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Grantham Research Institute on Climate Change and the Environment

Submission to the Third Dialogue of the UAE Just Transition Work Programme

Approaches to enhance adaptation and climate resilience in the context of just transitions

Timo Leiter, Denyse S. Dookie, Tiffanie Chan, Kate Gannon and Jodi-Ann Wang

August 2025

(Originally submitted to the UNFCCC in May 2025)

Grantham Foundation for the Protection of the Environment

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About this submission

This submission responds to a call for views on the dialogues under the United Arab Emirates (UAE) Just Transition Work Programme (JTWP). Specifically, it refers to the message by the Chairs of the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI) that the topic of the third dialogue which will be held on 22–23 May 2025 is: "Approaches to enhancing adaptation and climate resilience in the context of just transitions." This submission aims to inform the dialogue and subsequent work on this topic under the JTWP.

This response to the call for views was submitted to the UNFCCC secretariat in May 2025 via its portal. The version presented here has been lightly edited since submission.

The submission draws on work produced across the Grantham Research Institute, including the adaptation and resilience team, the Climate Change Laws of the World project, and the Just Transition Finance Lab. Jodi-Ann Wang coordinated the preparation of inputs for this submission which were reviewed by Timo Leiter. The authors of each section are listed below.

Introduction and sections 1–3: Timo Leiter (Distinguished Policy Fellow)

Section 4: Denyse S. Dookie (Research Fellow)

Section 5: Tiffanie Chan (Policy Analyst)

Section 6: Kate Gannon (Assistant Professorial Research Fellow)

Section 7: Jodi-Ann Wang (Policy Fellow)

This paper was first published in August 2025 by the Grantham Research Institute on Climate Change and the Environment.

Suggested citation: Leiter T, Dookie D, Chan T, Gannon K, Wang J-A (2025) *Submission to the Third Dialogue of the UAE Just Transition Work Programme. Approaches to enhance adaptation and climate resilience in the context of just transitions*. London: Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science.

Summary

Equity and justice considerations have been recognised in the adaptation literature for over 25 years (e.g. Adger, 1999; Paavola and Adger, 2006; Pelling, 2011). A dedicated institutional landscape on adaptation has evolved under the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement (UNFCCC, 2024a). Work on adaptation under the Just Transition Work Programme (JTWP) should therefore complement rather than duplicate existing structures and processes. At the national level, the primary entry point is national adaptation governance arrangements, especially the process of formulating and implementing National Adaptation Plans (NAPs).

Among the elements of the JTWP, social protection systems offer untapped potential to safeguard poor and marginalised communities that are often most exposed to climate risks. The JTWP could further explore and share experiences about ways to scale up, finance and enhance social protection systems to foster equitable adaptation. Further, limitations of widespread availability of appropriately scaled weather and climate information, as well as barriers hindering its effective use and uptake for decision-making in local contexts, impede inclusive and equitable distribution of information which challenges just and resilient outcomes. The JTWP could focus on ways to enhance access to and uptake of climate information through encouraging institutional awareness of these linkages and emphasising the need for capacity building in this area.

International cooperation has been key in capturing the diversity of just transition needs among countries, and in engaging in collective debates about the need for means of implementation. Climate finance can be a lever for just and resilient outcomes. But if the quality of climate finance is neglected, it risks becoming a new source of injustice or perpetuation of maladaptation.

Context and aim of the submission

The Glasgow Climate Pact as adopted at the 26th Conference of the Parties (COP26) in November 2021 recognises:

> *the need to ensure just transitions that promote sustainable development and eradication of poverty, and the creation of decent work and quality jobs, including through making financial flows consistent with a pathway towards low greenhouse gas emission and climate-resilient development, including through deployment and transfer of technology, and provision of support to developing country Parties* (Decision 1/CMA.3, para. 85).

COP27 in November 2022 in Sharm el-Sheikh established the JTWP (Decision 1/CMA.4, para. 52) and COP28 confirmed its objective "shall be the discussion of pathways to achieving the goals of the Paris Agreement" (Decision 3/CMA.5, para. 1). Seven elements of the JTWP were decided including "Approaches to enhancing adaptation and climate resilience at the national and international level" and at least two dialogues are to be held each year (Decision 3/CMA.5, paras 2 and 5). The Chairs of the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI) decide the topic for each dialogue, taking into account submissions by parties and observers. The topic of the third dialogue that will take place from 22 to 23 May 2025 will be "Approaches to enhancing adaptation and climate resilience in the context of just transitions." Parties and observer organisations are invited to submit "views on opportunities, best practices, actionable solutions, challenges and barriers" relevant to the topic of each dialogue (Decision 3/CMA.5, para. 8). This submission responds to this call for submissions.

The aim of this submission is to inform the agenda and content of the upcoming dialogue on adaptation and resilience and the coverage of this topic under the JTWP. It follows previous submissions by the Grantham Research Institute on Climate Change and the Environment and

the Just Transition Finance Lab[1] on suggested topics for the first year of the JTWP (Wang and Robins, 2024) and recommendations for the second dialogue (Grantham Research Institute on Climate Change and the Environment, 2024). The Grantham Research Institute has also made regular submissions on the negotiations under the global goal on adaptation (Leiter, 2023a; 2024a; 2024b) and on adaptation finance (Leiter, 2023b).

Responses

1. Justice and equity have long been recognised as important pillars of adaptation

Matters of justice, equity and sustainable development are not new to the adaptation discourse. The importance of social vulnerability was recognised in the adaptation literature over 25 years ago (Adger, 1999). The close linkage to sustainable development and to poverty eradication is equally well established (Adger et al., 2003; Eriksen and O'Brien, 2007; Tanner and Mitchell, 2008; Ayers and Dodman, 2010; Brown, 2011). For over 15 years, equity and justice have been highlighted as important considerations of adaptation (Paavola and Adger, 2006; Pelling, 2011; Pelling and Garschagen, 2019). Accordingly, the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC) has anchored justice and equity implications as central pillars of successful adaptation (IPCC, 2022; see chapters 1.4 and 17.5.1). There is, therefore, no need to reinvent the wheel by adding a prefix ('just') before the term adaptation. Good adaptation planning and practice should by default consider matters of social vulnerability and equity, as has been reinforced by the IPCC AR6 and by several principles for good adaptation, including in the Adaptation Gap Report (UNEP, 2022, Box 5.1).

Introducing a new buzz word ('just adaptation') would merely add to an already complex web of concepts and terms that make it difficult for decision-makers, funders and practitioners to understand adaptation. In fact, there is already considerable debate and at times confusion about the meaning and relationship between incremental and transformational adaptation,[2] maladaptation and resilience. The coverage of adaptation by the JTWP should therefore not focus on the promotion of a new buzz word but should explore how social justice and equity considerations can be further strengthened where transition processes respond to experienced and expected climate risks.

2. Complement rather than duplicate existing adaptation processes

Adaptation to climate change has a long history under the UNFCCC and the Paris Agreement as showcased during the side event "30 years of adaptation" at COP29[3] and the accompanying report by the Adaptation Committee (UNFCCC, 2024a). Over time, numerous bodies, committees and programmes have been established for adaptation at the international level (Schipper, 2005; Leiter, 2022). These existing structures are further interconnected with those for finance, capacity building, technology transfer, and loss and damage (see Figure 1). Adaptation would not be enhanced by creating additional bodies and parallel fora on adaptation in transition processes. Instead, matters of adaptation that are specific to just transitions should be integrated into the comprehensive existing institutional network on adaptation that is shown in Figure 1. Indeed, the decision that established the JTWP explicitly states that this work programme is "to be implemented in a manner that builds on and complements the relevant workstreams under the Convention and the Paris Agreement" (Decision 1/CMA.4, para. 52).

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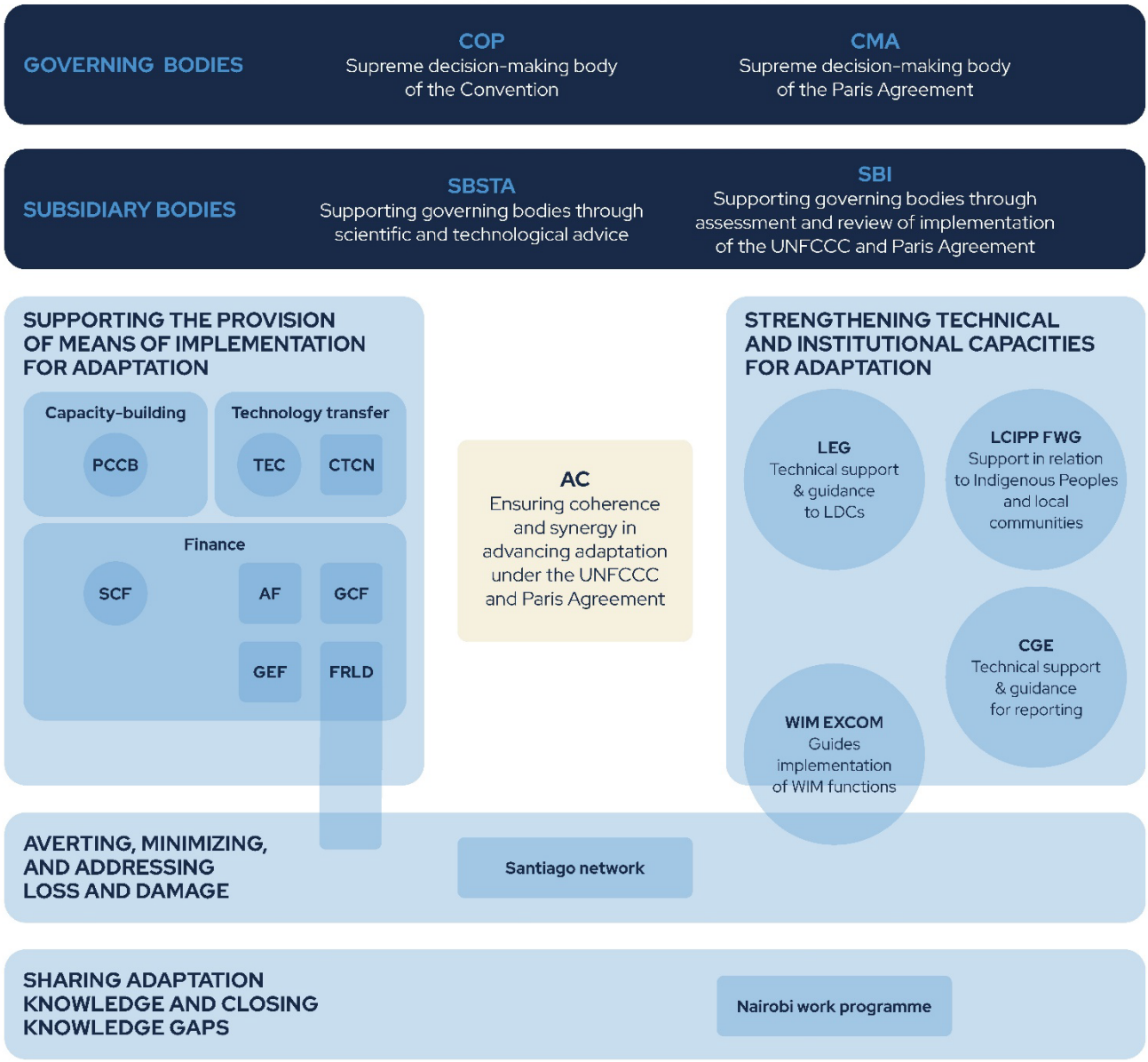
[1] See: https://justtransitionfinance.org/

[2] See for example the technical paper by the secretariat (UNFCCC, 2024b): https://unfccc.int/sites/default/files/resource/tp2024_08.pdf

[3] The event was moderated by Grantham Research Institute expert Timo Leiter. A recording of the event is available here: https://unfccc.int/event/30-years-of-adaptation-building-on-the-past-to-get-ready-for-the-future-an-event-by-the-adaptation

Figure 1. The adaptation landscape under the UNFCCC and the Paris Agreement



Notes: COP: Conference of the Parties; CMA: Conference of the Parties serving as the meeting of the Parties to the Paris Agreement; SBSTA: Subsidiary Body for Scientific and Technological Advice; SBI: Subsidiary Body for Implementation; PCCB: Paris Committee on Capacity-building; TEC: Technology Executive Committee; CTCN: Climate Technology Centre and Network; SCF: Standing Committee on Finance; AF: Adaptation Framework; GCF: Green Climate Fund; GEF: Global Environment Facility; L&D Fund: Loss and Damage Fund; AC: Adaptation Committee; LEG: Least Developed Countries Expert Group; LCIPP FWG: Local Communities and Indigenous Peoples Platform Facilitative Working Group; WIM EXCOM: Warsaw International Mechanism Executive Committee; CGE: Consultative Group of Experts.
Source: UNFCCC (2024a, Figure 8)

The overarching process for adaptation at the national level is the process of formulating and implementing National Adaptation Plans (NAPs). Initially established for least developed countries in 2010, the NAP process is recognised in the Paris Agreement as an instrument for all countries (Article 7.9).[4] As of 2021, more than 70 countries had adopted a dedicated national

[4] See: https://unfccc.int/national-adaptation-plans

adaptation planning document and at least 40 countries had updated it twice as of 2024 (Leiter, 2021; UNEP, 2024, chapter 2). Importantly, the NAP process is not just about creating a planning document but about integrating adaptation "within all relevant sectors and at different levels, as appropriate" (Decision 2/CP.17, para. 1). As such, the NAP process should include all relevant topics including adaptation in transition processes. In fact, several dozen supplementary materials to the NAP Technical Guidelines have been published on the UNFCCC web portal 'NAP Central' which could also refer to any existing or new resources in relation to adaptation in just transitions.[5]

The importance of avoiding duplications and additional demands on countries (such as calling for the development of 'just transition plans' for adaptation) is further underscored by the persisting capacity gaps in many developing countries, especially the least developed countries and small island developing states (SIDS) (see UNEP, 2024, chapters 4 and 5). Government capacities need to be strengthened rather than stretched by introducing new terms.

3. Enhancing social protection for adaptation

Social protection has long been recognised for its potential to support adaptation and reduce inequalities (Davies et al., 2009). Accordingly, "social protection and the recognition of labour rights" is among the elements to be addressed by the JTWP (Decision 3/CMA.5, para. 2e). The World Social Protection Report 2024–26 found that 3.8 billion people are still without any social protection and those most exposed to climate risks have the least access (ILO, 2024). Research, including by the Grantham Research Institute, has therefore called for social protection systems to be designed in a way that helps vulnerable communities to respond to climate risks and that helps reduce the causes of social vulnerability (Tenzing, 2020). Importantly, social protection systems, including conditional cash transfers, cannot be assumed to automatically be effective against climate risks (Arena et al., 2023). They have to be designed or adjusted in a way that accounts for climate risks alongside other risks faced by poor and marginalised population groups. Tenzing (2020: 1) suggests that social protection systems "should enable the adoption of forward-looking strategies for long-lasting adaptation". The JTWP could further explore and share experiences about ways to scale up, finance and enhance social protection systems to foster equitable adaptation.

4. Enhancing access to and uptake of climate information to facilitate a just transition

The use of weather and climate information (WCI) is a vital but under-emphasised driving factor for adaptation. Encompassing a range of data across various geographies and timescales that is both scientific as well as derived from local knowledge (Singh et al., 2018), WCI is essential for facilitating both short-term and long-term planning and guiding policy. For instance, relevant WCI forms an important part of climate risk and vulnerability assessments, early warning systems (EWS) and early action, and informs climate-proofed infrastructure and services, strategies for risk transfer (such as through insurance and social protection), as well as offering context to access public and private finance (Dookie, 2024).

By leveraging WCI, communities can better prepare for and respond to the challenges posed by a changing climate. However, there are key barriers to WCI access, use and uptake (Dookie et al., 2023), including a lack of awareness of the existence or utility of WCI and how to interpret and apply it within specific contexts. WCI may not be available at appropriate temporal and/or spatial scales (for instance, either high resolution/low frequency or low resolution/high frequency data) or not locally relevant (for instance, in small island contexts). Another key barrier relates to challenges of formats and timeframes which may not align with user needs creating a 'usability gap'. Furthermore, uncertainty over which climate models best fit in a particular context pose challenges for decision-makers (Dookie et al., 2019; and see the identification of suitable climate

[5] See: https://www.napcentral.org/supplementary-materials-library

models in Tanzania[6]). In some contexts, illiteracy and lack of access to communication tools, or delivery of information in ways which are not locally appropriate, may hinder the dissemination of climate information, and thereby uptake and use. This may be combined with limited opportunities for engagement with WCI providers or boundary organisations to ask questions and clarify information. There is also a growing awareness of the role of traditional knowledge, and in some cases, there may be a preference for elder-led approaches over science-based ones. In contexts where there may be an engaged awareness and interest to disseminate WCI and encourage use, challenges of resource limitations such as a lack of funding, technical expertise or infrastructure to generate, disseminate and best utilise WCI can hinder effective action. In many contexts, there are fragmented data sources making it difficult to access and understand a comprehensive dataset, perhaps due, in part, to weak institutional frameworks and supportive data policies to encourage the integration and use of WCI for policy planning and decision-making purposes. As well, it could be difficult for some decision-makers to use WCI effectively if there may be a lack of actionable alternatives or choices to adapt practices and policies. In addition, there are concerns about the gendered dimensions of climate information awareness and use for decision-making, noting that women may be more unaware of the relevance of WCI for their areas of business/entrepreneurship (Vincent and Dookie, 2025).

The context of a just transition, which emphasises fairness and equity in addressing climate challenges and ensures that vulnerable populations are not left behind, is inextricably linked to conditions which enhance the gathering, dissemination, access, use and uptake of climate information. For instance, mapping flood-prone areas can inform the development of early warning systems and evacuation plans, prioritising the safety of at-risk populations. Minimising the above-mentioned barriers and fostering related enabling conditions for WCI can facilitate a just transition. For instance, increasing the access and use of locally relevant and actionable WCI empowers communities to take agency, including those most vulnerable to climate impacts, by strengthening their knowledge base and enabling them to make informed decisions to respond effectively to climate risk. Therefore, strengthening awareness, availability and access of WCI are vital to achieving resilience within a just transition in ways that are inclusive and equitable.

5. Supporting domestic institutions and processes to implement NAPs

Communities are increasingly turning to courts to challenge governments that have failed to protect them from physical risks of climate change (Setzer and Higham, 2024). These cases explicitly raise human rights issues. For example, in *Josefina Huffington Archbold v. Office of the President and Others*, a citizen challenged the Colombian Government's inadequate response to Hurricane Iota, particularly the delays and failures in reconstruction and adaptation planning, alleging that these violated her rights to a dignified life, health and housing. The Court highlighted that beyond emergency response measures, the impacts of climate change also demand long-term adaptation strategies grounded in principles of equity (Setzer and Higham, forthcoming).

Countries need to have strong domestic institutions and processes in place to support the successful delivery of planned adaptation strategies and programmes. NAPs, and matters of social vulnerability and equity, cut across many sectors and levels of governance. There is a need for mechanisms that enhance integration and improve coherence among policies (Sridhar et al., 2022). There is increasing evidence that at the domestic level, climate framework legislation can help facilitate a whole-of-society approach (Averchenkova et al., 2024a; 2024b; 2021). Giving public bodies a clear mandate to operate in a way that is aligned not only with broad-based climate goals, but also specific climate plans and policies can have positive benefits for climate action (Averchenkova et al., 2024a; 2024b).

[6] See: https://www.lse.ac.uk/granthaminstitute/publication/future-climate-projections-for-tanzania/

Research from the Grantham Research Institute on the impact of climate legislation has also found that setting binding commitments to regular strategic planning and reporting strengthens political accountability and facilitates more frequent public debate on climate action (Averchenkova et al., 2024a; 2024b). The cycle of planning and progress reporting ensures regular evaluation of performance, while maintaining flexibility to course correct when not on track (Leiter, 2021). However, such laws, and research on them, have thus far focused more on mitigation considerations (Rumble, 2019) and impacts in developed economies. In the same manner that matters of adaptation that are specific to just transitions should be integrated into the existing UNFCCC institutional network (see section 2), at the domestic level, depending on a country's legal system, there may be opportunities to leverage existing governance processes designed for mitigation, to help prioritise adaptation, equity and social protection, into public decision-making.

6. Inclusive and gender responsive climate adaptation to maximise adaptation among — and through — small businesses

Entrepreneurship and small businesses underpin livelihoods in economies, particularly in the Global South, where they are often the most realistic form of employment for women, youth and other disadvantaged groups (Crick et al., 2018). Yet small and medium enterprises (SMEs) are often highly exposed to climate risk and lack many of the business-enabling resources required to support adaptation (ibid.). This means that even moderate changes in climate conditions can produce significant, but under-recognised, consequences for SMEs that cascade across other sectors from the direct and indirect effects of climate events (Gannon et al., 2025; 2018; Siderius et al., 2018).

Women entrepreneurs often face additional barriers to adapting to climate risks within their business — shaped by factors such as more limited access to finance, and additional challenges accessing technologies and markets — and face a "triple differential vulnerability" to climate risk (Gannon et al., 2022). These differential barriers to adaptation are reinforced by climate and adaptation policies which tend to recognise and provide for only a limited range of businesses and production models. In particular, private sector adaptation policies have tended to focus primarily on the needs of larger and formal businesses, with less consideration given to smaller businesses operating in the informal sector, which often dominate the enterprise landscapes in developing countries (Gannon et al., 2020).

Focus on enhancing adaptive capacity for SMEs, especially in the Global South, is fundamental for achieving resilience in the context of just transitions. This salience is evidenced through the way in which SMEs are strongly integrated into communities and play a prominent role in household poverty reduction and social welfare. But there is also evidence to suggest that SMEs can also be strategic actors in upscaling equitable climate resilience and just transition pathways.

Key adaptation goods and services that support wider societal resilience are delivered through SMEs — including by and for those businesses in highly vulnerable, informal businesses in agricultural value chains, who are frequently excluded from more formal business networks (Gannon et al., 2021). SMEs, including SMEs in the informal (unregistered) sector, therefore form an important, but under-recognised aspect of the private sector for adaptation.

Additional private sector action in resilience building can be unlocked through multi-stakeholder partnerships (MSPs). These are collaborative arrangements between at least one private organisation and one public or one civil society organisation. Through investment in areas such as research, data access, relationship-building, access to finance and business incubation, research has demonstrated the potential to scale up climate and development action among some of the most vulnerable private sector actors through MSPs, with important potential to plug gaps in adaptation and development finance (ibid.).

Recent research has also begun demonstrating empirically the value of enhancing gender-inclusive enabling environments for private sector adaptation. Analysis of SME survey data in Kenya and Senegal suggested businesses with female and gender-diverse leadership were more

likely to be adapting to climate change in ways that safeguard long-term business resilience than male-only led businesses (Gannon et al., 2025). This research also found that, among the SMEs surveyed, adaptation funding and business support delivered better results for businesses with female leaders, than businesses with only male leadership. This suggests gender-inclusive business policies could be a game-changer for climate resilience and one of the most efficient ways to scale up adaptation to climate change.

7. Adaptation and resilience as a core pillar of financing just transitions

Finance is a cornerstone of the global just transition — and must be seen as not merely a technical solution but also a strong political imperative. It defines the contours of transitions towards just and resilient outcomes. While much of the attention under financing a just transition has rightly focused on energy, labour and related social protection incentives, adaptation and resilience are foundational yet often overlooked. This is particularly the case for communities in the Global South that face existential climate risks while also facing very limited independent access to finance. As such, it is imperative to ensure that climate finance meaningfully enables adaptation. The following highlight areas of consideration for just transition financing in this regard.

The quantity and quality of climate finance for adaptation

The 2023 UNEP Adaptation Gap Report revealed the stark and widening adaptation finance gap, with annual adaptation costs in developing countries reaching US$215 billion this decade, while flows declined by 15% to US$21billion in 2021 (UNEP, 2023). This marked an adaptation finance gap of US$194–366 billion per year. The 2024 UNEP Adaptation Gap Report highlighted that achieving the Glasgow Climate Pact goal would only reduce the adaptation finance gap by about 5% (UNEP, 2024). Moreover, there exists a persistent imbalance between mitigation and adaptation financing: in 2022, global adaptation finance reached US$76 billion, this stands at only 5% of total climate finance flows (Climate Policy Initiative, 2024).

Importantly, the efficacy of climate finance should not only be evaluated by volume or quantity, but also by its quality (accessibility, debt sustainability, transparency, equity) (e.g. Leiter, 2023b). A growing body of research points to how debt-based finance mechanisms can create long-term over-indebtedness for vulnerable countries and communities, undermining the very resilience that is needed. Only a small fraction of adaptation finance is delivered through grants, with the majority delivered through loans and on non-concessional terms (Venner et al., 2024). A predominance of non-concessional finance for adaptation — and climate action in general — risks reinforcing unsustainable debt dynamics and limits the fiscal space for governments, particularly SIDS and Least Developed Countries (LDCs) to respond to future escalating climate shocks and pursue sustainable development (Catalano et al., 2020).

This creates a negative feedback loop: insufficient funding constrains countries to pursue suboptimal or minimal adaptation strategies, which are often debt-based, that fail to address the underlying, systemic aspects of vulnerabilities. As climate impacts intensify, maladaptive responses increase overall exposure and risk, which in turn drives up borrowing costs, impacts credit ratings, and ultimately further limits countries' ability to access finance (Leykun, 2024). In fact, research finds that climate vulnerability has "already raised the average cost of debt [in developing countries] by 117 basis points", this equates to "US$40 billion in additional interest payments over on public debt alone" in recent decades (Buhr et al., 2018: 2).

In fact, the world's poorest and most climate-vulnerable countries are already spending more than twice as much to service existing debt, compared to what they receive in climate finance (Leykun, 2024; IIED, 2024). The 50 countries most vulnerable to climate change are spending four times more on external debt payments than in 2010 (Debt Justice, 2024). These record-breaking figures call for a strong impetus for the JTWP to be aligned with ongoing deliberations for finance-related items under the Convention and the Paris Agreement. For adaptation and resilience to be a core anchor of the just transition agenda, finance must be needs-based, grant-based, and publicly accountable to most vulnerable communities.

Interconnected justice and the geographies of adaptation

Policies for green transitions across socioeconomic sectors play a key role in shifting the allocative behaviours of financial institutions in financing a just transition. Yet, neither just nor resilient outcomes can be siloed within national boundaries. The impact of adaptation and transition policies reverberate across borders, particularly within shared ecological regions and interconnected economic systems. This is core to the concept of interconnected justice, as conceptualised in a 2024 report by the Just Transition Finance Lab for the Taskforce on Net Zero Policy (Wang and Cerrato, 2024).

Adaptation infrastructure in one country may disrupt water flows or marine ecosystems in the downstream community in a neighbouring country not party to the original consultation or decision-making process (Popova et al., 2019). Agricultural subsidies or resource extraction strategies in one region may result in displacement of farmers or fisherfolks in adjacent territories. A justice lens that includes transboundary, cross-border, interconnected ecosystem-level considerations is crucial.

Interconnected justice also requires that transition in one location not create or exacerbate injustices elsewhere. For finance, this means financing mechanisms that not only respect national sovereignty but also co-developed approaches in project planning. A fragmentation in how adaptation in one jurisdiction can produce externalities or trade-offs in another can result in shifting rather than reducing overall climate risk. Embedding interconnected justice into the core architecture of financing just transitions in the context of adaptation means that resilience in one region should not come at the expense of communities elsewhere.

The current trajectory of international climate finance for the transition reveals retreats from multilateral governance, which sends a chilling effect and potential dilution of responsibilities amongst broader finance providers and investors. There is a risk that resilience — particularly in LDCs, SIDS and conflict-affected regions — will be significantly undermined. This weakening of finance commitment and delivery threatens the achievement of the goals of the Paris Agreement on the basis of equity.

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