15.

97 CH Jaynes 'IEA: Clean energy investment must reach $4.5 trillion per year by 2030 to limit global warming to 1.5°C' *World Economic Forum* 28 September 2023, https://www.weforum.org/stories/2023/09/iea-clean-energy-investment-global-warming/ (accessed 20 July 2026).

98 International Energy Agency 'World energy outlook 2020' (IEA 2020), https://www.iea.org/reports/world-energy-outlook-2020 (accessed 20 July 2026).

99 F Okpale 'Nigeria urged to bridge $15.8b funding gap in energy transition plan' *BusinessDay* 16 October 2024, https://businessday.ng/energy/article/nigeria-urged-to-bridge-15-8b-funding-gap-in-energy-transition-plan/ (accessed 21 August 2026).

100 UK Foreign Office 'Foreign Secretary at COP27 pledges new support for developing countries to deal with climate change' (Press release) 14 November 2022, https://reliefweb.int/report/world/foreign-secretary-at-cop27-pledges-new-support-developing-countries-deal-climate-change (accessed 20 July 2026).

101 Onuh and others (n 66) 2364.

102 This gap can be addressed through technology-transfer partnerships, specialised training and collaboration with international manufacturers and research institutions.

For instance, one of the main causes of air and noise pollution in cities is the exhaust of vehicles powered by internal combustion engines. However, switching the cars on the road to electric vehicles would be a significant step toward reducing local pollutant concentrations. This is especially true of NO2 (nitrogen dioxide), which will thus also reduce the number of premature deaths. In this energy transition, electric vehicles are a major turning point in public transportation, as most developed countries are already transitioning to electric transport.

4.1.7 Policy inconsistency

The Global Government Institute's 2017 report stresses that laws alone cannot resolve Nigeria's energy issues; political will is essential. Despite legislative efforts for renewable energy and emission reduction, inconsistent political commitment and weak institutional coordination hinder effective implementation. Policy inconsistency creates uncertainty for investors, undermining the long-term investments needed for a low-carbon economy. The importance of policy consistency was succinctly captured by the Director-General of the World Trade Organisation, Dr Ngozi Okonjo-Iweala, who observed:

> One of the things I think we suffer is policy inconsistency. We start policies, and we don't continue it; maybe a new government comes in, or a new manager in a government department, all the policies that are in place are questioned, so business people don't know what environment to operate in.[103]

This observation aptly reflects the realities of Nigeria's energy sector.[104] Energy transition projects, including renewable energy generation, electricity transmission and distribution, gas infrastructure, hydrogen development and climate-related investments, require policy certainty over several decades. Where governments frequently alter regulatory or fiscal frameworks, investors become reluctant to commit capital, while existing projects may experience delays or cancellations. Consequently, policy inconsistency significantly undermines Nigeria's ability to attract both domestic and foreign investment needed to achieve its energy transition objectives.

103 Nigeria Economic Summit Group 'Policy and regulatory inconsistencies in Nigeria: A major bane of private investments' (2021), https://nesgroup.org/storage/app/public/papers/Policy%20%26%20Regulatory%20Inconsistencies%20in%20Nigeria_A%20Major%20Bane%20of%20Private%20Investments.pdf (accessed 3 July 2026).

104 Nigeria's electricity sector illustrates this problem: The electricity tariff regime has undergone repeated revisions, including the introduction of the Multi-Year Tariff Order (MYTO), subsequent tariff freezes and subsidies, and the 2020 service-reflective tariff reforms; similarly, renewable-energy policy has evolved from the 2003 National Energy Policy and 2005 Renewable Energy Policy to the 2015 Renewable Energy and Energy Efficiency Policy and the 2023 Electricity Act. These successive policy changes, while reflecting attempts to address emerging challenges, have also produced regulatory uncertainty that can affect long-term investment decisions in the energy sector.

4.2 Opportunities

Notwithstanding the above challenges, the legal regime for Nigeria's energy transition offers opportunities if properly harnessed.

4.2.1 Technological innovation and infrastructure development

The Nigerian legal framework is evolving to support technological innovation and infrastructure development that are essential to the country's energy transition. Key reforms, such as the Electricity Act, 2023, encourage private-sector involvement in electricity generation, transmission and distribution through mechanisms such as embedded generation and mini-grids.[105] This decentralisation enhances the adoption of renewable energy technologies and serves underserved areas. Furthermore, the Energy Transition Plan emphasises infrastructure investment in electricity networks, renewable facilities, gas infrastructure, electric vehicle charging and digital energy systems, fostering an environment conducive to innovation and enhancing national energy security. However, realising these opportunities depends on addressing the financing, regulatory, infrastructural and institutional challenges identified above.

4.2.2 Financial and fiscal incentives for energy transition

Financial and fiscal incentives are critical for a successful energy transition, as renewable technologies often require significant upfront investments. Nigeria has implemented measures such as the Presidential Initiative on Compressed Natural Gas (Pi-CNG) to promote cleaner transport fuels and enhance project bankability.[106] Notably, the Nigeria Tax Act 2025 imposes a 5 per cent surcharge on fossil fuel products while exempting renewable energy sources and CNG, discouraging carbon-heavy consumption.[107] Similarly, VAT reforms also exempt clean energy products and services, reducing costs and improving affordability for investors.[108] These changes reflect a shift towards targeted incentives supporting Nigeria's decarbonisation goals. However, these fiscal incentives are unlikely to be sufficient without regulatory certainty, reliable infrastructure and effective implementation mechanisms.

4.2.3 Constitutional decentralisation of electricity governance

Constitutional decentralisation of electricity governance in Nigeria, following the Fifth Alteration of the Constitution and the Electricity Act, 2023,

105 Electricity Act 2023 sec 146.
106 Presidential Initiative on Compressed Natural Gas and Electric Vehicles (Pi-CNG & EV) 'Home', https://pci.gov.ng/ (accessed 20 July 2026).
107 Nigeria Tax Act, 2025 sec 161.
108 Nigeria Tax Act, 2025 sec 186.

transforms energy regulation by allowing states to legislate on electricity generation and distribution. This shift from a federal-centric model fosters innovation and investment, particularly in renewable energy, by enabling states to create independent electricity markets tailored to their specific resources, such as solar, hydro, biomass and wind. The reforms aim to enhance regulatory diversity, stimulate competition and improve electricity access nationwide. It must, however, be noted that decentralisation may also produce regulatory fragmentation and coordination challenges between federal and state authorities. These can be addressed through clear allocation of regulatory responsibilities, harmonised technical standards, intergovernmental coordination and effective information-sharing mechanisms.

4.2.4 Growing regulatory support for renewable energy and natural gas

Nigeria's legal framework increasingly recognises renewable energy and natural gas as essential elements of its energy transition strategy. Unlike many developed nations, Nigeria takes a 'just transition' approach addressing energy poverty and reliance on hydrocarbon revenues.[109] The Energy Transition Plan designates natural gas as a transition fuel, aiding industrialisation and reducing carbon emissions. However, this approach remains contested, as continued investment in gas infrastructure may prolong fossil fuel dependence, create stranded-asset risks and potentially delay the expansion of renewable energy.[110] The Petroleum Industry Act, 2021 provides a regulatory structure that enhances natural gas development, covers upstream and downstream operations and ensures gas delivery and pricing. This framework supports the National Gas Policy and related initiatives, acknowledging natural gas as critical to energy security and the low-carbon transition. Concurrently, regulations under the Electricity Act, 2023 promote renewable energy through various initiatives, creating a balanced strategy for economic growth and sustainability.

4.2.5 Improved investment and transition financing opportunities

The enormous capital requirements associated with the energy transition make investment mobilisation one of the greatest opportunities presented by Nigeria's evolving legal regime. The Energy Transition Plan (ETP) estimates that Nigeria requires approximately US $410 billion in additional expenditure beyond business-as-usual to achieve net-zero emissions by 2060, with an initial investment pipeline of about US $23 billion, of which approximately US $17 billion is expected to come from the private sector. The Plan therefore recognises that

109 Nigeria Energy Transition Plan 2022.

110 C Strambo and others 'How do governments discursively reconcile plans for expanding oil and gas production with global climate goals? The cases of Colombia and Nigeria' (2025) 116 *Political Geography* 103243, https://doi.org/10.1016/j.polgeo.2024.103243 (accessed 21 August 2026).

achieving the transition will depend on mobilising domestic and international private capital, concessional finance, blended finance mechanisms and public-private partnerships rather than relying solely on government expenditure.

Nigeria's legal and policy reforms have substantially improved the investment landscape by enhancing regulatory certainty, strengthening climate governance and liberalising the electricity sector through the Electricity Act, 2023, while the ETP identifies commercially viable investment opportunities across electricity generation and transmission, distributed renewable energy, gas commercialisation, battery energy storage, clean cooking, electric mobility, metering, healthcare infrastructure and digital energy systems. These reforms are complemented by fiscal incentives, including pioneer status incentives for eligible renewable energy and power projects, which improve project bankability and reduce investment risk.

The credibility of this legal framework is reflected in the increasing commitment of international development partners. The World Bank approved the Nigeria Distributed Access through Renewable Energy Scale-up (DARES) Project with US $750 million in International Development Association (IDA) financing.[111] The programme is expected to provide new or improved electricity access to over 17,5 million Nigerians, while leveraging more than US $1 billion in private investment and parallel financing from partners, including the Japan International Cooperation Agency (JICA); the Global Energy Alliance for People and Planet (GEAPP); United States Agency for International Development (USAID); Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ); Sustainable Energy for All (SEforALL); and the African Development Bank (AfDB).

Similarly, the African Development Bank has established the Economic Governance and Energy Transition Support Programme (EGET-SP) to support reforms aimed at improving the financial sustainability of Nigeria's electricity sector, implementing the Energy Transition Plan and strengthening the policy environment necessary to attract domestic and foreign private investment.[112] Beyond project financing, Nigeria also participates in continental initiatives such as Mission 300, jointly led by the World Bank and the African Development Bank, which seeks to mobilise approximately US $90 billion to expand electricity access across Africa by 2030 through a combination of

111 World Bank 'Nigeria to expand access to clean energy for 17.5 million people' (Press release) 15 December 2023, https://www.worldbank.org/en/news/press-release/2023/12/15/nigeria-to-expand-access-to-clean-energy-for-17-5-million-people (accessed 20 July 2026).

112 African Development Bank Group 'Nigeria – Economic Governance and Energy Transition Support Program (EGET-SP) Phase I – Project Appraisal Report' (project appraisal report) 30 July 2024, https://www.afdb.org/sites/default/files/documents/projects-and-operations/nigeria_-_economic_governance_and_energy_transition_support_program_eget-sp_phase_i_-_project_appraisal_report.pdf (accessed 20 July 2026).

multilateral finance, concessional funding and private sector investment.[113] These initiatives demonstrate that Nigeria's transition is increasingly supported by a diversified ecosystem of financiers, including multilateral development banks, bilateral development agencies, sovereign wealth funds, institutional investors, climate funds, philanthropic organisations and green capital markets. As the implementation of the Electricity Act, 2023, the Climate Change Act, 2021 and the Energy Transition Plan continue to improve regulatory certainty and project bankability, Nigeria is well positioned to attract larger volumes of climate finance, green bonds, blended finance, sustainability-linked investments and other innovative financing mechanisms necessary to accelerate a just and sustainable energy transition.

4.2.6 Emergence of carbon markets and green economy opportunities

The emergence of carbon markets in Nigeria marks a significant advancement in its energy transition legal framework. These markets incentivise greenhouse gas emissions reductions by enabling the generation and trading of carbon credits, thereby fostering investment in renewable energy and other climate projects. The Nigerian Carbon Market received its statutory foundation under the Climate Change Act, 2021[114] and was further developed through the Carbon Market Activation Policy, 2025,[115] which seeks to facilitate Nigeria's integration into regional and international carbon markets by generating high-integrity carbon credits and establishing transparent governance mechanisms. The National Carbon Market Framework, 2026 supports this by detailing project management procedures and promoting both compliance and voluntary markets. While these mechanisms can support the Energy Transition Plan by attracting investment into low-carbon projects, carbon markets are a means of financing emissions reduction, not an end in themselves; their effectiveness depends on generating credible reductions and supporting broader energy-transition goals.

5 Conclusion and recommendations

Nigeria has established a substantial foundation for energy transition through the Electricity Act, 2023, Petroleum Industry Act, 2021, Climate Change Act, 2021, National Energy Policy, NREEEP and Energy Transition Plan. The analysis, however, demonstrates that the principal weakness is not the absence of policy initiatives but the fragmentation and limited implementation of existing measures. Overlapping institutional mandates, regulatory uncertainty, inadequate financing and technical capacity, infrastructure deficits and

113 'African nations seek to connect 300 million people to power by 2030' *Reuters* 27 January 2025, https://www.reuters.com/world/africa/african-nations-seek-connect-300-mln-people-power-by-2030-2025-01-27/ (accessed 20 July 2026).
114 Climate Change ACT, 2021 sec 4(j).
115 Carbon Market Activation Policy 2025 para 20.

continued dependence on hydrocarbons constrain the effectiveness of the transition framework. The challenge, therefore, is to move from policy adoption to coordinated implementation. Accordingly, to pursue a more coherent and implementation-focused transition, a range of recommendations is necessary.

First, the National Assembly, in consultation with the Federal Ministry of Power, the Federal Ministry of Environment and other key stakeholders, should enact a comprehensive Renewable Energy Act to consolidate existing provisions, clarify institutional mandates, and provide predictable rules for investment and project development. Similarly, the Federal Government should strengthen and institutionalise the existing Energy Transition Implementation Working Group and Energy Transition Office by giving them clearer coordination, monitoring and accountability functions, particularly to resolve overlaps among federal and state energy institutions and to track the implementation of the Energy Transition Plan. Moreover, the Federal Government through the Ministry of Finance and relevant financial institutions should establish dedicated renewable energy financing mechanisms, including renewable energy funds, green bonds and climate-finance instruments, to mobilise and de-risk private investment.

The article further recommends that the Federal Ministry of Finance, the Nigeria Revenue Service and NERC strengthen targeted fiscal and regulatory incentives, including appropriate tax reliefs, predictable feed-in tariffs and concessional financing, in order to improve the viability of renewable energy projects. Furthermore, the article recommends that the Energy Commission of Nigeria, universities and private sector developers establish structured research, skills development and technology transfer partnerships focused on technologies such as solar, battery storage, mini-grids and electric mobility. The Federal Ministry of Power, REA and state electricity authorities may undertake sustained public awareness and stakeholder engagement programmes to promote acceptance of and participation in renewable energy projects. The NERC, ECN, REA and state electricity regulators should also strengthen their technical capacity through specialised training, adequate staffing, dedicated funding and improved regulatory systems to effectively implement and monitor the energy transition.

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Development, differentiation and the Paris Agreement in national courts: The UKEF Mozambican gas litigation

*Kim Bouwer**
Associate Professor, Durham Law School, United Kingdom
https://orcid.org/0000-0002-1981-8537

Abstract: This article examines the UK judicial review of export finance for gas development in Mozambique: (*R (Friends of the Earth) v UK Export Finance*). The proceedings challenged UKEF's decision on the ground that funding was inconsistent with the UK and Mozambique's Paris Agreement commitments. The article argues that the outcome was defensible on its own terms, despite there being no way to meaningfully engage with the principle of common but differentiated responsibilities, respective capabilities (CBDR-RC) and its implications for how the UK should assess the 'Paris-consistency' of finance for projects in states at different levels of development. The article focuses in particular on two aspects of the judgments: the discussion of the assessment of Scope 3 emissions, and the determination of whether and how affording public funding for a gas project abroad could be consistent with article 2(1)(c) of the Paris Agreement, which required flows of finance to be consistent with a pathway towards low carbon development. The article contends that assessments of this nature must properly

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account for historical responsibility, current inequities in emissions attribution, and the development pathways set out in states' own nationally determined contributions (NDCs). It concludes that the UKEF litigation illustrates a broader challenge in how domestic courts might operationalise differentiation in transnational climate cases.

Key words: climate litigation; CBDR-RC; climate justice; gas development; Scope 3 emissions

1 Introduction

In 2022, the High Court in London adjudicated a challenge to the United Kingdom (UK) government's decision to provide export credits for liquefied natural gas development in Mozambique.[1] The judicial review, brought by the non-governmental organisation (NGO) Friends of the Earth, challenged UK Export Finance (UKEF)'s decision on grounds that funding the project was inconsistent with the Paris Agreement.[2] There was no majority finding in the court *a quo*, with Stuart-Smith LJ finding for the defendants, while Thornton J dissented.[3] Due to the split bench, the matter went to the Court of Appeal, which came to the same conclusion as Stuart-Smith LJ, although with different reasoning.[4] The case has been characterised as yet another disappointing climate change judicial review in UK courts, criticised as unduly deferential and failing to support adequate environmental protection.[5] Commentary has focused on questions of the intensity of review in climate change judicial reviews, the approach to interpreting unincorporated international treaties, and how downstream emissions were and should be assessed.[6] Much of this commentary proceeds from the assumption that had the Paris Agreement been 'properly' enforced, the decision to support the project would have been found unlawful.[7]

This article takes a different approach, advancing four core arguments in its analysis of the litigation. Central to these arguments is the principle of common but differentiated responsibilities (CBDR-RC), and the differentiated commitments to which this principle gives rise. As recently stated in the International Court of Justice (ICJ) Advisory Opinion (AO),

1 *R (oao FOE) v SoS for UKEF and Chancellor of the Exchequer* [2022] EWHC 568 (Admin) (*UKEF*).
2 *UKEF* (n 1) [5].
3 As above.
4 Where a two-judge court is divided and the matter is resolved against the defendant, the matter can be referred to the Court of Appeal – *Cambridgeshire CC v Associated Lead Mills Ltd* [2005] EWHC 1627 (Admin) [14]. The progress to the CA is discussed in [36] *R (oao FOE) v SoS for UKEF and Chancellor of the Exchequer* [2023] EWCA Civ 14 (Court of Appeal).
5 See A Sanger & AL Young 'Deference and dualism are not friends of the earth' (2023) 82 *The Cambridge Law Journal* 195, and other sources cited herein.
6 N Helme and others 'Significant UK environmental law cases 2022-23' (2023) 35 *Journal of Environmental Law* 481, 487-89; Sanger & Young (n 5).
7 S Hockman QC & D Scott 'Enforceability of the Paris Agreement hampered as the Court of Appeal rules it will not interfere with 'tenable' interpretations' *elaw*, UKELA, April 2023.

> the principle of common but differentiated responsibilities and respective capabilities reflects the need to distribute equitably the burdens of the obligations in respect of climate change, taking into account, inter alia, states' historical and current contributions to cumulative GHG emissions, and their different current capabilities and national circumstances, including their economic and social development.[8]

The most visible instrument to foster equity in international environmental law, differentiation is a firm anchor thereof,[9] 'relevant for the interpretation of treaties and the determination of rules of customary law relating to the environment'.[10] This article asks what the consequences of a differentiated approach are, when considering states' domestic climate commitments. It does so by questioning whether a developed country funding fossil fuel development in a least developed country could be understood to be acting consistently with its commitments under the climate regime.

First, it uses the *UKEF* litigation to illustrate the challenges in operationalising the principle of common but differentiated responsibilities and the differentiation this requires. Second, it asserts that the final decision was correct, but only because of the approach taken in UK climate change judicial reviews rather than due to a clear recognition that in such cases the question of whether a development pathway is 'consistent' with the Paris goals should be assessed against the recipient state's development pathway.[11] Third, the consequence of this is a missed opportunity better to understand when and how CBDR-RC might be actionable in domestic legal disputes. Finally, it argues that the litigation's focus on 'global' emissions and questions of consistency with a universalised understanding of the Paris commitments, obscured fundamental questions about emissions attribution, and nuance that is required in the assessment of downstream emissions relating to production in developing countries.

The need to carefully consider the implications of continued fossil fuel extraction and the relative nature of climate change obligations has been further underscored by the ICJ's July 2025 Advisory Opinion on climate change.[12] In its unanimous opinion, the ICJ confirmed that the production and consumption of fossil fuels, granting exploration licences, or providing subsidies for fossil fuels 'may constitute an internationally wrongful act' under international law.[13] However, while the ICJ affirmed CBDR-RC as a binding principle,[14] the ICJ's AO can be understood to have provided insufficient guidance as to how

8 *Obligations of States in Respect of Climate Change (Advisory Opinion)* (2025) General List 187 (International Court of Justice ICJ) para 148.
9 P Cullet 'Differential treatment in environmental law: Addressing critiques and conceptualising the next steps' (2016) 5 *Transnational Environmental Law* 305.
10 *Obligations of States in Respect of Climate Change (Advisory Opinion)* (n 8) para 149.
11 Differentiation is explained in more detail in part 3.1. below.
12 *Obligations of States in Respect of Climate Change (Advisory Opinion)* (n 8).
13 *Obligations of States in Respect of Climate Change (Advisory Opinion)* (n 8) 427.
14 *Obligations of States in Respect of Climate Change (Advisory Opinion)* (n 8) 161.

differentiation should be operationalised.[15] African scholars have criticised the Opinion for adopting an insufficiently differentiated approach to fossil fuel obligations,[16] suggesting that continued fossil fuel consumption was unlawful, yet failing to provide guidance for an equitable management of the end of the global dependence on fossil fuels.[17] This makes careful and contextual analysis of the *UKEF* case – decided before the ICJ AO but raising issues that do not always sit comfortably alongside its interpretation – all the more important.

The article is structured as follows. Part 2 provides essential background on the *UKEF* litigation and the Mozambican gas project at its centre. Part 3 introduces differentiation, and examines Mozambique's climate commitments and development context, demonstrating why its trajectory legitimately differs from developed countries. Part 4 analyses how the judges approached differentiation and emissions attribution, explaining that the decision is consistent with a differentiated approach but that the reasoning could not reflect this. Part 5 questions what 'consistency' with article 2(1)(c) might mean in relation to finance flows between states with differentiated obligations. Part 6 draws on African climate justice perspectives to situate the case within broader questions of equity, and part 7 concludes the article.

2 The *UKEF* case: Background and litigation

2.1 UK export finance and the Mozambique project

UKEF is a statutory body and department of the Secretary of State.[18] It provides export credits as financial support in relation to the supply of UK goods or services overseas,[19] to ensure 'that no viable UK export fails for lack of finance or insurance from the private sector'.[20] The Secretary of State is afforded broad discretion in decision making across the portfolio.[21] In early 2019, UKEF agreed to provide financial support to a liquefied natural gas project in Mozambique's Rovuma Basin. By then, a financing and support package backed by a multinational group of lenders had already been substantially structured,[22] and it was understood that the project was viable without UKEF's support.[23] As such, a core rationale for the UK's involvement included the need to secure associated economic benefits

15 L Rajamani 'Untangling the Gordian knot: Differentiation in the ICJ's advisory opinion on climate change' (2026) *Journal of Environmental Law* eqag012.
16 E Boshoff & SG Damtew 'Can Africa still drill? What the ICJ climate opinion means for oil and gas exploration in Africa' in MA Tigre, M Bönnemann & A de Spiegeleir (eds) *The ICJ's advisory opinion on climate change* (2025) 235.
17 Boshoff & Damtew (n 16).
18 Sec 4 Export and Investment Guarantees Act 1991.
19 Secs 1(1) and 1(4) of the 1991 Act.
20 *UKEF* (n 1) [8].
21 Sec 3(1) of the 1991 Act.
22 *UKEF* (n 1) [46].
23 *UKEF* (n 1) [214].

for UK partners and companies.[24] It was also suggested (although not entirely accepted) that the involvement of a UK agency could, to some extent, improve environmental, social and governance compliance.[25] UKEF provided export credits – loans, guarantees or insurance in relation to an investable project – rather than allocating or investing public funding.[26] The final decision to provide credits was made, with some cabinet resistance 'due to climate change concerns',[27] in June 2020.[28]

The project involved extracting gas from Mozambique's Rovuma Basin over a period of approximately 32 years. The gas project was an integral part of the low-carbon development plans of the government of Mozambique, as the income generated by it would be used to develop a grid as Mozambique expanded its renewable energy provision.[29] The project purported to offer significant economic transformation if implemented in line with sustainable development principles; indeed, at the time, it offered the 'only available pathway' to a low-carbon economy and poverty alleviation, as *no other funding was available* for any other significant energy development.[30]

2.2 Shifting UK policy context

Within six months of UKEF's decision, it would have been contrary to UK government policy. In the run-up to COP26 in Glasgow in 2021,[31] the UK government resolved that no more financing would be offered to fossil fuel projects abroad.[32] This was justified on the basis of the UK's climate change

24 'UKEF's support was conditional on Total procuring UK goods and services and is expected to create approximately 2 000 UK jobs.' *UKEF CA* (n 4) [5].

25 *UKEF* (n 1) [57]. The Prime Minister's office, however, did ask that facilities for the provision of carbon capture, utilisation and storage be investigated – see *UKEF CA* (n 4) [16].

26 *UKEF* (n 1) [8]. The provision of export credit is not necessarily equivalent to any kind of cash, grant or loan; export credits are government financial support which can include direct financing, guarantees, insurance or interest rate support provided to foreign buyers to assist in the financing of the purchase of goods from national exporters – see OECD Glossary of Statistical Terms, https://stats.oecd.org/glossary/ (accessed 1 October 2024).

27 *UKEF* (n 1) [87] & [89].

28 Due to the statutory approvals process this was granted in three stages, see [3].

29 I Detelinova and others 'From climate risk to resilience: Unpacking the economic impacts of climate change in Mozambique' (African Climate Foundation, International Food Policy Research Institute 2023), https://ebrary.ifpri.org/digital/collection/p15738coll2/id/136961 (accessed 16 January 2024). The on-grid electrification rate is only about 40% due to 'an underdeveloped transmission and distribution network', at 15.

30 *UKEF* (n 1) [229]. This in response to the claimant's proposals for renewables-only projects, none of which were available. Although the funding was agreed not to be climate finance, this is where funding for renewable energy projects could be expected to be received. Mozambique has a significant 'climate finance gap', and what is available is prioritised for adaptation and resilience – see Detelinova and others (n 29) 33-34.

31 The Conference of the Parties to the UNFCCC – see outcome 'Glasgow Climate Pact, 1/CMA.3, FCCC/PA/CMA/2021/10/Add.1'.

32 See https://www.gov.uk/government/news/pm-announces-the-uk-will-end-support-for-fossil-fuel-sector-overseas (accessed 1 October 2024). This decision appears to be have been made on 12 December 2020. DESNZ 'Aligning UK international support for the clean energy transition' (2021), https://assets.publishing.service.gov.uk/media/65840f10fc07f300128d45e9/aligning-uk-international-support-for-the-clean-energy-transition.pdf (accessed 1 October 2024).

commitments and the need to reduce emissions,[33] presumably from other states, as the UK continued to issue licences to develop oil and gas within its own territory.[34] After the summer of 2019, the UK government steadily introduced measures to reduce or proscribe funding for fossil fuel projects abroad.[35] Over this period, a series of multilateral institutions, as part of their funding strategies, announced that they would not fund fossil fuel projects that were 'misaligned' with the Paris Agreement.[36] This was contemporaneous with increasing pressure to limit public finance provision that was not 'aligned' with the goals of the Paris Agreement,[37] including multilateral commitments to end export credits for fossil fuel energy projects, despite continued high levels of investment in fossil fuel infrastructure from export credit agencies.[38] In any event, from March 2021, it became UK government policy not to provide financial assistance to any fossil fuel projects abroad, other than in very limited circumstances.[39] The support for the Rovuma gas project was eventually withdrawn.[40]

Of course, subsequent changes in government policy regarding financial support for fossil fuel extraction do not affect the merits of the *UKEF* litigation itself. However, it does go to illustrate some of the issues discussed in this article. It demonstrates that, in general, the way in which the UK government is assessing its obligations in terms of the provision of development finance and export credits is determined by 'climate' considerations that are specific to its national goals,[41] not to the context of the recipient party. As argued herein, this to some extent foreclosed consideration of the national context of donor states whose climate contributions were differentiated.

2.3 The litigation

R (Friends of the Earth) v Secretary of State for International Trade and UK Export Finance was brought before the High Court in London in 2022,[42] and the Court of Appeal the following year.[43] The defendants were UKEF and the Chancellor of the Exchequer. Total Mozambique, the prospective operator, and other project funders appeared as interested parties. The claimant was Friends of the Earth (FOE). The claimant sought to establish that 'the project and its funding' were

33 As above. This is discussed by the *UKEF CA* (n 4), [18] & [19].
34 D Shapovalova 'Climate change and oil and gas production regulation: An impossible reconciliation?' (2023) 26 *Journal of International Economic Law* 817, 826-829.
35 See n 32 above.
36 *UKEF CA* (n 4), see [9]-[17].
37 C Downie & MJ Peterson 'Public financial institutions in the energy transition: The impact of export credit agencies' (2025) 178 *Climatic Change* 40, 42.
38 Downie & Peterson (n 37) 40-44.
39 DESNZ (n 32). See *UKEF CA* (n 4) [19].
40 P Foster & I Johnston 'UK withdraws financing for Total's Mozambique LNG development' *Financial Times* 1 December 2025.
41 Downie & Peterson (n 37) 49-50 discuss the way climate concerns changed UKEF's interpretation of its mandate during the relevant period.
42 *UKEF* (n 1).
43 *UKEF CA* (n 4).

not 'aligned' with the UK and Mozambique's climate change commitments under the Paris Agreement, including because of the failure to assess Scope 3 emissions in the assessment process.[44] The proceedings were a judicial review of the defendants' decisions to provide support for the gas project.[45] The claimant contended that the defendants' decisions were based on an error of law or fact in that 'the Project and its funding was compatible with the United Kingdom's commitments under the Paris Agreement and/or assisted Mozambique to achieve its commitments under the Paris Agreement' (Ground 1(a)) and/or was reached without due regard to material relevant considerations 'in reaching the view that funding the Project aligned with the UK and Mozambique's obligations under the Paris Agreement' (Ground 1(b)).[46]

As discussed in more depth below, in evaluating whether it should provide support, UKEF took it upon itself to assess climate change impacts and 'consistency' with the Paris Agreement, and in the absence of any established methodology for this, sought to devise one by itself.[47] This evaluation became the Climate Change Report, (CCR). Although the project was viable without UKEF support, the judicial review could have laid foundations to ensure similar projects could not be funded by changing perceptions of financial risk around investment. Commentators have suggested that such cases aim 'to increase the cost of capital for high emitting activities to the point where such activities become economically unviable even if they remain legally permissible'.[48] This is why it is still worth thinking about the implications of the *UKEF* litigation even though the challenge was unsuccessful and the project would have been viable without UKEF support; because the litigation could be considered part of a broader litigation strategy targeting financial support decisions, as well as a broader campaign by NGOs (including FOE) to put an end to the gas project.[49]

2.3.1 The High Court

In the High Court, the leading judgment in *UKEF* was delivered by Stuart-Smith LJ with a minority judgment from Thornton J.[50] Stuart-Smith LJ understood

44 *UKEF* (n 1) [5]. On appeal, the challenge was only to the question of whether the UK's commitments were being met. I explain Scope 3 emissions in the next part.
45 This was a three-stage decision: *UKEF* (n 1) [3], [4].
46 *UKEF* (n 1) [5].
47 *UKEF* (n 1) [46]-[48]; also see discussion in the judgment of Thornton J [283]-[288].
48 J Setzer & C Higham 'Global trends in climate change litigation: 2022 Snapshot' (Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science 2022) 19. See generally on the instrumental potential of failed cases: K Bouwer & J Setzer 'Climate litigation as climate activism: What works?' (British Academy 2020), https://www.thebritishacademy.ac.uk/publications/knowledge-frontiers-cop26-briefings-climate-litigation-climate-activism-what-works/ (accessed 20 July 2026).
49 Regular updates appear on FOE's website; see https://friendsoftheearth.uk/climate/whats-happening-mozambique (accessed 20 July 2026).
50 Where a two-judge court is divided, then the matter is resolved against the defendant, but the matter can be referred to the Court of Appeal – *Cambridgeshire CC v Associated Lead Mills Ltd*

there to be 'no general rule' that a court in a dualist system should not determine treaty interpretation questions,[51] but only to determine whether it was 'tenable' to conclude that defendants' approach aligned with the Paris Agreement.[52] This is the approved approach to treaty interpretation in the UK courts. The court can examine only whether a view as to the meaning on a point of international law is 'tenable', rather than seeking to provide a definitive interpretation of a treaty as if it were 'a hard-edged point of domestic law'.[53] The judge highlighted that the Agreement's scope is wide-ranging, and that 'articles 2(1)(a)-(c) are not statements of exclusive or exhaustive obligations' but needed to be read 'in the context of sustainable development and efforts to eradicate poverty' and 'to reflect equity and [CBDR-RC]'.[54] While acknowledging 'no established jurisprudence' as to article 2(1)(c)'s meaning,[55] he considered himself 'not authorised' to provide a definitive interpretation.[56] However, the guidance from the Court clearly emphasised the need to read article 2(1)(c) in the full context of the Paris Agreement.[57]

Thornton J thought flaws in the Climate Change Report (CCR), particularly failure to assess Scope 3 emissions, meant that there was 'no rational basis' to demonstrate that the decision to award funding was consistent with article 2(1)(c) of the Paris Agreement.[58] The judge noted the urgency of climate change and the transnational waves of litigation aimed at improving ambition on climate change mitigation.[59] This included the UK Heathrow litigation, which did offer a 'glimmer of light for environmental groups which emerged from the Court of Appeal's quashing of the National Policy Statement (NPS) on Airports ... on climate policy grounds', even though it failed on appeal.[60] The judge expressed concern about the climate crisis, the importance of achieving the temperature goal,[61] and the emissions which would result from the project.[62] She explained that, in her analysis, the finance goal was relevant to the UK's obligations under the Paris Agreement, which she justified due to differentiation.[63]

[2005] EWHC 1627 (Admin) [14]. The progress to the CA is discussed in [36] *UKEF CA* (n 4).

51 *UKEF* (n 1) [119]i.

52 *UKEF* (n 1) [119]-[120].

53 P Sales QC & J Clement 'International law in domestic courts: The developing framework' (2008) 124 *Law Quarterly Review* 388, 405-406. This approach was adopted by the UK House of Lords in *R (Corner House Research) v Serious Fraud Office* [2008] UKHL 60. The Supreme Court has, on occasion, taken a different approach – noting that if it is necessary to determine a question of international law in order to 'resolve a justiciable issue', then the court must do so; see *Benkharbouche v Embassy of the Republic of Sudan* [2017] 3 WLR 977 [35].

54 *UKEF* (n 1) [121].

55 *UKEF* (n 1) [123].

56 *UKEF* (n 1) [124].

57 Art 2(1)(c) is discussed in more depth in part 5.

58 *UKEF* (n 1) [244].

59 *UKEF* (n 1) [248]-[253].

60 S Tromans and others 'Significant UK environmental law cases 2020-21' (2021) 34 *Journal of Environmental Law* 467.

61 *UKEF* (n 1) [249]-[252].

62 *UKEF* (n 1) [257].

63 *UKEF* (n 1) [264].

These are all valid considerations, but they were considered in a decontextualised manner; her analysis focused on mitigation and climate action as it would apply in developed countries. Given that the Paris Agreement was being interpreted in some sense, its full range of goals, aims and obligations needed to be taken into account. This is because, even if (as stated) the obligation under consideration was that of the UK, the effect of that decision was fundamentally transnational, and lay between a developed state and a least developed country. Thornton J did recognise that differentiation can literally mean that states bear different obligations,[64] but her reasoning does not reflect article 2(2), which makes CBDR-RC an express interpretive provision for the whole agreement.[65] Reading article 2(1)(c) as needing to be 'understood by reference to the temperature goal in article 2(1)(a)' and for the furtherance of pathways that at the least reduce the 'risk of negative climate outcomes',[66] reflects an understanding of 'climate' goals focused on urgent mitigation, not the achievement of sustainable development in contexts where emissions could increase in the short term.

2.3.2 The Court of Appeal

Before the Court of Appeal, the arguments were different. The questions before the Court were the following: whether it was an error of law for the defendants to have concluded that the decision was 'aligned with the UK's obligations under the Paris Agreement';[67] whether in assessing the consistency of the defendants' decision with the Paris Agreement, the Court should find the correct interpretation rather than the tenable one; and if so, what the proper construction of article 2(1)(c) was.[68]

Sir Geoffrey Vos noted that it would not be workable for courts to be expected 'definitively to construe' unincorporated treaties whenever a public body chose to refer to them in relation to their decision making.[69] It was tenable to conclude that the project was aligned with the UK's obligations under the Paris Agreement, given the huge complexities contained in the CCR.[70] As such, he declined to provide any definitive interpretation of the Paris Agreement, other than in a negative sense, that is, that the interpretation of Thornton J and the claimant was

64 As above.
65 L Rajamani 'Ambition and differentiation in the 2015 Paris Agreement: Interpretive possibilities and underlying politics' (2016) 65 *International & Comparative Law Quarterly* 493, from 507.
66 *UKEF* (n 1) [265], [266] quoting from the Standing Committee on Finance.
67 *UKEF CA* (n 4) [21]. The claimants did not contend that the decision was irrational on the basis that it would, if it had been made some 6 months later, have contravened the government's then climate change policy – see [20].
68 *UKEF CA* (n 4) [21].
69 *UKEF CA* (n 4) [50].
70 *UKEF CA* (n 4) [40] iv. It also mattered not that UKEF had reached the 'definitive view that their approval decision was compliant with the UK's obligations under the Paris Agreement' – see [40] viii.

not correct,[71] and in relation to what it did *not* require the UK to do.[72] He did provide guidance as to the structure of the Agreement, in order to clarify what it seeks to achieve.[73] He noted the various 'specific obligations on state parties', including those pertaining to mitigation (article 4) and the provision of finance (article 9), and that the provisions of article 2 'represent the purposes of the Paris Agreement', the achievement of which should be the role of the obligations.[74]

Sir Geoffrey Vos recognised the urgency of the climate crisis, but noted that the case was a judicial review of government actions and should be determined on the basis of 'accepted and familiar principles of public law', which should not be seen as 'supporting or opposing any political view of the issues'.[75] He does emphasise, also quoting from the Heathrow litigation, that there are no binding obligations to adopt targets to ensure that the Paris objectives are met, and that the specific legal obligation is to meet the nationally determined contributions of the state in question.[76] This, of course, refers to domestic legal obligations; the UK and other states have a range of commitments of varying legal character under the Paris Agreement,[77] but these are not directly enforceable in the domestic courts. Sir Geoffrey made no reference to differentiation explicitly, focusing on the domestic obligations. However, he did so implicitly with reference to the representations of the interested parties, noting that the Paris Agreement invokes

> the equitable principle that least developed countries should be permitted to address their high levels of poverty and low economic growth by exploiting their natural resources so that their emissions [peak] later than those of the developed world, [because] the impacts of climate change had overwhelmingly been caused by the developed nations.[78]

As such, this implicitly does reflect an appreciation of the range of priorities reflected in the Paris Agreement, but in a subtle way which, consistently with a more orthodox approach to dualism, does not rely on international law to interpret domestic obligations.[79]

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71 *UKEF CA* (n 4) [55] v. 'In our judgment also, and because of the complexity we have mentioned, the respondents' view was indeed tenable. It was supported by the initial Wood Mackenzie report and by the CCR. In essence, however, the argument to the contrary could only succeed if Thornton J at [262]-[268] and Friends of the Earth's submissions as to the proper meaning of the Paris Agreement were correct. In our view, they are not.' There is a further point about funding in [55]vi. which I discuss later in the article.

72 Sanger & Young (n 5) 197.

73 *UKEF CA* (n 4) [46].

74 *UKEF CA* (n 4) [38].

75 *UKEF CA* (n 4) [2].

76 *UKEF CA* (n 4) [47], quoting from *R (on the application of Friends of the Earth Ltd & Others) v Heathrow Airport Ltd* [2020] UKSC 52) [71].

77 Generally, L Rajamani 'The 2015 Paris Agreement: Interplay between hard, soft and non-obligations' (2016) 28 *Journal of Environmental Law* 337.

78 *UKEF CA* (n 4) [32].

79 The UK has a formally dualist system but one in progressive judges have made use of international law to develop the common law and to interpret statutes, which has resulted in a more open and flexible approach to dualism in public law – see Lord Lloyd-Jones 'International law before the United Kingdom courts: A quiet revolution' (2022) 71 *International and Comparative Law Quarterly* 503; S Fatima 'The domestic application of international law in British courts' in CA Bradley (ed) *The Oxford handbook of comparative foreign relations law*

3 CBDR-RC: Mozambique's climate commitments and development context

3.1 CBDR-RC

This part discusses Mozambique's climate commitments and national context. The previous part, introducing the litigation, made some passing references to CBDR-RC. This sub-part, while not purporting to be comprehensive, offers a focused discussion of CBDR-RC to support the parts that follow. In so doing, it is unavoidable to refer to the recent ICJ AO, as the first 'substantial judicial articulation' of CBDR-RC,[80] although it must be acknowledged that this did not exist at the time the *UKEF* case was argued. CBDR-RC has been subject to contestation and disagreement,[81] and tensions are managed through the multilateral process by means of skilful negotiation, careful drafting and a strategic use of ambiguity.[82] Many issues have been resolved (although not definitively) by the AO,[83] including CBDR-RC's core content and implications.

Differentiation, as the broader manifestation of 'common but differentiated responsibilities and respective capabilities' (CBDR-RC), is an established (albeit contested) concept in international environmental law.[84] States agree to common burdens and benefits through multilateral negotiations, but distinguish respective contributions to reflect the equity concerns between states in different stages of development.[85] In the Paris Agreement, CBDR-RC is given effect through a system of 'bounded self-differentiation',[86] in terms of which parties to determine what their emissions reductions strategies are to be – expressed in their periodical nationally determined contributions (NDC) – taking into account their CBDR-RC.[87] Developing countries agree to take on additional

(2019). A relatively recent Supreme Court decision may be seen as a 'reassertion of dualist orthodoxy' which 'inevitably limits the usefulness of international sources as tools of judicial argumentation' – *R (on the application of SC, CB and 8 children) v Secretary of State for Work and Pensions and others* [2021] UKSC 26; R Masterman 'Reasserting/reappraising dualism' *UK Const L Blog*, 7 December 2021.

80 M Wewerinke-Singh & JE Viñuales 'Differentiation through due diligence: Common but differentiated responsibilities and respective capabilities in the ICJ's 2025 Climate Advisory Opinion' (2026) 35 *Review of European, Comparative & International Environmental Law* 302-310.

81 See D Shapovalova 'In defence of the principle of common but differentiated responsibilities and respective capabilities' in A Zahar & B Mayer (eds) *Debating climate law* (2021) 63; T Leclerc 'The notion of common but differentiated responsibilities and respective capabilities: A commendable but failed effort to enhance equity in climate law' in A Zahar & B Mayer (eds) *Debating climate law* (2021) 76.

82 A Roberts 'Comparative international law? The role of national courts in creating and enforcing international law' (2011) 60 *International and Comparative Law Quarterly* 57, 85.

83 Rajamani (n 16).

84 Principles 6 and 7 of the Rio Declaration. See discussion in A Boyle & C Redgwell *Birnie, Boyle, and Redgwell's international law and the environment* (2021) 110-112.

85 S Atapattu & CG Gonzalez 'The north-south divide in international environmental law: Framing the issues' in S Alam and others (eds) *International environmental law and the Global South* (2015) 1; Cullet (n 9).

86 Rajamani (n 65) 509-510.

87 Rajamani (n 65) 510.

burdens but can also expect increased support, including the provision of climate finance.[88] The provision of climate finance to developing countries is one of few 'hard' obligations in the Paris Agreement,[89] and many developing countries make their Paris pledges conditional on receipt of support. It is not clear to what extent developing country parties will be held to the conditional commitments they have made if adequate support is not received.[90] What is clear is that despite the nature of the finance and other support provisions and their wording, there is no enforceable legal duty to provide climate finance because of the climate treaties; these obligations are given effect to through the multilateral review and compliance mechanisms.[91]

While CBDR-RC does not give rise to free-standing legal obligations,[92] the consequence of a differentiated approach is that identifying 'rules and principles of international environmental law, does not mean that the law is the same for all states regardless of their capabilities or differing circumstances'. [93] All states clearly do share in the goals and obligations of the Paris Agreement,[94] but they are not the *same* obligations, and some countries can expect support from others in order successfully to achieve what they have committed to.[95] For instance, the ambition of the regime is now represented by the temperature goal encapsulated in the Agreement's article 2(1).[96] However, a common goal does not mean that all parties are required to do identical things to achieve it; this is an aspiration for all, and does not give rise to individual obligations to comply with it.[97] The understanding is that each state would make a contribution to emissions reduction based on various criteria, which should be equitable.[98] So, when it comes to emissions reduction, all parties have agreed to reach global peaking of

88 Boyle & Redgwell (n 11) 124. For an explanation as to why implementation aid is as much differentiation as differing commitments, see Cullet (n 9).
89 Paris Agreement (FCCC/CP/2015/L9/Rev1) art 9(1); Rajamani (n 77).
90 WP Pauw and others 'Conditional nationally determined contributions in the Paris Agreement: Foothold for equity or Achilles heel?' (2020) 20 *Climate Policy* 468; O Woolley 'Developing countries under the international climate change regime: How does the Paris Agreement change their position?' (2016) *Ethiopian Yearbook of International Law* 179.
91 Rajamani (n 77) 353.
92 *Obligations of States in Respect of Climate Change (Advisory Opinion)* (n 8) para 151.
93 Boyle & Redgwell (n 11) 110.
94 Rajamani (n 77).
95 See generally P Cullet 'Differential treatment in international law: Towards a new paradigm of inter-state relations' (1999) 10 *European Journal of International Law* 549; C Holz, S Kartha & T Athanasiou 'Fairly sharing 1.5: National Fair Shares of a 1.5 °C-Compliant Global Mitigation Effort' (2018) 18 *International Environmental Agreements: Politics, Law and Economics* 117, 128-129.
96 For a discussion as to how this headline goal moved from a qualitative to a quantitative measure, see S Biniaz 'Comma but differentiated responsibilities: Punctuation and 30 other ways negotiators have resolved issues in the international climate change regime' (2016) 6 *Michigan Journal of Environmental & Administrative Law* 37, 60-61.
97 B Mayer 'Prompting climate change mitigation through litigation' (2023) 72 *International & Comparative Law Quarterly* 233, 280.
98 H Winkler and others 'Countries start to explain how their climate contributions are fair: More rigour needed' (2018) 18 *International Environmental Agreements: Politics, Law and Economics* 99; L Rajamani and others 'National 'fair shares' in reducing greenhouse gas emissions within the principled framework of international environmental law' (2021) 21 *Climate Policy* 983; K Dooley and others 'Ethical choices behind quantifications of fair contributions under the Paris Agreement' (2021) 11 *Nature Climate Change* 300.

greenhouse gas emissions 'as soon as possible',[99] in order to achieve the long-term temperature goal.[100] However, these obligations are differentiated, with developed countries taking the lead,[101] reflecting each party's 'highest possible ambition', but taking into account CBDR-RC, and differing national circumstances.[102] Developing countries have a 'soft obligation' to continue 'enhancing mitigation efforts' with an expectation that they move towards emissions cuts in time.[103] As such, it has been argued that developing countries have 'an ill-defined licence to increase ... greenhouse gas emissions in connection with economic and social development';[104] this is because there is an understanding that emissions peaking for developing countries can take longer.[105]

A significant question raised about differentiation subsequent to the ICJ's AO is how it might be operationalised, as the main opinion gave no guidance as to how CBDR-RC should be applied whether within the climate treaties or beyond.[106] It has been noted that in relation to mitigation, 'there are limited multilateral avenues for equitable burden sharing in mitigation to be considered, and no dedicated mechanisms for these to be operationalised', including because the stock-taking process only assesses collective progress towards mitigation goals.[107] This also raises questions as to how and whether differentiation is judicially actionable in climate-related disputes.[108] To date, most references to differentiation in national (or regional) courts arise in relation to mitigation ambition, where courts deal with the burden-sharing dimensions of their climate change duties,[109] but even if CBDR-RC is discussed, the courts' analysis relies on their own constitutional frameworks rather than their obligations under international law. It has, however, also been suggested that a domestic measure that disregards historical or current contributions or capabilities could be challenged through the interpretation or application of an existing treaty or customary obligation or as a breach of CBDR-RC.[110]

99 Paris Agreement art 4(1).
100 Under art 2(1)(a) of the Paris Agreement, parties agree to hold the 'increase in the global average temperature to well below 2°C above pre-industrial level', or lower if possible.
101 Paris Agreement art 4(4). See AJ Saiger 'Domestic courts and the Paris Agreement's climate goals: The need for a comparative approach' (2020) 9 *Transnational Environmental Law* 37, 52 re the substantive meaning of these obligations in different national contexts.
102 Paris Agreement art 4(3).
103 Paris Agreement art 4(4); Rajamani (n 77) 349.
104 O Woolley 'Developing countries under the international climate change regime: How does the Paris Agreement change their position?' (2016) *Ethiopian Yearbook of International Law* 179, 180; Boshoff & Damtew (n 15); see, however, R Maguire & X Jiang 'Emerging powerful southern voices: Role of BASIC nations in shaping climate change mitigation commitments' in CG Gonzalez and others (eds) *International environmental law and the Global South* (2015) 214.
105 Paris Agreement, preambular paragraph 8, arts 4(1) & (4).
106 Rajamani (n 16) 12.
107 Rajamani (n 16) 12, 13.
108 Also posed by Wewerinke-Singh & Viñuales (n 80) 2.
109 *The State of the Netherlands v Urgenda Foundation (III)* ECLI:NL:HR:2019:2007; *Neubauer et al v Germany* (2021) BVerfG, Order of the First Senate of 24 March 2021-1 BvR 2656/18-Rn. 1-270 (German Federal Constitutional Court); *Verein KlimaSeniorinnen Schweiz v Switzerland* (2024) Application 53600/20 (European Court of Human Rights (ECtHR), Grand Chamber). See Wewerinke-Singh & Viñuales (n 80) 7.
110 Wewerinke-Singh & Viñuales (n 80) 4.

3.2 Mozambique's climate commitments

Mozambique is a least developed country.[111] It is frequently and severely affected by natural disasters such as floods, cyclones and droughts, whose impacts are compounded by historically rooted vulnerabilities.[112] 'Existing financial, infrastructure, and organisational challenges' make it difficult to respond to these events, and existing structural vulnerabilities mean that the cumulative impact of these events is severe.[113] Mozambique is a low emitter[114] which, as discussed above, means that it could be legally permissible under the Paris Agreement for Mozambique's emissions peaking to come later.[115]

Mozambique's nationally determined contribution (NDC) includes a mitigation commitment target that is ambitious,[116] albeit conditional on receiving support. This is so ambitious, in fact, that the extent of the mitigation commitments has been criticised as excessive and 'maladjusted', given that Mozambique is dependent on foreign aid and lacks the resources properly to attend to climate *adaptation*.[117] To contextualise: Mozambique's proposed emission reductions would represent about 1.2 tCO2eq per capita by 2025, compared to Mozambique's total GHG emissions per capita of 0.6 tCO2eq in 1990 and about 2 tCO2eq in 2021. For comparison, per capita emissions of developed countries (Annex I) in 1990 and 2019 were 16 tCO2eq and 12 tCO2eq respectively. Globally these values are 6 tCO2eq and 7 tCO2eq. [118] In other words, Mozambique's proposed emissions growth at the time was a small fraction of developed-country per capita emissions, and extremely ambitious given its overall circumstances.

3.3 Gas, renewable energy and development pathways

Mozambique has considerable, largely unexploited, reserves of natural gas, which make up a small proportion of its energy mix (10 per cent), with most energy

111 https://www.un.org/development/desa/dpad/least-developed-country-category-mozambique.html#:~:text=Least%20Developed%20Country%20Category%3A%20Mozambique,of%20Economic%20and%20Social%20Affairs (accessed 20 July 2026).
112 IPCC Sixth Assessment Report Climate Change 2022: Impacts, Adaptation and Vulnerability, 8-3, 8-36.
113 JM do Rosário Chilaúle Langa and others 'Extreme climatic events and climate change policies: A call for climate justice action in Mozambique' in N Crawford, K Michael & M Mikulewicz (eds) *Climate justice in the majority world* (2023) 42.
114 Eg, in 2013 Mozambique's GHGs were 0.14% of the global total – see Climate Links 'Greenhouse Gas Emissions Factsheet: Mozambique' 16 May 2017, https://www.climatelinks.org/resources/greenhouse-gas-emissions-factsheet-mozambique (accessed 20 July 2026).
115 Paris Agreement art 4(4); Rajamani (n 77) 349.
116 Ministry of Land and Environment, Republic of Mozambique 'Update of the First Nationally Determined Contribution to the United Nations Convention on Climate Change, Mozambique, 2020-2025', 1 November 2021, 20-21.
117 Chilaúle Langa and others (n 113).
118 Ministry of Land and Environment (n 116) 20-21.

supplied from renewable sources.[119] Petroleum is one of Mozambique's exports and a major source of revenue.[120] At present, Mozambique is at what has been called a 'crossroads' between the use of fossil fuels and renewable energy.[121] In a study of diverse optimal development pathways in Africa, it was suggested that 'if managed by strong multistakeholder institutions mandated by society-wide co-benefits' Mozambique could use gas exports to generate economic gains,[122] even while expanding energy access through deployment of renewables, especially solar.[123] Consistently, its updated NDC states that Mozambique will continue to use gas to alleviate poverty and aid development.[124] The gas project was an integral part of the low-carbon development plans of the government of Mozambique, as the income generated by it would be used to develop a grid as Mozambique expanded its renewable energy provision.[125]

UKEF's CCR concluded that the project would inevitably increase Mozambique's direct emissions, but that the gas from the project would play an important role in Mozambique's energy transition and align well with Mozambique's 'longer-term' climate change plans.[126] The transformative potential of the project for Mozambique, including the contribution that revenues from the project could make to the reinforcement of the electricity grid and alleviation of poverty, were important considerations in the decision to grant export credits for the project.[127]

As discussed earlier, the ICJ AO has made clear that continued fossil fuel development may be an internationally wrongful act, although the implications of this for developing countries that have not yet benefited from their natural resources, is unclear.[128] Elsewhere, with others, I have argued that the urgency motivating the fossil fuel phase-out must not override considerations of equity, and that the legal basis for an equitable fossil fuel phaseout already exists in international law.[129] Least developed countries such as Mozambique cannot finance projects themselves, and an argument can be made that it is legitimate for developed countries, in line with broad Paris commitments, to help finance such projects, even if (due to their climate commitments) they probably should not be

119 Ministry of Land and Environment (n 116) 57-58. This does include traditional forest biomass, but most electricity is generated by hydropower. At the time, gas comprised 40% of the UK's energy mix; see UKEF's submissions to the defendant discussed in the judgment from the Admin Court; *UKEF* (n 1) [79]-[81].
120 Detelinova and others (n 29).
121 Y Mulugetta and others 'Africa needs context-relevant evidence to shape its clean energy future' (2022) 7 *Nature Energy* 1015.
122 Mulugetta and others (n 121) 1018.
123 Mulugetta and others (n 121) 1019.
124 This is also reflected in Mozambique's Natural Gas Master Plan – see [42]-[43].
125 Detelinova and others (n 29): The on-grid electrification rate is only about 40% due to 'an underdeveloped transmission and distribution network', at 15.
126 *UKEF* (n 1) [77].
127 *UKEF* (n 1) [77] iv, [82].
128 See the discussion in the introductory part.
129 K Bouwer, D Shapovalova & M Fermeglia 'Towards a principle-based framework for an equitable global fossil fuel phase-out' (2026) 75 *International & Comparative Law Quarterly* 193.

exploiting their own existing reserves. Of course, there is no enforceable legal duty on the UK (or similar state) to provide such financing. Developed countries do have a hard obligation under the Paris Agreement to provide climate finance,[130] but the public financing here was not that,[131] and in any event that is not an obligation that can be domestically enforced. However, it is probably defensible to argue that under certain circumstances a state's climate commitments would not be a reason not to provide such finance to another state with quite different climate commitments due to the latter's level of development. This is a difficult argument to make in a world not on track to deliver required emissions reductions. I discuss this further below, when I consider what article 2(1)(c) potentially entails when the recipient state is a developing country.

4 Differentiation, emissions attribution, and the judges' reasoning

4.1 Scope 3 in the UKEF context – Replacement and attribution

In the *UKEF* case, Scope 1 and 2 emissions were expected to account for approximately 5 to 10 per cent of Mozambique's total emissions during the project.[132] During the assessment process, however, there were questions about whether and how to assess Scope 3 emissions, most of which would arise due to the consumption of gas by importer states. This was important for the litigation because the eventual decision not to assess Scope 3 emissions was central to the legal challenge. This is also worth examining further due to the growing 'judicial consensus' that project downstream emissions should be assessed,[133] including statements from the ICJ AO, which could be read as supporting 'an extensive framing of the obligation to prevent harm to the climate irrespective of where the source of harm originates'.[134] In general, this is positive, as it should lead to greater alignment between climate goals and fossil fuel development in developed countries, but in cases such as the one considered here, it is worth asking questions about emissions attribution and responsibility, as well as whether other considerations are equally important.

In undertaking its CCR,[135] UKEF considered whether it should assess Scope 3 emissions, and if so, what that assessment should be,[136] or whether assessing 'cumulative committed carbon emissions', or 'lock-in', provided more insight into

130 Paris Agreement (FCCC/CP/2015/L9/Rev1) art 9(1); Rajamani (n 77) 348, 353.
131 *UKEF* (n 1) [267].
132 *UKEF* (n 1) [63], [73], [77].
133 A Adeyemi 'Judicial consensus on end-user emissions as indirect environmental effects: The case of *R (Finch) v Surrey County Council and Ors*' (2026) *Journal of Energy & Natural Resources Law* 1; *R (on the application of Finch on behalf of the Weald Action Group) v Surrey County Council and others* [2024] UKSC 20.
134 Adeyemi (n 133) 17. See *Obligations of States in Respect of Climate Change (Advisory Opinion)* (n 8) paras 287-298 and Joint Declaration by Judges Bhandari and Cleveland paras 11-17.
135 *UKEF* (n 1) [46]-[48]; [283]-[288].
136 *UKEF* (n 1) [64] and generally.

whether the project could be said to stay within what was identified as carbon budgets[137] (presumably those of the UK, which did not apply to Mozambique). UKEF explored questions of compatibility, including with the temperature goal,[138] and did try initially to assess Scope 3s.[139] The CCR concluded that the uncertain final destination of the gas made it too difficult to assess downstream emissions, but it was accepted that they would be considerable.[140] Tension emerged later in the process between the obvious 'gap in the analysis' presented by the failure to assess Scope 3s,[141] and the uncertainties underlying any assessment. These arose from uncertainty about where the gas would be burned and whether the fuel it displaced there had a favourable, unfavourable or negligible impact on global emissions.[142]

Assessing the use of the gas abroad is important because of its contribution to global greenhouse gas emissions. Depending on the destination, the use of gas from the Rovuma Basin could have resulted in a net reduction in emissions if, for instance, it replaced coal in that country. Most countries that do not have a national oil commissioning authority will buy and sell fossil fuels on global markets, but in Mozambique's case, it sells its gas to South Africa, displacing coal and, therefore, having a net positive impact on global emissions.[143] While this is expected to diversify going forward,[144] the project's likely positive impact on South Africa's coal consumption was seen as one of its benefits.[145]

Therefore, there are always degrees of uncertainty about where fossil fuels would be consumed and where endpoint emissions would occur; consequently, it was unclear what kind of fuel it would displace (whether lower or higher in emissions). This creates problems both when determining whether the gas would have a net benefit (by replacing 'worse' fossil fuels) and when attributing responsibility for Scope 3 emissions to the producer state, particularly when that state is a developing country. Regarding the state needing to account for gas consumption as part of territorial emissions, that would apply to the importing country, as most consumption would be outside Mozambique's territory, so it would not be appropriate to assess it against Mozambique's emissions. This does, admittedly, raise questions about whether importer states would actually account for their consumption emissions in their NDCs.

137 *UKEF* (n 1) [60].
138 *UKEF* (n 1) [281].
139 *UKEF* (n 1) [282].
140 *UKEF* (n 1) [92].
141 *UKEF* (n 1) [303]. This statement by UKEF's expert advisor is quoted in several places in the judgments.
142 See *UKEF* (n 1) [295], [307]-[315]. This is not the same as the 'substitution' argument, which is premised on the notion that if the fossil-fuel development in question is not approved, other production elsewhere will be approved to meet market demand – see G Dwyer "'Market substitution' in the context of climate litigation' (2022) 12 *Climate Law* 1, 5-6.
143 C Santos Cruz & P Duarte Rocha 'Oil & Gas Laws and Regulations Report 2024 Mozambique' (ICLG 2024).
144 As above.
145 *UKEF* (n 1) [80iii].

4.2 Scope 3 emissions: The attribution problem

The Greenhouse Gas (GHG) Protocol was developed by the World Resources Institute and the World Business Council for Sustainable Development. It is the most widely used international standard for measuring, managing and reporting greenhouse gas emissions. It is used by numerous organisations, cities and governments to track and mitigate their climate impact.[146] The Protocol classifies emissions into three 'scopes'. In fossil fuel industries, Scope 1 and 2 are direct and indirect emissions associated with extraction and the associate businesses,[147] which can include generation.[148] Scope 3 includes all indirect emissions not included in Scope 2, such as the use of sold products at their final destination. They include 'emissions that are not produced by the company itself and are not the result of activities from assets owned or controlled by them'.[149] Generally, the quantity of Scope 3 emissions will exceed the other two categories from any industry or project.

The classification of fossil fuels and their emissions is key to the *UKEF* case. Understanding where emissions from production and consumption arise and where they are ultimately used is essential to making sense of who is responsible for which emissions. When states produce their emissions inventories under the international climate regime, they tend to consider 'production' or 'territorial' emissions; these can roughly be assumed to be Scope 1 and 2 emissions.[150] Therefore, a fossil fuel exporter would have to account for emissions generated by fossil fuel production, but not for those generated by their use abroad. Focusing only on production emissions provides an 'incomplete picture' both of the factors behind these emissions and the impact of the global trade in fossil fuels, simply by neglecting the environmental impacts of *consumption*.[151] While, on the one hand, fossil fuel producers should be mindful of their downstream emissions, it is difficult to understand why the calculation and attribution of responsibility for fossil fuel extraction in the international climate regime are based solely on production rather than consumption.[152] This serves the short-term interests of high-consumption states because they can and do outsource high-emission industries to developing countries.[153] From this perspective, requiring an assessment of Scope 3 emissions for proposed new projects in high-emitting states is definitely sensible because it makes it more difficult for them to outsource

146 https://ghgprotocol.org/about-us (accessed 20 July 2026).
147 As above.
148 As above.
149 As above.
150 AA Shariati 'Examining states' emissions responsibilities: Assessing the strengths and weaknesses of the production-based accountability system for greenhouse gases' (2023) 28 *Environmental Liability* 60, 61-62.
151 E Karakaya, B Yılmaz & S Alataş 'How production-based and consumption-based emissions accounting systems change climate policy analysis: The case of CO2 convergence' (2019) 26 *Environmental Science and Pollution Research* 16682, 16683.
152 Shariati (n 150) 62-63.
153 PG Harris & J Symons 'Norm conflict in climate governance: Greenhouse gas accounting and the problem of consumption' (2013) 13 *Global Environmental Politics* 9, 11.

emissions, but very different issues arise when developing countries are expected to account for consumption emissions in developed countries that are past and present high-emitters.

4.3 How the judges approached the attribution of Scope 3 emissions

The different judges analysed the relevance of Scope 3 emissions differently, but none of them got to grips with the attribution issues discussed earlier in this part.

Stuart-Smith LJ took the view that the climate change impacts of the project were a matter for Mozambique, and that the kind of enquiry conducted by the defendant was not needed at all.[154] He thought that UKEF had no statutory or other legal obligation to conduct a climate change assessment or to 'calculate or report on Scope 3 emissions or to ensure that any investment support for fossil fuels affecting emissions was in line with the Paris Agreement temperature goals and transition plans'.[155] It had taken this on due to a variety of factors including criticisms of its funding of fossil fuel projects,[156] and consequent pressure from the government to 'appropriately take into account' the UK's climate change commitments.[157]

This approach probably is correct and also unsustainable. There is increasing pressure on, particularly, public sector bodies to conduct due diligence regarding business relationships and funding decisions.[158] Furthermore, the summer after *UKEF* reached the Court of Appeal, the decision in *Finch*,[159] a judicial review relating to the assessment of downstream emissions on a UK-based oil project, was handed down by the UK Supreme Court. Although noting that oil and gas production was only included in the calculation of UK emissions where the project's effects fall in the UK,[160] the majority found that indirect effects of any project should be assessed,[161] meaning that all 'significant impacts' must be evaluated, irrespective of their location.[162] The decision has had a global impact,[163] and will undoubtedly change the regulation of the oil and gas industry, because

154 *UKEF* (n 1) [219].
155 *UKEF* (n 1) [47].
156 By the House of Commons Environmental Audit Committee – see *UKEF* (n 1) [33]-[34].
157 *UKEF* (n 1) [47].
158 Eg, in relation to export credit agencies, see Downie & Peterson (n 37); K Bouwer 'Global perspectives on corporate climate legal tactics: UK National Report' (British Institute of International and Comparative Law 2024) 11-13.
159 *Finch* (n 133).
160 *Finch* (n 133) [144].
161 *Finch* (n 133) [83].
162 *Finch* (n 133) [93].
163 The ICJAO even suggested (in a separate statement) that states would need to assess downstream emissions even where this entails assessing the implications on other states of projects on their own territory – Joint Declaration of Judges Bhandari and Cleveland, paras 11-19, in which they follow the reasoning in UK Supreme Court case *Finch v Surrey County Council* [2024] UKSC 20 (and the decision of the European Free Trade Association [EFTA Court] in *Norwegian State v Greenpeace Nordic, Nature and Youth Norway* [Judgment of 21 May 2025] E-18-24.

Scope 3 emissions will now need to be assessed as part of the approvals process. This does not mean that it will *necessarily* prohibit licence approvals for future oil and gas projects.[164] What is important is that, in assessing downstream emissions, this is done sensibly so that states are accountable for their own territorial emissions, and that, if consumption emissions are assessed, account is taken of where a project might reduce consumption emissions (as in *UKEF*).[165]

Sir Geoffrey Vos confirmed that the uncertainty and complexity surrounding the emissions from the project made it clear that it could not definitively be predicted to what extent the project would contribute to the fossil fuel transition.[166] It was always clear that Scope 3 emissions would be high, but he held that it was not irrational for UKEF to have taken the funding decision without accurately quantifying them, as these fell within the substantial margin of appreciation afforded to decision makers in technical cases.[167] As such, the decision was not irrational even though Scope 3s had not been definitively assessed,[168] as at best this would have been 'an estimate'.[169] He thought it would be better to remove uncertainty from the modelling process by obtaining stronger evidence about the fuel source that the gas would displace. This is referenced very briefly: 'Quantification of the Scope 3 emissions did not answer the far more difficult question considered in both the CCR and the Wood Mackenzie report, which was whether, and to what extent, gas from the project would replace more polluting fossil fuels and over what timescale.'[170] This would have offered a better way to assess the project's overall climate impacts, but it would not have changed much regarding the relatively small quantity of emissions attributable to the host state.

Most of Thornton J's dissenting judgment is dedicated to the issue of Scope 3s. She found that UKEF had failed in its duty of enquiry regarding the quantification of Scope 3 emissions, and that this failure meant there was no rational basis to conclude that the decision to fund the project was consistent with the Paris Agreement.[171] She relied heavily on the legal framework for environmental impact assessments, the purpose of which is to evaluate the effects of major projects with

164 Shapovalova (n 135) 372-373.
165 In the post-Finch litigation about the Whitehaven coal mine, the Court firmly rejected the 'substitution argument', in which it is argued that the substance to be extracted would replace supply from elsewhere – see *Friends of the Earth Limited & Others v Secretary of State for Levelling Up, Housing and Communities & Others (Whitehaven)* [2024] EWHC 2349 (Admin), [37]. This is not the same as a net emissions calculation.
166 *UKEF CA* (n 4) [55] i]. In the Court of Appeal, the question of whether downstream emissions should have been assessed is discussed in relation to rationality, intensity of review and whether funding the project constituted an error of law.
167 *UKEF CA* (n 4) [57].
168 *UKEF CA* (n 4) [63].
169 As above.
170 *UKEF CA* (n 4) [62].
171 *UKEF* (n 1) [244]. She did, however, decline to make a finding on that basis – [336].

the potential to affect the environment.[172] Her understanding was that UKEF 'envisaged the same procedural role' for the climate assessment.[173]

However, she failed to identify that the territory in which emissions happen is relevant regarding which state takes responsibility under the climate regime, or that where the state in question is an LDC, different issues arise, as is the case in *Finch*, where the UK can be expected to exercise leadership when it comes to its downstream emissions. Her judgment focuses entirely on project impact, identifying it as a 'highly significant generator' of greenhouse gas emissions,[174] without referencing the potential of the gas to displace more carbon-intensive fuels. She attributes all the emissions to Mozambique, noting that the 'emissions from the Project will constitute approximately 6 - 10% of Mozambique's annual greenhouse gas emissions under the Paris Agreement (as per its nationally determined contribution under the Agreement)'.[175] This is despite her recognition that only 5 per cent of the emissions from the project would be Mozambique's territorial emissions.[176] Given the arguments made above about the relative ambition of Mozambique's NDCs, trajectory toward emissions peaking, and the need to calculate emissions based on national territories, it is difficult to see how this is justifiable. Yet, this approach has been praised as moving toward greater scrutiny and better environmental decision making.[177]

4.4 Implications for African states

Thornton J's dissent in *UKEF*, along with *Finch*, made inroads toward acceptance that Scope 3 emissions must form part of climate assessment, and was seen at the time to potentially lay foundations for future climate cases.[178] Irrespective of inevitable legislative changes, the effect of *Finch* is that any decision maker approving a project where downstream emissions have not been assessed would be open to criticism and judicial review.[179]

However, the details and complexities of the *UKEF* case demonstrate the need for more careful reflection concerning how decisions about funding/financing fossil fuel projects – and litigation about that funding – should be made in circumstances where climate resilience and poverty alleviation in developing countries are at stake. For African fossil fuel producers, the implications are stark: Assessment of Scope 3 emissions at the point of production, without

172 *UKEF* (n 1) [274].
173 *UKEF* (n 1) [276].
174 *UKEF* (n 1) [257].
175 *UKEF* (n 1) [258].
176 *UKEF* (n 1) [257].
177 N Westaway 'Why a judge's dissent on funding for a foreign gas project could further push the boundaries of climate law' *The Ends Report* 21 April 2022 223, https://www.endsreport.com/article/1753600/why-judges-dissent-funding-foreign-gas-project-further-push-boundaries-climate-law (accessed 20 July 2026).
178 As above.
179 Adeyemi (n 133) 18.

proper attribution, effectively holds African states responsible for consumption emissions properly belonging to importers. This could also mean that states that may be entitled to a longer pathway towards emissions peaking due to their historical contribution to climate change are *de facto* prevented from doing so.

4.5 The ICJ Advisory Opinion and African fossil fuel production

It was mentioned earlier that the ICJ's Advisory Opinion found that fossil fuel production, consumption, and subsidies 'may constitute an internationally wrongful act' under international law.[180] In their Joint Declaration, Bhandari and Cleveland JJ stated that 'the obligation to transition away from fossil fuel dependence ... applies to all states', with differentiation not exempting 'any state from measures that are necessary, consistent with their capabilities and national circumstances'.[181] Whether fossil fuel development will be considered an internationally wrongful act depends on whether the state complied with its obligations under the Paris Agreement and other relevant international agreements, as well as customary law obligations to 'act with due diligence in taking measures in accordance with their common but differentiated responsibilities and respective capabilities' in order to prevent significant harm to the environment.[182] The judges emphasised that states with greater capabilities should transition 'faster', but made it clear that the obligation applies universally.[183] This could be read to license exactly the Paris-alignment approach sought by the claimants in *UKEF*, without reference to how the parties' respective commitments are differentiated.

This may allow some scope for the rate and pace of the fossil fuel phase-out to differ across states, but it has still been criticised as universalising by both members of the Court and scholars. Three African judges on the ICJ bench expressed dissatisfaction with the Court's approach. [184] With a nuanced approach to Africa's need to balance climate action with developmental needs, particularly improving energy access, scholars have criticised the universalised nature of these statements about wrongfulness, even going so far as to question whether they apply. Yusuf J concluded that the Opinion 'failed to rise to the occasion and to provide the international community with the legal tools necessary for combating climate change in an equitable manner for all states'.[185] Boshoff and Damtew state:

180 *Obligations of States in Respect of Climate Change (Advisory Opinion)* (n 8) 427.
181 Joint Declaration of Judges Bhandari and Cleveland, paras 24, 27.
182 Boshoff & Damtew (n 15) 237 quoting *Obligations of States in Respect of Climate Change (Advisory Opinion)* (n 8) para 457.
183 Boshoff & Damtew (n 15) para 24.
184 D Lupin 'Looking for an African perspective on the ICJ's Climate Advisory Opinion' in MA Tigre, M Bönnemann & A de Spiegeleir (eds) *The ICJ's Advisory Opinion on Climate Change* (2025) 324-326.
185 *Obligations of States in Respect of Climate Change (Advisory Opinion)* (n 8) Separate Opinion of Yusuf J.

> In our view, while fossil fuel development and licensing would in most cases constitute a violation of the obligation to protect the climate system, there may be instances where, based on CBDR-RC and national circumstances of African states and the extent of external support, such actions could not, in all justice and equity, be considered wrongful.[186]

A pending request for an advisory opinion by African civil society organisations at the African Court on Human and Peoples' Rights (African Court) on climate change could help to fill the gaps left by the ICJ Advisory Opinion.[187]

5 Article 2(1)(c) and flows of finance: The Paris Agreement in context

5.1 The ambiguity in article 2(1)(c)

The judges in *UKEF* all had slightly different views when it comes to the question of whether a UK-based agency could honour its own Paris commitments while funding high-emitting projects abroad. To some extent, this turned on what was meant by the 'foundational, long-term goal'[188] in article 2(1)(c), to make 'finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development'.[189] Its purpose is to support 'climate compatible' and 'Paris aligned' investment.[190] It represents a recognition that achieving the objectives of the Paris Agreement will require 'structural transformation' of the global economy, and this will require the redirection of financial flows from 'unsustainable to sustainable infrastructure and practices'.[191]

Article 2(1)(c) is under-studied and 'little-considered',[192] and under-discussed in the climate negotiations,[193] as a consequence of which there was never a 'clear, shared understanding among countries or other stakeholders of what [it] means for climate policy development and implementation'.[194] Parties were reluctant to address this due to a lack of clarity about what this would

186 Boshoff & Damtew (n 15) 244.
187 As above.
188 UNFCCC 'Sharm El-Sheikh Dialogue on the scope of article 2, Paragraph 1(c), of the Paris Agreement and Its Complementarity with Article 9 of the Paris Agreement' (20 November 2023) FCCC/PA/CMA/2023/7/Rev.1 para 25, https://unfccc.int/sites/default/files/resource/cma2023_07r01.pdf (accessed 27 January 2024).
189 It seems that this was characterised as an obligation in the claimant's grounds – see *UKEF* (n 1) [122], [133].
190 S Whitley and others 'Making finance consistent with climate goals' (Overseas Development Institute 2018) 6-8.
191 H Thorgeirsson 'Objective (Article 2.1)' in D Klein and others (eds) *The Paris Agreement on Climate Change: Analysis and commentary* (2017) 128.
192 M Bowman 'Polaris and pluralism: Presenting a legal analytical framework for climate finance' (2023) 17 *Carbon & Climate Law Review* 3, 4.
193 LH Zamarioli and others 'The climate consistency goal and the transformation of global finance' (2021) 11 *Nature Climate Change* 578, 580-581.
194 Whitley and others (n 190) 11.

require from them.[195] As mentioned above, these kinds of tensions can arise due to fundamental disagreements around responsibility and contribution, and are resolved through strategic use of ambiguity.[196] As Biniaz explains, skilled negotiators make significant use of semantic sophistry and constructive ambiguity in order to achieve agreement during fraught negotiations.[197] This is useful if it enables agreement in the multilateral negotiations, but it has resulted in unclear understandings of the basis for and implications of differentiation.[198] This can create hostages to fortune when it comes to implementation, where strategic ambiguity in the treaties can be interpreted in a way to suit more powerful parties.[199]

Irrespective, article 2(1)(c) is linked to ambition and in the interest of all parties, even those who do not share similar priorities,[200] and, at least in theory, the dynamic character of article 2(1)(c) means that it should allow developing countries to address poverty alleviation and sustainable development.[201] Significantly, while it does not specify that flows must be north to south, it does entail that what is and is not consistent with the Paris Agreement would be subject to determination by the donor party, who would likely interpret it in a way consistent with their own climate change obligations.

The fundamental ambiguity identified has been confirmed through subsequent United Nations Framework Convention on Climate Change (UNFCCC) processes. At COP30 in Belém in November 2025, the ongoing Sharm el-Sheikh dialogue on article 2(1)(c) was succeeded by two new processes: the 'Veredas Dialogue' (a two-year process) and annual 'Xingu Finance Talks' on aligning financial flows.[202] However, observers noted that the mandates of these new processes remain 'vague' and lack 'depth and clarity', and COP30 did not achieve consensus on article 2(1)(c) implementation.[203]

195 R Bodle & V Noens 'Climate finance: Too much on detail, too little on the big picture?' (2018) 12 *Carbon & Climate Law Review* 248, 252.
196 E Antonio 'The effect of constructive ambiguity on differentiation in the climate change regime: Mitigation and climate justice' (2025) 21 *Loyola University Chicago International Law Review* 77.
197 Biniaz (n 96). Also see B Mayer *The international law on climate change* (2018) 101.
198 Antonio (n 196).
199 E Friedman 'Evasion strategies in international documents: When 'constructive ambiguity' leads to oppositional interpretation' (2017) 14 *Critical Discourse Studies* 385, 398; L Vanhala 'Putting the constructive ambiguity of climate change loss and damage into practice: The early work of the UNFCCC WIM ExCom' (2023) 32 *RECIEL* 428.
200 Bodle & Noens (n 195) 250.
201 J Gastelumendi & I Gnittke, 'Finance (Article 9)' in D Klein and others (eds) *The Paris Agreement on Climate Change* (2017) 248.
202 LGMA Constituency 'COP30 outcomes on Climate Finance and Loss & Damage' (2025), https://www.cities-and-regions.org/cop30-outcomes-on-climate-finance-and-loss-damage/ (accessed 21 July 2026).
203 Debt Justice 'How did COP30 stack up against demands for debt and climate justice?' 27 November 2025, https://debtjustice.org.uk/blog/how-did-cop30-stand-up-against-debt-and-climate-justice-demands (accessed 21 July 2026).

5.2 Lord Justice Stuart-Smith

Stuart-Smith LJ engages with the ambiguity in the article, and the tensions between the commitments under the Paris Agreement to support development, and the very obviously problematic global ambition problem. Rejecting the defendant's 'hard-edged' interpretation of article 2(1)(c),[204] he stated that it is not clear what is meant by 'pathway' in this context, whether it be towards low emissions or climate resilient development.[205] He recognised that Mozambique's most feasible chance of a route towards low-carbon development would be from income generated by the project, noting that the meaning of the provision was 'unclear' given the global shortfall in emissions reductions needed to meet the temperature goal.[206] He recognised the relevance of different national circumstances when it comes to the interpretation of the Paris Agreement,[207] because the obligations in the agreement are subject to differentiation. Mozambique's NDC set out very clearly its conditional mitigation commitments, as well as a feasible plan as to how gas would form part of its low carbon development.

5.3 Sir Geoffrey Vos

Sir Geoffrey Vos noted that he should not seek 'definitively to construe' an unincorporated treaty,[208] because 'multilateral treaties are the result of an intensely deliberative process in which the language is minutely debated',[209] thereby implicitly recognising how ambiguity is instrumentalised to achieve broader agreement.

He provided clarity, however, on what the Paris Agreement says, noting that article 2 'represents the purpose' of the Agreement, with article 2(1)(c) being a 'clear objective' of the Paris Agreement,[210] given effect to by the obligations the Agreement contains in other articles.[211] He did not think that article 2(1)(c) necessarily entailed that hard lines must be drawn around certain activities – in this case that this necessarily means that countries such as the UK cannot ever fund fossil fuel development abroad, if this were consistent with sustainable development pathways. However, he also understood that article 2(1)(c) *did not* create an obligation for the UK that was linked to the temperature goal.[212] This

204 *UKEF* (n 1) [233].
205 *UKEF* (n 1) [227].
206 As above.
207 See, eg, the discussion in Saiger (n 101).
208 *UKEF CA* (n 4) [50].
209 *UKEF CA* (n 4) [48]. '… apparent reticence of the court to provide an interpretation is made even more striking because it does say what Article 2(1)(c) of the Agreement does not require the UK to do. Admittedly, in this respect, the court was stuck between a rock and a hard place: it would be accused of circumventing dualism by offering an interpretation and it is criticised for not holding the Government to account for not so doing.' Sanger & Young (n 5) 197-198.
210 *UKEF CA* (n 4) [45]. This is surely correct – art 2 sets out the goals of the Agreement – see Rajamani (n 77).
211 *UKEF CA* (n 4) [38].
212 *UKEF CA* (n 4) [55] vi.

is not true to the usual construction or negotiating history of the Agreement, however, as the consensus on article 2 was only achieved due to a comprehensive approach being taken to the objective.[213] As discussed above, all parties' climate actions should be informed by the temperature goal. The ICJ's AO suggests that how *much* each party does must be sufficient to reach the temperature goal.[214]

5.4 Mrs Justice Thornton: Universalising obligations

Thornton J agreed with the approach regarding the applicability of international law,[215] but nevertheless *does* go on to construe the relevant article in a 'hard-edged' way.[216] She recognised the importance of the temperature and finance goals,[217] and that the temperature goal is 'relevant to the UK's obligations under the Paris Agreement but not those of Mozambique'.[218] This is not correct. The goals of the Paris Agreement are shared by all parties; what differs is the extent and timing of each party's contribution towards that goal.[219]

However, Thornton J goes on to say that article 2(1)(c) must be understood with reference to the temperature goal, indicating that the 'provision of finance' must be consistent with a pathway towards achieving the temperature goal.[220] She therefore finds that in order for UKEF to demonstrate compliance, it had to demonstrate that funding 'would be consistent with a pathway towards limiting global warming to well below 2°C and pursuing efforts to 1.5°C'.[221] She explains that this does not mean that all projects must have 'explicitly beneficial climate outcomes', but must at least 'reduce the likelihood of negative climate outcomes'.[222] This interpretation would mean that 'beneficial climate' is read consistently with climate action required by developed country parties, and ignores the different obligations each state has. Even less defensibly, this neglects evidence before the Court and the scholarship on point, which suggested that in any event that project did put Mozambique on a 'pathway' towards doing its bit for emissions reduction and low-carbon development.[223]

Be that as it may, although some might regret the lack of 'enforcement' of the Paris Agreement through the domestic courts,[224] this was never a realistic

213 Thorgeirsson (n 191) 127.
214 *Obligations of States in Respect of Climate Change (Advisory Opinion)* (n 8), paras 437 and 245, and Declaration of Judge Tladi, paras 17-23.
215 *UKEF* (n 1) [262].
216 *UKEF CA* (n 4) [34].
217 *UKEF* (n 1) [263].
218 *UKEF* (n 1) [264].
219 See n 208 above.
220 *UKEF* (n 1) [265].
221 *UKEF* (n 1) [268].
222 *UKEF* (n 1) [266], quoting from the Standing Committee on Climate Finance.
223 UKEF (n 1) [77]; Mulugetta and others (n 121).
224 Hockman QC & Scott (n 7).

prospect in the UK courts.[225] Nevertheless, a decision of the Court of Appeal declaring that the provisions of the Paris Agreement are at least justiciable in the domestic courts, even against a very low (or high) bar, means that in some instances this could still be litigated.[226] This raises the obvious question, of why it would be either helpful or necessary to look to international obligations in a context where a state already has domestic climate commitments.[227] Sir Geoffrey does give a steer to future litigants that the specific legal obligations imposed on states were to meet their own NDCs.[228] He refers to the decision in the Heathrow litigation, where the Court noted that the obligation on parties to the Agreement is to meet the pledges, that they have made under the Agreement.[229]

As discussed above, there is no obligation or requirement for developed states to fund fossil fuel development elsewhere, notwithstanding obligations to provide climate finance (which in this case, the export credit was not). However, the issue here is not that, but rather how institutional assessments of funding decisions are made and (if relevant) scrutinised. The structure of the Paris Agreement favours a model of 'self-differentiation' through which states' NDCs reflect their contributions to climate change,[230] and this should reflect their 'pathway towards low greenhouse gas emissions and climate-resilient development' under article 2(1)(c). The relevant pathway against which consistency must be judged, therefore, is the recipient state's own, not a universalised one and not one that is necessarily consistent with the donor state's pathway. So, in *UKEF*, having chosen to assess Paris-consistency, it was correct to base the assessment against Mozambique's own pathway.

6 Discussion

6.1 Historical responsibility and contemporary inequity

From an African climate justice perspective, the *UKEF* litigation exemplifies problems with how climate action is understood. Africa contributes minimally to global emissions (approximately 3 to 4 per cent of historical cumulative emissions) yet faces disproportionate climate impacts.[231] This fundamental inequity is recognised in the Paris Agreement through CBDR-RC. However, while all

225 See text to n 79 above; J Kimblin 'Climate change, the courts and the constitution' (The Constitution Society 2022) 13, 16, 33-35.
226 Hockman QC & Scott (n 7) 24.
227 See K Bouwer 'The unsexy future of climate change litigation' (2018) 30 *Journal of Environmental Law* 483, 492; citing Lord R Carnwath JSC 'Climate change adjudication after Paris: A reflection' (2016) 28 *Journal of Environmental Law* 5.
228 *UKEF CA* (n 4), [47], quoting from *R (on the application of Friends of the Earth Ltd and others) v Heathrow Airport Ltd* (n 76), [71].
229 *R (on the application of Friends of the Earth Ltd and others) v Heathrow Airport Ltd* (n 76) [71].
230 Rajamani (n 65) 510.
231 HO Pörtner and others (eds) *Climate Change 2022: Impacts, Adaptation and Vulnerability: Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (2022).

parties now share mitigation burdens, this does not mean that good and effective climate action will look the same in every jurisdiction. Indeed, the consequence of a differentiated approach is quite simply this: To say we can identify 'rules and principles of international environmental law, does not mean that the law is the same for all states regardless of their capabilities or differing circumstances'.[232]

Various factors place differentiation under the climate regime under pressure. To some extent, this can arise because the increased sense of urgency about the climate crisis and increasing pressure on planetary resources could dilute the commitment to fairness that was negotiated in 2015.[233] In the Paris Agreement CBDR-RC is operationalised in a way which is dynamic and individualised,[234] with the further element of 'in light of national circumstances' introduced by the Agreement; this also, however, means that it is vulnerable to erosion.[235] One way in which this can arise is by refusing to recognise the implications of CBDR-RC when taking a view as to what, for instance, a pathway towards low greenhouse gas emissions and climate-resilient development might look like.

At present, the mitigation contributions of developed countries are insufficient;[236] this entails by necessity that an increased burden would fall on the developing world.[237] As such, while there is genuine growing urgency in terms of how the global community will keep climate change within safe limits, the actions that need to be taken by parties at different stages of development to meet this challenge, are not equivalent, if global contributions are to be in any way fair. Reducing the staggered nature of climate commitments to urgent mitigation for all, does not do justice to the principle of CBDR-RC. The *UKEF* litigation, which aimed to prevent financing for fossil fuel development in developing countries with the ultimate goal of making this unfeasible, while the UK continues licensing North Sea oil and gas,[238] exemplifies this dynamic.[239]

232 Boyle & Redgwell (n 11) 110.
233 Cullet (n 9); K Dingwerth & S Herr 'The reinterpretation of common but differentiated responsibilities in the climate regime' in K Dingwerth and others *The unmaking of special rights* (2024) 57.
234 Rajamani (n 65) 509. See for instance K Anderson, JF Broderick & I Stoddard, 'A factor of two: How the mitigation plans of "climate progressive" nations fall far short of Paris-Compliant Pathways' (2020) 20 *Climate Policy* 1290, who propose a 'Paris-compliant' approach which they acknowledge that such an approach 'falls far short of an equitable sharing of the climate burden', 1294.
235 K Dingwerth and others 'The unmaking of special rights' in K Dingwerth and others *The Unmaking of special rights* (2024), 5, 12-3. Also S Atapattu 'Climate change, international environmental law principles, and the north-south divide' (2016) 26 *Transnational Law and Contemporary Problems* 247.
236 Holz and others (n 95); Anderson and others (n 233).
237 C Okereke & P Coventry 'Climate justice and the international regime: Before, during, and after Paris' (2016) 7 *Wiley Interdisciplinary Reviews: Climate Change* 834, 847; Dingwerth & Herr (n 233).
238 See D Bol 'Rishi Sunak defends plan to drain 'every last drop' of North Sea oil' *The Herald* 28 September 2023; J Pickard, G Parker & T Wilson 'Starmer wants contentious North Sea oil and gas fields to go ahead' *Financial Times* 5 February 2025.
239 See text at nn 47-49.

6.2 Development needs and energy development

African climate justice requires more than emissions counting. Action taken – including through the courts – must be informed by African priorities and values, and serve the purposes and needs of African peoples.[240] I would argue that this applies also where litigation occurs in foreign courts; least developed countries should not be required to meet the UK's level of climate ambition just because an action is brought in London. While many priorities are shared between all nations, the relative importance or urgency of them may not be the same in all contexts.[241] However, this does raise questions as to the relevance of 'global' strategies and what is needed locally to address the impacts of a changing climate.

Most African states are in need of further development, may have some dependence on fossil fuels, and often lack capacity to transition away from this.[242] The Paris Agreement explicitly recognises that climate action must be undertaken 'in the context of sustainable development and efforts to eradicate poverty',[243] and must be implemented to reflect equity.[244] Mozambique's ongoing electrification rate of only about 40 per cent reflects profound energy poverty.[245] Simultaneously, climate finance for developing countries consistently falls short of commitments, or if delivered may load an already unmanageable debt burden,[246] and Mozambique has a significant 'climate finance gap', with available finance prioritised for adaptation and resilience.[247] In this context, to argue that Mozambique should forego gas revenue and instead rely on renewable energy,[248] when financing for that is not actually available, and even if available could delay structural change and the buildup of physical infrastructure,[249] is to impose an impossible constraint on Mozambican development. The gas project offered transformative potential for addressing this – not only through direct revenue but through enabling grid development for renewable energy expansion. To characterise this as inconsistent with the Paris Agreement, without considering whether alternative pathways are actually available, adequately financed and able to achieve the same development goals, is to prioritise abstract global emissions accounting over concrete human development needs.

240 DA Owona Mbarga 'Climate change litigation in civil law African countries: An assessment of barriers and potentialities in Cameroon' in K Bouwer and others (eds) *Climate litigation and justice in Africa* (2024) 2.
241 Owona Mbarga (n 240) 1-2.
242 S Fakir *Navigating Africa's climate development nexus: Risk and opportunities in the just transition* (2025) 1-20.
243 Paris Agreement art 2(1).
244 Paris Agreement art 2(2).
245 Detelinova and others (n 29) 15.
246 Fakir (n 242) 10.
247 Detelinova and others (n 29) 33-34.
248 Boshoff & Damtew (n 15) 240-241.
249 M Jakob & JC Steckel, 'How climate change mitigation could harm development in poor countries' (2014) 5 *Wiley Interdisciplinary Reviews: Climate Change* 161, 164.

At the same time, there are legitimate concerns about stranded asset risk and shifting global gas markets that could reduce economic gains from future gas extraction.[250] New gas development at this stage of history is relatively high cost and could carry particularly high stranding risk if global gas markets contract.[251] However, the International Energy Agency has confirmed that gas will remain part of the global energy mix in the medium term,[252] so how real this risk is, is unclear. Certainly, fossil fuel use needs to be phased out, but this raises all sorts of other questions about who phases out first, and which assets do end up being stranded. These questions should be resolved with equity as a central consideration.[253]

6.3 Who decides?

A fundamental question the *UKEF* litigation raises is: Who decides Mozambique's development pathway? Under the Paris Agreement Parties determine their own pathways through nationally determined contributions.[254] Mozambique has determined that gas development forms part of its climate-resilient development pathway.

Most of this article has discussed the question of public finance by developed states of fossil fuel projects abroad, and how a decision as to whether this is legally permissible could take account of CBDR-RC. However, this does not mean that there are not other reasons that continuing with gas development, might be considered objectionable from an equity perspective. The development and extraction of energy and natural resources raise significant issues on their own terms. For a variety of reasons, natural resource extraction in developing countries has not been associated with significant benefits for local populations.[255] Instead – as is the case in the Cabo Delgado region of Mozambique where most of the gas reserves are found – the profits of extraction have been used to enrich multinational companies and elites.[256] Despite this, the rhetoric of the importance of gas for economic development has been used to encourage compliance with ongoing gas extraction, even if local benefits did not materialise as expected.[257] Other concerns with extractive projects that arise in the Mozambican gas

250 Mulugetta and others (n 121) 1018; Detelinova and others (n 29).
251 F Denton and others 'Africa's development in the age of stranded assets' (UNU-INRA 2019) https://collections.unu.edu/view/UNU:7674#viewMetadata (accessed 6 July 2026).
252 IEA (2025) *World Energy Outlook 2025*, IEA, Paris https://www.iea.org/reports/world-energy-outlook-2025 (accessed 21 July 2026).
253 For a detailed discussion, see Bouwer and others (n 129).
254 Paris Agreement art 4(2); Rajamani (n 65) 345.
255 RM Auty 'The political economy of resource-driven growth' (2001) 45 *European Economic Review* 839.
256 RA Dwumfour & M Ntow-Gyamfi 'Natural resources, financial development and institutional quality in Africa: Is there a resource curse?' (2018) 59 *Resources Policy* 411; E Namaganda, K Otsuki & G Steel 'Learning from Africana critical theory: A historicized contextualization of the impacts of Mozambique's natural gas project' (2022) 10 *The Extractive Industries and Society* 101075.
257 Namaganda and others (n 256).

industry include serious shortcomings in participatory processes, both that underlie the planning stages of the project, as well as ongoing shortcomings with participation, exclusions of communities including loss of land rights or culturally relevant spaces, and failure properly to conceptualise and set up, or adhere to, benefit sharing and compensation agreements.[258]

All the above – as well as the local environmental implications of gas development – could form the basis of very serious questions about the desirability of the project continuing from both equity, and local economic and social development, perspectives. Basic principles of sovereignty require that it is for Mozambique to decide how to weigh up the risks and costs of different development pathways, and that the route to challenge is through their national courts at first instance. This is not to say that transnational litigation cannot be an effective and legitimate route to justice for communities in developing countries. However, the *UKEF* litigation was not brought by community groups or activists in Mozambique, but by an NGO based in London, with the argumentation and focus on the challenge being the contribution the gas produced by the project would make to climate change. This is significant because it determined how the litigation was framed, including a failure (certainly in the claimant's presentation of its case in the High Court) to recognise that Mozambique's climate commitments would allow some LNG development. Notably, there has been litigation in the Mozambican courts, not about the UKEF project, but about other gas projects in the same region.[259] This litigation challenged the consequences of community displacement, rather than aimed to stop the project in its entirety.[260] While there has been some community activism, including about environmental concerns, there has not been any further court action brought locally seeking to stop the project entirely. While clearly there will be local activists who want to put an end to the project entirely, this suggests that there is a range of perspectives towards the use of the gas at local level, and some activists do not necessarily want to curtail development.

The point is not that Mozambique *must* exploit its gas, but rather that there seems to be space to make a case that continued gas production for developing countries can be consistent with their commitments under the Paris Agreement or international environmental law in general,[261] even though there may be other very good reasons not to. Irrespective, this should be a decision for Mozambique, not one imposed by an English court. I say this despite the fact that this particular project would have been economically viable without UKEF support, because of

258 As above; Y Omorogbe 'Resource control and benefit sharing in Nigeria' in L Barrera-Hernández and others (eds) *Sharing the costs and benefits of energy and resource activity* (2016) 259.

259 Namaganda and others (n 256); See generally S Dunn & F Curtis 'Litigation funding: Practical aspects' in R Meeran & J Meeran (eds) *Human rights litigation against multinationals in practice* (2021).

260 K Symons, 'Transnational spaces, hybrid governance and civil society contestation in Mozambique's gas boom' (2016) 3 *The Extractive Industries and Society* 149.

261 See also Boshoff & Damtew (n 15); Bouwer and others (n 129).

the implications that a successful judicial review would have had for other, similar projects, but also because even failed cases of this nature can have implications for future projects, including because they shift funders' perception of risk.[262] There is ongoing campaigning from Global North-based NGOs to curtail public financing to Mozambique for gas development.[263]

7 Conclusion

In this article, I examine litigation in the English courts about the UK's funding for gas development in Mozambique. The *UKEF* litigation was brought with a focus on whether the project was 'Paris-aligned', through a universalised lens of emissions urgency. The claimants argued that funding the project was inconsistent with both the UK's and Mozambique's Paris commitments, specifically that article 2(1)(c) specified that 'flows of finance' must be consistent with a pathway towards low carbon development. I have argued that this litigation is different and raises distinct and important legal issues, and that the outcome was defensible even though the reasoning throughout the case does not (and could not) provide helpful guidance as to how differentiation bears on developing state finance decisions, leaving no usable guidance for future cases.[264] However, these distinct aspects of the case have not been adequately explored in the literature, where it is seen as yet another disappointing UK climate change judicial review,[265] or (due to the dissent) potentially a harbinger for more interventionist judges in the climate change context.[266]

The case demonstrates how vulnerable differentiation is to erosion at national level. All three judges struggled to engage meaningfully with what differentiation this means in practice. Thornton J's universalising approach, treating Mozambique's obligations as essentially equivalent to developed countries', most clearly illustrates the problem, but this does give rise to dilemmas as well. The judges quite rightly found that they could not provide a definitive interpretation of article 2(1)(c), and were probably correct in not doing so. Yet, the consequence of this not being interpreted is that there is no clear guidance on how to understand (in this case) the UK's position regarding climate and development actions in other countries, or how differentiation should be taken account of when financing decisions are made.

262 See discussion at nn 47-49 above.
263 See, eg, updates at https://oilchange.org/?s=mozambique (accessed 21 July 2026).
264 I have explained that I understand that the case was a judicial review application and, as Sir Geoffrey made clear, as such should be determined using ordinary principles of public law. So, I am not suggesting that the case should have been decided based on any of the following. The reason it is relevant to consider these, is because the case – and the commentary about it – have normative content and contributes to our understandings of climate law and climate justice.
265 See Sanger & Young (n 5).
266 Westaway (n 179).

UKEF also raises important and neglected considerations about the assessment of consumption emissions from oil and gas production. This is increasingly relevant, particularly given the approaches taken by recent national and international courts. As I explain above, there are problems in assessing Scope 3 emissions at point of production both without proper consideration of attribution, and (which might be more difficult) without a proper understanding of what the relevant fuel will do in the marketplace. Treating all downstream emissions as Mozambique's responsibility, when 95 per cent will occur outside Mozambican territory and properly belong to consuming states, certainly is an approach that focuses on reducing fossil fuel use, but it is not consistent with an approach where state's emissions are assessed based on territory. However defensible this approach might be when relating to UK oil extraction,[267] other issues arise when the same reasoning is used to impose this burden on developing countries.

Finally, the case raises profound questions about sovereignty and the determination of how to balance climate and development priorities. When UK courts are asked to adjudicate whether UK funding for Mozambican gas development is 'Paris-aligned', a claimant is seeking to impose determinations that override Mozambique's own assessment of its climate-resilient development pathway. To reiterate, of course, I appreciate that the case did not ask the Court to prevent the project, but it was brought as part of a campaign to do so, and sought to set a precedent that could progressively undermine funding for African gas projects. The *UKEF* case, despite its specific context, raises fundamental questions about power, sovereignty and justice in global climate governance. When a UK-based NGO uses UK courts to challenge UK funding for gas development in Mozambique – development that Mozambique has determined is part of its climate-resilient development pathway – this raises serious questions about how international NGOs understand climate justice. The subsequent ICJ AO also demonstrates that even the highest international court struggles with how to operationalise CBDR-RC when it comes to fossil fuels. These are genuinely difficult questions that domestic courts in developed countries are ill-equipped to resolve, particularly when their determinations affect developing countries. If climate justice means anything, it must mean more than the urgent quest for net zero.[268] It should mean recognition of historical responsibility, respect for differentiated obligations, acknowledgment of development rights and deference to sovereignty. It must mean that the urgent imperative of climate action does not become yet another mechanism for constraining African development and imposing on them the priorities and burdens of other countries.

267 *Finch* (n 133) [93]-[100].
268 M Hulme 'Climate emergency politics is dangerous' (2019) *Fall Issues in Science and Technology* 23.