

# Trade and Climate-Resilient Development in Africa: Towards a Global Green New Deal

## POLICY PAPER

*Faizel Ismail*

November 2022

## About TESS

By promoting dialogue on trade, the environment, and sustainable development, the Forum on Trade, Environment & the SDGs (TESS) supports a trading system that addresses global environmental crises and advances the United Nations Sustainable Development Goals. Our work catalyses inclusive, evidence-based, and solutions-oriented debate, facilitates engagement between policy communities, and inspires governments and stakeholders to build consensus for meaningful action on trade and trade policies that work for people and the planet. TESS is a partnership of the Geneva Graduate Institute and the United Nations Environment Programme (UNEP), housed at the Geneva Trade Platform.

## About the Nelson Mandela School of Public Governance

The mission of the Nelson Mandela School of Public Governance, located at the University of Cape Town, is to build inclusive, developmental, entrepreneurial, and effective democratic public institutions and ethical leadership in Africa. The school is committed to building the next generation of African leaders! The school works together in partnership with African institutions, such as the African Continental Free Trade Area Secretariat and the African Peer Review Mechanism.

## Author

**Faizel Ismail** is a former Ambassador of South Africa to the World Trade Organization and currently Professor and Director of the Nelson Mandela School of Public Governance at University of Cape Town, South Africa.

## Acknowledgements

This paper was commissioned by TESS. The author thanks Carolyn Deere Birkbeck and Christophe Bellmann for the invitation to write this paper and for comments on earlier drafts of the paper and to Deepashree Maledavar who helped with all the logistics. The paper also benefitted from the comments made by the discussants, Professor Melaku Desta and Dr Brendan Vickers, and several participants at a webinar hosted by TESS and the Nelson Mandela School of Public Governance, at the University of Cape Town, in September 2022. A draft version of this paper was also presented to the World Trade Organization Public Forum held on the 30 September 2022 and the comments of various speakers have helped to enrich this paper. The author wishes to thank colleagues at the Nelson Mandela School of Public Governance and the Trade and Industrial Policy Secretariat for supporting the research work undertaken in this paper.

## Disclaimer

The views expressed in this publication are those of the author and do not necessarily reflect the views of TESS, any of the partner organizations of TESS, including the Geneva Graduate Institute and UNEP, or of TESS donors.

© 2022 Forum on Trade, Environment & the SDGs

Recommended citation: Ismail, F. (2022). *Trade and climate-resilient development in Africa: Towards a global green new deal*. Forum on Trade, Environment & the SDGs (TESS).



This publication is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

 [tessforum.org](https://tessforum.org)

 [@TESSForum](https://twitter.com/TESSForum)

 [info@tessforum.org](mailto:info@tessforum.org)

# Contents

---

Preface	4
Executive Summary	6
1. Introduction	9
2. Climate-Resilient Development and National Development Strategies	11
3. Renewable Energy, the Just Transition, Green Industrialization, and the AfCFTA	13
4. Climate-Resilient Agriculture and Adaptation	16
5. Accessing Climate Finance and Strengthening Development Finance Institutions	19
6. Trade, Investment, and the EU Carbon Border Adjustment Mechanism	23
7. Conclusion: Forging a Global Green New Deal	26
References	32

# Preface

## Regional Perspectives on Trade, Climate Change, and Sustainable Development

Tackling climate change and accelerating the urgently-needed shift to a low-carbon economy will require a substantial reshaping of global production and consumption patterns. At the same time, countries around the world are struggling to adapt their economies and recover from the impacts of the climate crisis.

Trade and trade policies have an important role to play in climate change mitigation and adaptation efforts, facilitating a fair, inclusive, and sustainable transition to a low-carbon economy and fostering climate-resilient development pathways. Although trade and trade policies can exacerbate the climate impact of unsustainable production and consumption patterns, they can also play a vital role in offsetting climate-induced production shortfalls in parts of the world affected by climate change and scaling up the diffusion, development, and uptake of technologies vital to climate mitigation and adaptation, while increasing their accessibility.

Already, a growing number of countries are exploring how to integrate climate change considerations into their trade policies, such as through new regulations and carbon standards, tariff and non-tariff measures, as well as a wide range of green industrial policies, including policies related to subsidies, government procurement, local content requirements, technology, and intellectual property. Depending on how climate-related policies and measures are designed, however, they can lead to trade tensions with potentially significant consequences for the multilateral trading system, for the cooperation critical to ramp up climate ambition, and for the sustainable development prospects of countries facing an increasingly complex global regulatory context.

In today's highly integrated global economy, achieving climate goals will not only require effective domestic policies, but also concerted and inclusive international collaboration. This implies overcoming traditional silos of policymaking to bring climate and trade policymakers together, and taking into consideration the reality and needs of third countries, including vulnerable economies that are most impacted by the climate crisis and developing countries which need pathways to thrive in the climate-resilient, low-carbon economy.

At the World Trade Organization (WTO), recognition of the trade-related dimension of climate mitigation and adaptation measures has prompted discussions in a number of bodies, starting with the Committee on Trade and Environment as well as in committees on market access, technical barriers to trade, and agriculture. In 2022, in the Ministerial Outcome document of the Twelfth WTO Ministerial Conference, WTO members recognized the importance of global environmental challenges including climate change and natural disasters, noting the importance of the contribution of the multilateral trading system to promote the UN 2030 Agenda and its Sustainable Development Goals in its economic, social, and environmental dimensions. Interest in the climate and trade nexus has also given rise to two climate-related member-led initiatives, namely the Trade and Environmental Sustainability Structured Discussions, co-sponsored by over 70 WTO members, and an initiative on fossil fuel subsidy reform involving nearly 50 members.

While many discussions are now taking place on trade and climate change at the WTO and in a range of other international settings, most are dominated by concerns, policies, and proposals from more advanced economies. By contrast, developing country priorities and perspectives on the nexus of trade, climate, and sustainable development receive relatively little attention.

In an effort to spur a more inclusive dialogue on trade and climate nationally, regionally, and internationally that addresses developing country priorities, TESS has commissioned a series of policy papers with partners highlighting regional perspectives on international cooperation on the nexus of trade, climate, and sustainable development. In a first phase, the series includes papers from experts and institutions in Africa, the Caribbean, South America, South Asia, Southeast Asia, and the broader category of least developed countries.

Each regional paper explores how international cooperation on trade and trade-related policies can support the climate change mitigation and adaptation efforts and priorities of developing countries and foster pathways to climate-resilient sustainable development. To achieve this, the analysis takes a bottom-up approach, starting from priorities reflected in commitments under existing nationally determined contributions, technology needs assessments, or national adaptation plans, and then reviews how cooperation on trade and trade policies can advance those domestic priorities. The papers also reflect on how the growing array of trade-related climate actions by governments, businesses, and consumers around the world is impacting the international policy and market landscape and the implications for the trade, climate, and sustainable development goals and policies of developing countries. Finally, each paper in the series puts forward particular areas of interest, options, and recommendations for international cooperation that could be taken up at the regional and multilateral level.

In each case, the starting point for the analysis is the urgency of climate action to achieve the goals of the Paris Agreement, recognizing the principle of common but differentiated responsibilities, as well as the importance of nationally determined contributions. The analysis does not purport to be exhaustive but rather should be seen as an effort to identify broad priority areas for attention and further investigation. To facilitate feedback on the draft papers and dialogue on priorities and opportunities for action, consultations of stakeholders from each region were convened, involving government officials, trade negotiators, and also regional organizations, academia, and civil society.

Notably, the regional approach to this series was chosen as one way to spur a conversation grounded in the circumstances and priorities of developing countries. This regional approach is not, however, meant to imply that countries in the same geographical region necessarily have similar priorities, nor does it mean to imply that the regional context is the priority setting for tackling climate mitigation and adaptation, though it may be a key strategy for some countries. Taken as a group, the papers highlight the diversity of trade and climate priorities among and within regions while also underlining similarities.

We hope these papers will help support inclusive discussions on trade, climate, and sustainable at the WTO and in other international settings that reflect the priorities and concerns of developing countries on the role of trade and trade policies in supporting climate mitigation and adaptation and climate-resilient sustainable development.

**Carolyn Deere Birkbeck**  
Director, TESS

**Christophe Bellmann**  
Head of Policy Analysis and Strategy, TESS

## Executive Summary

Climate-related crises are becoming endemic across the African continent. The Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report, published in April 2022, confirms many previous studies and reports that reflect the devastation to Africa's economies, societies, and infrastructure caused by climate change. These trends led the IPCC to state that "Africa has contributed among the least to greenhouse gas emissions, yet key development sectors have already experienced widespread loss and damage attributable to anthropogenic climate change, including biodiversity loss, water shortages, reduced food production, loss of lives and reduced economic growth."

African countries have been making commitments, in accordance with the United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement, in their nationally determined contributions to climate change mitigation. However, they have called for their particular development situations to be recognized, including the need for "common but differentiated responsibilities" and for the plight of workers and communities to be addressed as they transition from fossil fuel-based energy generation and carbon-intensive industrial production towards renewable energy and a low-carbon economy.

This more inclusive approach to climate change mitigation has been referred to as a "just energy transition" by several academic writers. This paper argues that while the concept of a just energy transition is very helpful in contributing to the policy debate about how to develop more inclusive and socially just approaches to transitions in developing countries towards a low-carbon economy, the concept is often utilized in a manner that is project-based, incremental, and limited to climate change mitigation efforts. In addition, it is argued here that the just energy transition is generally applied mainly to a transition from fossil fuel energy and production towards low-carbon energy and production and does not include the concept of adaptation or of resilience.

Climate change has underlined the need for Africa to build greater resilience, transforming her economies towards higher-value added production, building her energy infrastructure, and increasing agriculture productivity while increasing Africa's food and nutrition security. This paper thus argues that the just energy transition framework adopted by several climate activists, while an important contribution towards a more inclusive approach, is too narrow and must be located within a broader framework of "climate-resilient development." The IPCC defined climate-resilient development as "development trajectories that combine adaptation and mitigation to realize the goal of sustainable development." The report argues that "transformational changes" are probably required for climate-resilient pathways. These changes are expressed as: "both transformational adaptations and transformations of social processes that make such transformational adaptations feasible."

This paper argues that Africa needs to mainstream climate change into its development strategy (and Sustainable Development Goals), by advancing: i) climate-resilient development, through several pathways, including; ii) renewable energy and transformative green industrialization; iii) agriculture, food, and nutrition security and climate change adaptation; iv) strengthening its development finance institutions; v) engaging in multilateral forums such as the World Trade Organization (WTO) on the negative impacts of carbon border adjustment mechanisms; and vi) asserting its

agency in contributing to a compact on a global green new deal. The paper proposes three levels of engagement (global governance, regional integration in Africa, and South-South relations) where African countries supported by the African Continental Free Trade Area Secretariat and the African Union can advance their own interests on climate-resilient development and also contribute to the global effort to transition to a low-carbon economy.

On global governance, African countries should insist that global rules should be negotiated and agreed multilaterally, rather than seeking punitive measures. Developing and developed countries should work towards a positive trade and environment agenda that focuses on building developing country capacities to advance their development and climate goals. These should include the following approaches. First, developed countries should recognize the principle of special and differential treatment and common but differentiated responsibilities as agreed in various WTO agreements and UNFCCC conferences. Second, the environmental goods and services agreement being negotiated in the WTO should be inclusive and multilateral, rather than plurilateral and exclusive. Third, the WTO can use the example of the Doha Ministerial Declaration on the TRIPS [Trade-Related Aspects of Intellectual Property Rights] Agreement and Public Health to also expand TRIPS flexibilities for developing countries in relation to climate related goods and services. Fourth, developed economies such as the European Union and the United States that are considering applying carbon border adjustment mechanisms against imports from developing countries should rather support a positive trade agenda to encourage and assist developing countries to implement their mitigation commitments and adaptation development strategies. Fifth, developed countries that are mainly responsible for historical emissions have a responsibility to make good on their promises, made at the Copenhagen Summit (COP15), for \$100 billion of climate finance per year by 2023 (the original target agreed at Copenhagen was to be met in 2020 but not met) and to increase this to \$750 billion a year by 2030.

On regional integration in Africa, African countries should implement the African Continental Free Trade Area in a manner that ensures that regional integration supports the transformative industrialization of Africa and facilitates a transition to a low-carbon world economy or what is conceptualized in this paper as “climate-resilient developmental regionalism.” On South-South relations, African countries should conduct peer reviews to share experiences and act together with other developing countries in the UNFCCC to negotiate fair and “just transition” mitigation commitments and collaborate with BRICS countries to utilize their financing instruments to provide concessional financing for Africa's cross-border infrastructure projects.

## ABBREVIATIONS

---

AfCFTA	African Continental Free Trade Area
AfT	Aid for Trade
AR6	Sixth Assessment Report
CBAM	Carbon Border Adjustment Mechanism
CBDR	Common But Differentiated Responsibilities
COP26	26th session of the Conference of the Parties
COP27	27th session of the Conference of the Parties
CRD	Climate-Resilient Development
ETS	Emissions Trading Scheme
EU	European Union
GATT	General Agreement on Tariffs and Trade
IPCC	Intergovernmental Panel on Climate Change
IRENA	International Renewable Energy Agency
JET	Just Energy Transition
LDC	Least Developed Country
MC12	Twelfth WTO Ministerial Conference
MFN	Most-Favoured Nation
NEPAD	New Partnership for Africa's Development
OECD	Organisation for Economic Co-operation and Development
S&DT	Special and Differential Treatment
SADC	Southern African Development Community
SDG	Sustainable Development Goal
TFA	Trade Facilitation Agreement
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UNFCCC	United Nations Framework Convention on Climate Change
UK	United Kingdom
US	United States
WTO	World Trade Organization



# 1. Introduction

Climate-related crises are becoming endemic across the African continent (Lopes & Te Velde, 2021). The Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6), published in April 2022, confirms many previous studies and reports that reflect the devastation to Africa's economies, societies, and infrastructure caused by climate change (IPCC, 2022; Trisos et al., 2022). Climate change has increased heatwaves and drought on land and doubled the probability of marine heatwaves around most of Africa. In Southern and Eastern Africa, cyclone Idai in 2019 affected over 3 million people, caused over \$1.4 billion of damage to physical and productive infrastructure and \$1.39 billion in losses. In Mozambique, intense and frequent droughts, floods, and storms have affected the livelihoods of 70% of the population. In Zambia, a severe drought in 2015 led to a drop in output at the largest hydropower plant, resulting in power blackouts. In Madagascar, over 1.1 million people were suffering acute food insecurity due to insufficient rainfall, rising food prices, and sandstorms from April 2020 (Trisos et al., 2022). The flood that swept Durban and other coastal parts of KwaZulu-Natal, South Africa, in the second week of April 2022 left more than 440 people dead, more than 40,000 displaced, and 630 schools damaged along with 23 hospitals and 34 clinics (Schoeman, 2022). In 2020, South Sudan, Somalia, Ethiopia, Kenya, and Uganda saw the biggest desert locust invasion in 70 years (OCHA, 2021).

These trends led the IPCC to state that "Africa has contributed among the least to greenhouse gas emissions, yet key development sectors have already experienced widespread loss and damage attributable to anthropogenic climate change, including biodiversity loss, water shortages, reduced food production, loss of

lives and reduced economic growth" (Trisos et al., 2022). Climate change has underlined the need for Africa to build greater resilience, transforming her economies towards higher-value added production, building her energy infrastructure, and increasing agriculture productivity while increasing Africa's food and nutrition security. African countries have been making commitments, in accordance with the United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement, in their nationally determined contributions to climate change mitigation. However, they have called for their particular development situations to be recognized, including the need for "common but differentiated responsibilities" and for the plight of workers and communities to be addressed as they transition from fossil fuel-based energy generation and carbon-intensive industrial production towards renewable energy and a low-carbon economy. This more inclusive approach to climate change mitigation has been referred to as a "just energy transition" (or JET) by several academic writers.

This paper argues that while the concept of a JET is very helpful in contributing to the policy debate about how to develop more inclusive and socially just approaches to transitions in developing countries towards a low-carbon economy, the concept is often utilized in a manner that is project-based, incremental, and limited to climate change mitigation efforts. In addition, the paper argues that the JET should broaden its agenda to include the need to develop the capacity of domestic and regional development finance institutions in developing countries to be able to engage with international bilateral and multilateral lenders and banks. The paper thus argues that the JET framework adopted by several climate activists, while an important

contribution towards a more inclusive approach, is too narrow and must be located within a broader framework of “climate-resilient development” (CRD) (Denton et al., 2014). Finally, this paper argues that the JET should locate itself as part of a process of struggle in the longer term towards a more just and equitable global governance architecture and a global green new deal.

This paper is an exploration to identify the questions that African policymakers and negotiators could consider to research on climate change and trade. The paper discusses several critical questions, including:

- What are the impacts of climate change on Africa’s development?
- What are the most critical development challenges Africa faces and how is climate change impacting on these challenges?
- How can Africa turn these challenges into opportunities to advance its development?
- What can and should the African Union/African Continental Free Trade Area (AfCFTA) do?
- How can trade and investment rules and global governance (e.g. World Trade Organization (WTO), UNFCCC, and AfCFTA) support Africa’s climate-resilient development needs?

This paper argues Africa needs to mainstream climate change into its development strategy and its Sustainable Development Goals (SDGs) (discussed in section two), by advancing the AfCFTA and climate-resilient developmental regionalism, through several pathways including:

- Renewable energy and transformative green industrialization (section three)
- Agriculture, food and nutrition security, and climate change adaptation (section four)
- Strengthening its development finance institutions (section five)
- Engaging in the multilateral fora such as the WTO on the negative impacts of carbon border adjustment mechanisms (section six)
- Asserting its agency in contributing to a compact on a global green new deal (conclusion: section seven)

## 2. Climate-Resilient Development and National Development Strategies

This section critically discusses the concepts of just energy transition and climate-resilient development and proposes that CRD pathways should be integrated in the national development strategies of African countries or mainstreamed in their development strategies.

### *The Just Energy Transition*

The JET can be traced to the debates by the union movement in the 1990s when North American workers began to tie a just transition to the job losses faced by workers due to environmental protection (Smith, 2017). The concept was broadened by the Internal Labour Organization to include plans for “socially and environmentally sustainable jobs, sectors and economies” (Smith, 2017). Other academic scholars have reviewed the literature on the use of the concept of just transition by different interest groups concerned with “environmental justice”, “climate justice”, and “energy justice” (Wang & Lo, 2021). Wang and Lo (2021) point out that most of these writers are based in United States (US) and Europe and their work does not deal adequately with issues of political economy or unequal “power relations” within the local, national, or global levels that impact on transitional justice.

The concept of JET does recognize the importance of a wider discourse beyond a narrow economic transition from fossil fuel to a low-carbon economy. However, the JET is generally applied mainly to a transition from fossil fuel energy and production and does not include the concept of adaptation or of resilience (Xaba & Fakir, 2022). While some writers on the JET stress the need for developing countries to industrialize by identifying components and technologies that can be produced in developing countries rather than simply importing climate change

technologies from the major economies (in the North and South), most writers do not extend this concept to include transformative industrialization (Nkonjera, 2022; Montmasson-Clair et al., 2021).

### *Climate-Resilient Development*

The concept of “sustainable development” was adopted by the United Nations Conference on Environment and Development, also known as the “Earth Summit” that was held in Rio de Janeiro, Brazil, in 1992. The conference highlighted the need to see the interconnections between economic, social, and environmental issues and how these processes needed to be sustained over a long period of time. One of the many achievements of the Rio Summit was the creation of the UNFCCC. Since the first IPCC report in 1990, the concept of sustainable development has undergone further nuancing and conceptualization. Denton et al. (2014) trace the evolution of each IPCC report that emphasized: technology and cost-effectiveness of mitigation (first); equity, environmental, and social considerations (second); global sustainability (third); and climate and development (fourth). The Fifth IPCC Assessment Report argues that climate change is a threat to sustainable development (Denton et al., 2014). The report thus argues that “transformational changes” are probably required for climate-resilient pathways. These changes are expressed as “both transformational adaptations and transformations of social processes that make such transformational adaptations feasible.” Thus, the authors defined CRD as “development trajectories that combine adaptation and mitigation to realize the goal of sustainable development” (Denton et al., 2014).

The IPCC (2022) AR6 defines CRD as “a process of implementing greenhouse gas mitigation and adaptation measures to support sustainable development for all.” In

this report, both climate change adaptation and resilience are added to the concept of sustainable development. In this way climate change responses are mainstreamed into sustainable development through the concept of CRD (IPCC, 2022). The AR6 defines “CRD pathways as development trajectories that successfully integrate mitigation, adaptation, and sustainable development to achieve development goals” (IPCC, 2022). A climate-resilient pathway for development is a continuing process for managing changes in the climate and other driving forces affecting development, combining flexibility, innovativeness, and participative problem-solving with effectiveness in mitigating and adapting to climate change (Denton et al., 2014). As such, climate-resilient pathways include two main categories of responses: i) actions to reduce human-induced climate change and its impacts, including both mitigation and adaptation toward achieving sustainable development, and ii) actions to ensure that effective institutions, strategies, and choices for risk management will be identified, implemented, and sustained as an integrated part of achieving sustainable development (Denton et al., 2014). The report argues that climate-resilient pathways will generally require transformations—beyond incremental approaches—in order to ensure sustainable development. Incremental responses to climate change address immediate and anticipated threats based on current practices, management approaches, or technical strategies. Transformative responses, in contrast, involve innovations that contribute to systemic changes by challenging some of the assumptions that underlie business-as-usual approaches (IPCC, 2022).

### ***National Development Strategies and Governance***

This definition of CRD thus requires the integration or mainstreaming of climate change responses (mitigation and adaptation and resilience) into national development strategies. This approach will ensure that national determined contributions of developing countries will be integrated into their development strategies in a manner

that supports transformation of their economic and social systems. CRD requires an all-of-government approach that builds institutional coordination and integration through inclusive processes of governance. This approach will integrate development objectives and climate change responses (mitigation, adaptation and resilience). Citizen-led climate interventions and private sector participation should also be incorporated in the governance framework for the decision-making and implementation of CRD. African countries are beginning to design and implement more inclusive processes of coordination and governance. In Kenya, the Climate Change Directorate is the secretariat for the National Climate Change Commission, serving as an overarching mechanism to coordinate sectoral and county level action (Ministry of Environment and Forestry, 2018). In South Africa, the National Committee on Climate Change, the Intergovernmental Committee on Climate Change and the Presidential Climate Change Commission have been established to enhance intergovernmental and multisectoral coordination on climate action. The South African Cabinet approved its Climate Bill in early 2022 and has submitted it for debate and approval in its national parliament. The bill provides for “a coordinated and integrated response by the economy and society to climate change and its impacts in accordance with the principles of cooperative governance” (Ministry of Forestry, Fisheries and the Environment, 2022).

This paper thus discusses how African countries can implement CRD at the national and regional level through five key strategies: i) renewable energy, the just transition, and green industrialization; ii) adaptation: agriculture and green manufacturing; iii) climate finance and strengthening development finance institutions; iv) trade and investment and climate-resilient developmental regionalism; and v) global governance and global green new deal. In the section below, the paper proceeds to discuss the concept of renewable energy, the just transition, and green industrialization in the context of regional integration in Africa.

### 3. Renewable Energy, the Just Transition, Green Industrialization, and the AfCFTA

While energy infrastructure is an essential prerequisite for industrialization and inclusive growth in Africa, many African countries suffer severe energy poverty. The continent is home to 60% of the global population without access to electricity. The IPCC AR6 argues that increasing Africa's renewable energy infrastructure would reduce reliance on wood fuel and charcoal, especially in urban areas, with co-benefits including reduced deforestation, desertification, fire risk, and improved indoor air quality, local development, and agricultural yield (Trisos et al., 2022). Africa's access to electricity is still very low, ranging from as low as 11% in countries such as Malawi to an average of about 40% across the region. On the other side of the spectrum are Mauritius and Seychelles that have attained 100% access. About 210 million persons out of a population of around 400 million people in the Southern African Development Community (SADC) region do not have access to clean and modern and affordable energy services (IRENA et al., 2021). The lack of modern energy services drives overdependence on biomass energy—mainly firewood and charcoal for cooking—which drives deforestation and environmental degradation, particularly indoor air pollution with adverse health impacts, especially for women and young children (IRENA et al., 2021). However, the African continent has vast resources of renewable energy resources, including geothermal and hydropower to solar and wind power (Lopes et al., 2019). Lopes et al. (2019) argue that as latecomers to industrialization, African countries can leapfrog fossil fuel technologies to more sustainable energy technologies avoiding a potential fossil fuel lock-in and playing a leading role in global action to shape a sustainable energy future (Lopes & Te Velde 2021; IRENA, 2019).

At the national level, what is required are industrial policies—a set of incentives and rules, business incubation initiatives, supplier-development programmes, support measures for small and medium enterprises, and promotion of industrial clusters that bundle innovation. Together, they can create the structural underpinnings for viable local supply chains. This will require infrastructure spending (for basic public goods such as electricity, roads, and telecommunications), programmes to bolster local firms' access to finance and information and boost their capacities along the value chain, and finely tuned local content incentives and requirements (to facilitate spill-over effects and support local value creation). Industrial policy design must be based on better data and empirical analysis of each country's economic structures. The first step is to understand how existing capabilities can be leveraged and enhanced. In the longer term, the objective shifts to creating new capabilities in industries related to renewable energy with the help of well-crafted technology transfer policies aligned with education and training strategies (Montmasson-Clair et al., 2021).

There are also some cases where trade barriers can be justified, at least for a time, such as where governments are aiming to protect local production of components that can soon be competitively produced locally. A good example of this is the production of heavy or bulky components such as towers, for which minimizing transport distances provides a cost advantage. In these cases, there is the need for judgement regarding the likelihood of achieving competitive production along with the balance between increased project cost and the economic value of local production (Bridle & Bellmann, 2021).

Individually, most African countries lack the financial, technical, and human capacities needed to fully implement a green energy transition (Adeniran & Onyekwena, 2020). This calls for a collective commitment and greater regional collaboration and policy coordination across the continent to strengthen the speed and effectiveness of such a strategic shift to increase energy access and enhance contributions to climate change mitigation among African countries. In 2019, 20% of the total installed electricity generation capacity on the continent was from renewable sources, indicating a 4.3% increase over the previous year (IRENA et al., 2021). Nationally, many African countries, particularly Morocco, Senegal, Egypt, South Africa, and Kenya, are demonstrating encouraging trends in terms of adding new renewable energy capacity, with South Africa leading the continent in terms of installed renewable capacity, with 19,000 megawatt. In relative terms, however, Central Africa has the highest share of renewables installed—with 72%, mainly from hydropower (IRENA, 2019). Overall, however, Africa, in terms of its size and population, is well behind the rest of the world with regard to renewable energy deployment. For instance, in 2019, two-thirds of the new electricity generation capacity added globally was renewable. However, a mere 2% of this new generating capacity was in Africa. Few African countries have managed to successfully integrate the high-value-added segments of renewable energy value chains and generate associated employment (IRENA & AfDB, 2022). As a result, many African countries remain consumers rather than producers of low-carbon technologies, limiting the creation of jobs and other socioeconomic benefits relating to construction, operations, and maintenance.

### *Regional Integration, Renewables, and Regional Value Chains*

The Renewable Energy Independent Power Producers Programme was started around 2010 in South Africa, with the key objective of getting private sector investment in infrastructure development. The renewable energy company Scatec has obtained a contract under the programme to

build a solar, wind, and battery storage project, which, when completed, will be one of the largest photovoltaic and battery plants in the world. Scatec hopes to share this experience with other sub-regions of the African continent (NMSPG, 2022). The South African Renewable Energy Masterplan process aims to identify opportunities that will develop industrial capabilities in the renewable energy sector. The masterplan is an implementation plan for driving industrialization through the renewable energy sector and its value chain (Green Cape, 2019). This initiative has identified significant opportunities for developing the lithium-ion battery value chain in South Africa (Montmasson-Clair et al., 2021). Numerous firms have developed intellectual property and expertise in the manufacturing of specific components, parts, and systems, as well as the assembly of battery packs. An industrial strategy to manufacturing lithium-ion technology batteries, will require cooperation from mineral resource rich countries such as the Democratic Republic of Congo (cobalt), Zimbabwe (lithium), and South Africa (nickel). Partnerships across the continent are therefore essential to developing regional value chains that ensure the gains are shared across the continent. Regional approaches to drive the strategic shift to renewable energy can be driven by the AfCFTA Secretariat (Montmasson-Clair et al., 2021).

African countries have been managing power generation and distribution through regional power pools (NMSPG, 2022). Kudakwashe Ndhulukula (Executive Director, SADC Centre for Renewable Energy and Energy Efficiency) stated that as of 2019, these power pools had a combined installed capacity of 33.8 gigawatts, 28% of which is produced through renewable energy technologies (primarily hydropower). In terms of power generation, 12 countries make up the Southern African Power Pool, which is a cooperation of the national electricity companies in Southern Africa under the auspices of SADC. The Africa Clean Energy Corridor is a regional initiative by the International Renewable Energy Agency (IRENA) to accelerate the development of renewable energy potential and cross-border trade of renewable power within the Eastern Africa

Power Pool and Southern African Power Pool. Maria Nkhonjera (2022) states that this Pan-African perspective is shared by the AUDA-NEPAD (African Union Development Agency and New Partnership for Africa's Development, who are developing an African power systems masterplan for generation and transmission (Nkhonjera, 2022). The masterplan, she states, "aligns with the AfCFTA aspirations to create a single electricity market that integrates all five power pools to create one of the world's largest continent-wide energy networks" (Nkhonjera, 2022). The AfCFTA, by consolidating small, poor, and fragmented African countries into one strong market, could change the dynamics in terms of access to funding, human capital, and technology for the green energy sector. The AfCFTA thus holds substantial promise for addressing Africa's twin energy problems/challenges of poor energy access and fossil dependent energy system.

### *Summary and Discussion*

The JET project discussed above requires efforts that go beyond a mere transition from fossil fuel to renewable energy and that include programmes to address the negative impact of the transition to a low-carbon economy on workers and communities. However, these efforts, it is argued here, are not sufficient. African policymakers need to go beyond a project-by-project approach that ushers in incremental reforms and take advantage of the opportunities to develop programmes for longer term transformative industrialization (Lopes & Te Velde, 2021).

Thus, this section has argued that African countries have a significant opportunity to reduce the large deficit in electricity access by taking advantage of the reductions in renewable energy prices and availability of accessible technologies together with Africa's resources in wind, solar, hydro, geothermal, and green hydrogen. Second, the potential for African countries to industrialize by building regional value chains—using their existing

comparative advantages in metals that are vital for the new technologies, especially batteries, including nickel, cobalt, lithium, and copper—is very significant. Third, the use of existing regional power pools to create a continental power pool for the distribution of energy across the continent could be a powerful regional integration infrastructure for both energy distribution and regional industrialization.

On the relationship between trade and climate change, there are several existing instruments where the WTO can provide developing countries with flexibilities to support their climate-resilient development strategies. These include: first, developed countries should recognize the principle of special and differential treatment (S&DT) and common but differentiated responsibilities (CBDR) and respective capacities as agreed in various WTO agreements and UNFCCC conferences; second, allowing for selective tariff protection for components in the production of renewable energy in developing countries to support their industrialization and localization strategies; third, creating flexibilities for subsidization of local production including local content requirements, possibly with a sunset clause to develop competitiveness; fourth, allow for developing countries to utilize export restrictions or other measures aimed at fostering transformation of minerals, and; fifth, expand existing flexibilities on intellectual property protection and mechanisms to foster transfer of technology (Bridle & Bellmann, 2021).<sup>1</sup>

On each of these strategic programmes, the AfCFTA could play a vital role—facilitating the negotiations between the member states and assisting them to cooperate on building cross-border continental regional energy transmission and distribution channels. A research and dialogue programme with governments, the private sector, investors, and regulatory bodies at the national and regional level will be required to advance this process with the AfCFTA Secretariat playing a critical coordinating role.

1. WTO General Council, Strengthening the WTO to Promote Development and Inclusivity: Communication from The African Group, Cuba and India, WTO Doc. WT/GC/W/778/Rev.4 (Feb. 11, 2022).

## 4. Climate-Resilient Agriculture and Adaptation

The IPCC AR6 states that among the 135 million acutely food-insecure people in crisis globally, more than half (73 million) are in Africa. This is partly due to the growing severity of drought. Adding to these challenges, Africa has the fastest-growing population in the world. Its population is expected to increase by roughly 50% over the next 15 years, growing from 1.2 billion people to over 1.8 billion by 2035. In Africa, climate change is reducing crop yields and productivity. Agricultural productivity growth has been reduced by 34% since 1961 due to climate change, more than any other region. Maize and wheat yields decreased on average 5.8% and 2.3%, respectively in sub-Saharan Africa due to climate change in the period 1974–2008 (Trisos et al., 2022). The IPCC AR6 thus argues that African countries should expect climate warming to have a substantial impact on food security in Africa. Climate change is already contributing to land degradation, loss of biodiversity, bush encroachment, and spread of pests and invasive species. The report highlights that Africa has low adaptive capacity to climate change and, as 85% of Africa's poor live in rural areas and mostly depend on agriculture for their livelihoods, African countries will need to adopt innovative measures to reduce vulnerabilities in its food systems. The authors argue that climate resilience can be enhanced through improvements to early warning systems, insurance, investment in safety nets, secure land tenure, transport infrastructure, communication, access to information and investments in education, and strengthened local governance (Trisos et al., 2022).

### ***Agriculture and Infrastructure (Ecological and Built)—Building Resilience***

There are systemic links between agriculture, water, and biodiversity and the building of resilient infrastructure to combat climate change. Thus, African countries need to

consider how to increase investment in both, ecological and built infrastructure (water, energy, roads, rail, ports, telecoms, etc.). There are several policy responses to water adaptation to climate change identified by the 2020 UN Water report: i) investing in and improving the climate resilience of water supply, sanitation, and hygiene facilities; ii) expanding social protection and introducing financial products like insurance; iii) enhancing gender equality in the use and management of water resources; and iv) improving water availability for agriculture, including through water harvesting, mulching, and reduced tillage in rainfed systems (UN Water, 2020).

Water security depends not only on built water infrastructure, but also on the nature-based equivalent of hard infrastructure—the ecological infrastructure (Beukman & Reeler, 2021). Ecological infrastructure includes healthy mountain catchments, rivers, and wetlands for example, and refers to naturally functioning ecosystems that deliver valuable services (not only) to people, such as fresh water, climate regulation, soil formation, and disaster risk reduction. Ecological infrastructure is just as important for providing services and underpinning socioeconomic development. Ecological infrastructure can generate and deliver significant improvements in water quantity and quality if well managed and looked after. Investing in ecological infrastructure in conjunction with built infrastructure will therefore deliver more clean water from the land. The role of ecological infrastructure, however, is significant, and likely to increase under climate change. The development and protection of ecological infrastructure provides critical reinforcement for hard infrastructure (UN Water, 2020). To ensure water security in the face of climate change impacts on the resource ensuring no one is left behind, strategic investments in critical processes are needed. This will require us to think of the nexus between agriculture, water, energy, roads, rail and ports, and food.



### ***Climate Change Adaptation, Infrastructure, and Resilience***

Adaptation will thus require not only the building of hard infrastructure to support agricultural production and trade, but also ecological infrastructure to both protect biodiversity systems and to strengthen hard infrastructure (hard infrastructure is discussed in the section below on climate finance). Thus, nature-based approaches to agriculture and climate smart agriculture are critical to our understanding of how to build resilience in climate change adaptation.

There is a growing awareness that nature-based solutions, which are inspired and supported by nature and which use or mimic natural processes, can contribute to the improved management of water while providing ecosystem services as well as a wide range of secondary co-benefits, including adaptation, mitigation, and resilience to climate change. For example, healthy wetlands can store carbon and simultaneously reduce flood risk, improve water quality, recharge groundwater, support fish and wildlife, and provide recreational and tourism benefits (UN Water, 2020). Application of nature-based solutions thus implicitly necessitates integrated approaches.

Another approach to address climate change adaptation is that of climate-smart agriculture. This is an approach for developing actions needed to transform and reorient agricultural systems to effectively support development and ensure food security under climate change. Climate-smart agriculture aims to tackle three main objectives: sustainably increasing agricultural productivity and incomes, adapting and building resilience to climate change, and reducing and/or removing greenhouse gas emissions, where possible (FAO, 2013).

Thus nature-based solutions could involve a mix of hard infrastructure, ecological infrastructure, and climate-smart agriculture. Climate-resilient agriculture would involve mitigation, adaptation, and resilience. These approaches could all be understood as mainstreaming climate

change into countries' national development strategies or sustainable development strategies. Thus, the concept of CRD is a useful conceptualization that has significant policy and implementation implications for African countries. African policymakers will need to learn how adaptation and resilience can be built by studying each agricultural commodity, such as cassava, maize, wheat, rice, and sugar, that is critical for Africa's food security, competitiveness, and trade. The Ukraine-Russia war has exposed the African continent's dependence on imports for some of its staple foods—such as wheat. Yet Africa has an abundance of an excellent indigenously grown substitute for wheat—cassava! Thus, this paper briefly discusses the case of cassava to illustrate how African countries will need to develop both climate smart and nature-based solutions to address the risks of climate change and the requirements for food security.

### ***Cassava: A case study on agriculture diversification and food security***

Vutula and Bagwandeen (2022), two researchers at the Nelson Mandela School of Public Governance, studied the impact of the Russian-Ukraine war on wheat imports into the African continent. They state that between 2018 and 2020, Africa imported 32% of the continent's total wheat imports from Russia and another 12% of the continent's wheat imports from the Ukraine. The authors argue that it is crucial that African countries diversify their wheat sources for two key reasons. First, wheat forms an important component of diets—not having enough brings the threat of hunger and political instability. Consumers in Africa use wheat for easy and fast food, such as bread, biscuits, pasta, noodles, and porridge. Although wheat is consumed widely across the African continent, crop yields are relatively low compared to major producing wheat regions, especially in the Global North. Reasons range from extreme weather conditions to water scarcity, poor soil quality, and poor irrigation systems. As a result, African nations rely on imports to meet the demand and need for wheat. They thus argue that this situation

highlights the need for African countries to diversify their wheat imports and invest in expanding domestic production capacity (Vutula & Bagwandeen, 2022).

Another recent study also offers some useful policy guidance to African agriculture policymakers. Egezi (2022) argues that cassava is the fourth most important source of daily calories in sub-Saharan Africa and grows in hot dry conditions and is ideal for adapting to stressful conditions caused by the climate emergency. Egezi points out that Nigeria is the sixth largest importer of wheat—mainly from Ukraine and Russia. However, Nigeria is also the world's largest cassava producer. Cassava is a shrubby, hardy root crop, and cassava flour is often used as an alternative to wheat flour. This potential of cassava to act as a substitute for wheat was recognized by African policymakers when they established the NEPAD Pan Africa Cassava Initiative in November 2005 (Anga, 2008). The mandate of this initiative is to coordinate cassava development and to promote the crop as a poverty fighter across Africa by improving the organization of producers for collective action and increased private sector investment in integrated cassava production, processing, and marketing (Anga, 2008). The African Development Bank has set aside \$1 billion for wheat production (Egezi, 2022).

### *Summary and Discussion*

The discussion above has highlighted the systemic linkages between agriculture, water, and biodiversity and the building of resilient infrastructure to combat climate change. Increasingly, there is an awareness in Africa of the need to engage in nature-based solutions and to invest in ecological infrastructure. African countries are also adapting their agriculture practices through climate-smart agriculture methods to ensure both increased production and food security. The case

study of cassava is a good illustration of how Africa can reduce its dependence on imports of vital food commodities by diversifying its sources of agricultural products to commodities that are more suited to the African climatic conditions and climate change.

Similar to the discussion above on renewables, the WTO has several trade policy tools that could be made more flexible to enhance the capacity of developing countries to support their CRD strategies. These include: first, developed countries should recognize the principle of S&DT; second, allow for developing countries to utilize export restrictions to enable diversification and processing of agriculture products; third, allow African countries and other developing countries sufficient flexibility to support their public stockholding programmes for food security purposes; fourth, provide African countries and other developing countries sufficient flexibility in their domestic support subsidy entitlements while eliminating the huge domestic support entitlements of Organisation for Economic Co-operation and Development (OECD) countries that cause significant damage to developing country agriculture production and trade; fifth, provide flexibility on intellectual property rights (TRIPS Agreement) for developing countries and enable technology transfer on climate-smart agricultural technologies.<sup>2</sup>

The above efforts call for transformational changes in Africa's agriculture and infrastructure investment and requires climate change adaptation and resilience to be mainstreamed into its national development strategies (or SDGs) or CRD strategies. This will require significant financing both from its own fiscal base and from international donors. We thus turn to the discussion below on how African countries can develop strategies to access climate finance and strengthen their own development finance institutions.

2. WTO General Council, Strengthening the WTO to Promote Development and Inclusivity: Communication from The African Group, Cuba and India, WTO Doc. WT/GC/W/778/Rev.4 (Feb. 11, 2022).

## 5. Accessing Climate Finance and Strengthening Development Finance Institutions

African countries face a formidable challenge to mobilize the finance necessary for a just transition to renewable energy and a low-carbon economy, green transformative industrialization, agriculture adaptation and resilience, and ecological and hard infrastructure to support nature-based solutions and the SDGs. In other words, the challenge of advancing towards CRD will require African countries to obtain access to affordable development finance.

African countries face climate risks in the water, energy, and food sectors. The African Union's Programme for Infrastructure Development (PIDA) aims to increase hydropower capacity nearly six-fold, irrigation capacity by over 60%, and hydropower storage capacity by over 80% in major African river basins such as the Congo, Nile, Zambezi, and Niger river basins (Trisos et al., 2022). In addition, the IPCC estimates that the projected risks to road infrastructure and sea level rise across Africa (up to the end of the twenty first century) range from \$183.6 billion to \$248.3 billion (Trisos et al., 2022). Developed countries made promises at both the UNFCCC Copenhagen Accord in 2009 and then at the UNFCCC Paris Agreement in 2015 to scale up their climate finance for developing countries to an amount of \$100 billion per year by 2020 to support developing countries' mitigation and adaptation needs. The IPCC AR6 reflects that the amounts of finance being mobilized internationally to support adaptation in African countries is billions of dollars less than the estimated costs of adaptation, while the bulk of finance made available thus far has tended to target mitigation rather than adaptation (Trisos et al., 2022).

The IPCC AR6 makes a number of salient points about climate finance and Africa. The report argues that Africa's large infrastructure deficit with respect to road transport, electricity, water supply, and sanitation places the continent at the lowest level of all other regions in the world. Agriculture and water supply and sanitation account for half of total adaptation finance from 2014–18. The report argues that African countries expect grant finance to play a crucial role in supporting adaptation efforts because loans add to already high debt levels, exacerbated by the Covid-19 pandemic. African countries will thus need to decrease their debt levels to be able to meet the challenges of climate distress and build resilience. The IPCC estimates, based on World Bank data, state that the total external debt servicing payments combined for 44 African countries in 2019 were \$75 billion, far exceeding discussed levels of near-term climate finance (Trisos et al., 2022). An important proposal made by the IPCC report is that in line with the Paris Agreement goals, African countries should be allowed to use their debt servicing payments to finance climate change mitigation and adaptation (Trisos et al., 2022). The report argues that African governments can disclose climate risks when taking on sovereign debt, and debt-for-climate resilience swaps could be used to reduce debt burdens for low-income countries while supporting adaptation and mitigation.

The IPCC report also raised the important issue of the lack of capacity amongst African countries to develop fundable projects. An analysis of proposals submitted to the Green Climate Fund up to 2017 revealed that, while African countries were able to submit proposals to the Green Climate Fund, they had the lowest percentage of approvals (39%) compared to all other regions. The report indicated

that as of October 2020, four years after the decision to fund national adaptation plans, only six African countries had completed their plans (Trisos et al., 2022). This suggests the need for African countries to develop their capacity to access development finance and develop their project proposal for funding. The need for African countries to strengthen the capacity of their development finance institutions is critical to the building of this capacity.

### ***The Case of ESKOM Financing Model for a Just Energy Transition.***

At the UNFCCC 26th session of the Conference of the Parties (COP26) held in Glasgow, South Africa began a negotiation with its developed country partners to provide a package of loans to the value of \$8.5 billion (131 billion South African rand). The parties, including the United Kingdom (UK), US, France, Germany, and European Union (EU) member states, agreed in a political declaration that the funding will be utilized as part of South Africa's just transition for targeted programmes of reskilling and upskilling and creating employment opportunities for the affected workers, women, and youth. A negotiating team that was appointed to decide on the investment and financing plans. South Africa has appointed Daniel Mminele, an ex-Reserve Bank deputy governor, to lead its negotiations on financing climate change. There are three areas where the government would utilize the funds: i) ESKOM transition, ii) development of a green hydrogen economy, and iii) research and development to support the development of an e-vehicle industry in South Africa.

However, the challenge of unpacking the so-called climate finance agreement that was announced at COP26 in November 2021 is still ongoing, and South Africa is still uncertain about the contents of the package (as at June 2022). At a conference held in Cape Town in June 2022, John Morton, the US Treasury's climate counsellor explained what the US envisaged the \$8.5

billion package to be as follows: "there are a range of instruments from a variety of sources available but in some cases subject to the availability of bankable projects or appropriations" (Erasmus, 2022). He then went on to state that "we envisage that the US contribution could include loans, equity investments, grant finance for technical assistance, feasibility studies and pilot projects from a variety of US agencies" (Erasmus, 2022).

There is no agreed definition of "climate finance" in the UNFCCC (Rodriguez & Rosales, 2021). Thus, OECD countries report on non-concessional funding as part of their contribution to their contribution to the \$100 billion dollars. The most recent reports indicate that non-grant instruments and loans make up 70–80% of reported public climate finance (Rodriguez & Rosales, 2021). This practice was criticized by developing countries at the UNFCCC meetings held in May–June 2021, as members felt that commercial loans, guarantees, and export credits should not be counted as finance towards the \$100 billion goal. Rodriguez and Rosales (2021) state that "about 40% of the public financial resources provided to developing countries for climate finance are non-concessional loans, semi-concessional loans, equities, or instruments of the like, meaning loans in commercial terms." This practice can thus exacerbate the debt distress of many African countries. Another concern raised by developing countries is that developed countries have focused mainly on mitigation without providing meaningful funding for adaptation, technology, and capacity building. Rodriguez and Rosales (2021) estimate that over two-thirds of the 2018 OECD public finance total for climate finance was broken down as follows: 70% for mitigation, 21% for adaptation, and the rest for cross-cutting issues. In the case of private climate finance 93% of the resources mobilized in 2016–2018 was for mitigation and targeted at middle-income countries (Rodriguez & Rosales, 2021).

Lopes (2022) confirms the arguments of the above authors. He points out that “from 2002 to 2019, funders disbursed just over \$8.1 billion in development finance to Africa for climate adaptation, less than a third of the \$29.2 billion committed. This low disbursement ratio largely reflects barriers to project implementation, such as requirements for co-financing, rigid climate-fund rules and inadequate programming capacity within countries.” Lopes (2022) states that based on data from the Africa Nationally Determined Contributions Hub, the continent will need \$715 billion for mitigation and \$259–407 billion for adaptation from 2020–2030. The African Group of Negotiators on Climate Change has called for \$1.3 trillion per year by 2030 in financing for developing countries to tackle climate change. Meanwhile, major multilateral development banks have committed a paltry \$38 billion to low- and middle-income countries, with \$9 billion for Sub-Saharan Africa (Lopes, 2022).

Developed countries that are mainly responsible for historical emissions have a responsibility to make good on their promises, made at the Copenhagen Summit (COP15), for \$100 billion dollars of climate finance per year by 2023 (the original target agreed at Copenhagen was to be met in 2020 but not met) and to increase this to \$750 billion a year by 2030 (Creedy, 2021). These funds are required by developing countries to adapt to climate change and transition to low-carbon energy infrastructure and production systems.

### ***Aid for Trade and the WTO Trade Facilitation Agreement***

Aid for Trade (Aft) is a mechanism that was adopted by the WTO in 2005 to support developing countries build the capacity and infrastructure needed to enable them to benefit from trade (Ismail, 2007). According to a recent study, Aft accounts for roughly 30% of overseas development assistance. Discussions in the WTO have begun to see a shift in thinking among donors that

seek to deploy these funds to support WTO members to respond to climate change. An Aid for Trade Global Review 2019 side event was titled: Aid for Trade: A Vehicle to Build Climate Resilience (UNEP, 2019). This event found that while some Aft programmes contain explicit environmental objectives, a coherent framework to mainstream environment into all Aft projects and programmes is required to enhance resilience and better enable countries to seize sustainable trade opportunities (UNEP, 2020). The UNEP (2020) study has stated that the Aft initiative has supported four main activities—each of which has important environmental implications: i) technical assistance for trade policy; ii) trade-related infrastructure (building roads, ports, and energy and telecommunication networks); iii) building productive capacity and supply side capacity, including trade development, and; iv) trade related adjustment. The Aft mechanism has become an important instrument to support the development of climate-resilient key trade-related infrastructure in developing countries. A recent study has indicated that while developing countries have demanded climate finance for mitigation and adaptation to amount to at least \$100bn a year by 2020, over \$400 billion have been disbursed through the Aft initiative between 2006–18 (Monkelbaan et al., 2021).

In this regard, the WTO Trade Facilitation Agreement (TFA) is an important instrument for developing countries, especially least developed countries (LDCs) to seek Aft support for their trade-related infrastructure needs or CRD strategies. Since the conclusion of the TFA in December 2013 at the WTO Bali Ministerial Conference, over 40 African WTO members out of 44 have deposited their instruments of acceptance. However, while these countries have ratified the agreements, the First Review of the Operation and Implementation of the TFA in November 2021 has pointed to the lack of implementation among LDCs due to their “capacity constraints, technology constraints,

and limited awareness of the TFA resource” and the need for additional support from the donor countries for “technological, institutional, and human capacity building” in these countries. Thus, the resources promised by the donor countries in the WTO on AfT to assist developing countries to implement the TFA could be an important source of finance for developing countries<sup>3</sup> to support their climate-resilient infrastructure investment.

### *Summary and Discussion*

The Paris Agreement made promises to developing countries to provide them with capacity building (Rodriguez & Rosales, 2021). These funds could support developing countries to build their infrastructure for climate resilience and their competitiveness. Providing funding and technical support to developing countries to develop feasibility projects on renewable energy will assist them to access climate finance. A Trade and Environment Fund could be established by the WTO and other multilateral institutions to provide additional finance to developing countries to source critical green technologies and build climate-smart trade infrastructure. This proposal builds on an earlier proposal made by a study of AfT in the WTO (Ancharaz & Sultan, 2010). The authors argue that the existing AfT resources provided by the WTO to LDCs and small, vulnerable economies are inadequate to support both climate change adaptation as well as the capacity of the African LDCs to engage in international trade and thus call for AfT resources to be increased and made complementary and reinforcing with that of climate finance provided by the Global Environment Fund.

African countries will need to build a common narrative on how they perceive their development finance needs and the responsibility of the OECD countries to support their CRD strategies with adequate climate finance. In addition, African countries will need to unpack the offers

of climate finance made to them by OECD countries and make these more transparent and assess if the substance is in accordance with the letter and spirit of the UNFCCC funding commitments made by OECD countries. The discussion above points to the dire need for African countries to build their capacity to both access development finance to fund their CRD strategies and to unpack and negotiate with OECD and other larger emerging economies in the South on their climate finance needs. The conceptual and empirical case for the role of public development banks to be strengthened and to contribute to strengthening the capacity of developing countries to access development finance and especially climate finance has been argued in the academic literature (Griffith-Jones & Ocampo, 2018; Zalk, 2021). The role of development banks has always been to mobilize and combine or “blend” public with private finance to bridge the financing gap necessary for investment to advance structural transformation and development (Griffith-Jones & Ocampo, 2018). Private financial markets in Africa are small relative to other regions.

African development banks thus have a fundamental role to play in mobilizing finance for structural transformation, responding to climate change, and other SDG objectives. This includes partnering with multilateral development banks and international climate funds, accessing international bond markets and other sources of private capital, engaging with and influencing national capital market development, collaboration amongst African development banks, and learning from other development banks in the Global South. In their edited book on development finance institutions, Griffith-Jones and Ocampo (2018) identify five crucial roles that national development banks can play in the development process: i) counteracting the pro-cyclical behaviour of private financing by providing countercyclical finance; ii)

3. Committee on Trade Facilitation, First Review of the Operation and Implementation of the Trade Facilitation Agreement: Adopted at the Meeting of 26 November 2021, WTO Doc. G/TFA/2 (Nov. 30, 2021).

promoting innovation and structural transformation; iii) enhancing financial inclusion; iv) supporting the financing of infrastructure; and v) supporting environmental sustainability, in particular combatting climate change.

A research and public dialogue process should thus be launched in Africa on how can African development banks play a far more substantial role in financing CRD. How can Africa's smaller development finance banks be bulked up and augment their capacity by building regional development banks? How can African development banks

assist governments and policymakers to negotiate and unpack climate finance packages from OECD countries, multilateral development banks, the private sector, and other emerging economies? How can national and regional African development banks collaborate, including with other development banks from the South, or even consolidate to achieve greater scale, effectiveness, and improvements in developmental governance? What lessons can be learnt from the experiences of other development banks from the South such as Brazil's BNDES and China's development and policy banks or the KfW from Germany?

## 6. Trade, Investment, and the EU Carbon Border Adjustment Mechanism

Although action on climate change will require cooperation on trade, there is no regular high-level process or institutional anchor for intergovernmental dialogue, coordination, and action on trade and climate linkages. There is no official "climate and trade" agenda at either the WTO or the UNFCCC (Deere Birkbeck, 2020). While it has been recognized that "the multilateral trade system offers a wide range of entry points for members to address issues at the intersection between trade and climate change mitigation and adaptation," the specific trade measures adopted by members to advance climate change are controversial (Bellmann, 2021). Climate relevant trade negotiations in the WTO are mostly addressed through discussions around the liberalization of environmental goods and services. In addition, the trade and climate change debate in the WTO has received renewed impetus in the form of a series of member-led initiatives bringing together a subset of like-minded members interested in a particular topic. These initiatives have been operating through issuing joint statements in areas such as fossil fuel subsidy reform or environmental sustainability (Bellman, 2021). However, the above initiatives have failed to build consensus in the WTO.

The European Commission published its Fit for 55% package (i.e. 55% reduction in carbon emissions by 2030 and net zero emissions by 2050), which includes its proposal for a carbon border adjustment mechanism (CBAM). The European Commission has made an EU CBAM a high political priority under the European Green Deal (European Commission, 2019; 2020a; 2020b; 2022). The CBAM is a climate measure that aims to prevent the risk of carbon leakage and support the EU's increased ambition on climate mitigation. Carbon leakage occurs when industries relocate to jurisdictions with weaker climate change policies or stay in their domestic market and lose domestic and foreign market share due to increased carbon prices. The measure aims to reduce the risk of carbon leakage by requiring exporters to the EU to pay a carbon price at the EU border equivalent to that faced by EU producers under the EU Emissions Trading Scheme (ETS). The ETS is a greenhouse gas cap and trade scheme that contributes towards emissions reduction targets by setting a cap on the maximum level of emissions for a number of sectors, and allows the trading of emission permits at a market-generated price (Monaisa, 2022).

The EU has until now granted allowances under the EU ETS to energy-intensive industries in the EU for free. The CBAM will have a transitional period between 2023 and 2026. During the transitional period, the burden on exporters will be administrative rather than financial. Exporters will have to declare their emissions but will not be required to pay the tax. Once the transitional period is over, importers will have to purchase digital CBAM certificates (Monaisa, 2022). Once the CBAM is implemented, free allowances will be phased out progressively by 2035 (Monaisa, 2022). Although the European Parliament has adopted the resolution to support the CBAM, the legislative process was not concluded as at end June 2022.

The CBAM, as proposed by the European Commission, covers imported goods from at least five different industries: cement, electricity, fertilisers, iron and steel, and aluminium (European Commission, 2021). Its current scope only covers direct emissions, i.e. emissions arising from production processes. Climate vulnerable countries in Africa that will be directly impacted include: Mozambique (aluminium and steel); Ghana (aluminium); Cameroon (aluminium); Zimbabwe (steel); Zambia (steel); Nigeria (steel); Algeria (fertilisers); Libya (fertilisers); Egypt (fertilisers); Tunisia (fertilisers); Morocco (electricity); and South Africa (steel, aluminium) (Gore et al., 2021; Leuker, 2022).

The measure is seen by EU CBAM advocates as important for preventing carbon leakage, for maintaining domestic support for strengthened EU climate action over the next decade, and for encouraging decarbonization in global supply chains (IIEP, 2022). Some writers have explained that the CBAM "can potentially strengthen climate action in several ways, such as: by limiting emissions leakage from the relocation of production and investment to non-EU countries with no or less restrictive carbon constraints,

which may then supply the EU and global markets with higher carbon-content products" (Cosbey et al., 2020). The authors argue that one of the motivations for the CBAM was to alleviate the concerns of affected companies that worry about losing market share to foreign competitors and the concerns of citizens who worry about offshoring of jobs (Cosbey et al., 2020).

However, CBAM has received a number of criticisms from developing countries. The critique has focused on at least two issues: the inconsistency of the measures with multilateralism, the UNFCCC and WTO principles, and the negative impact of CBAM on production and employment in developing countries and increased inequality. These reactions have criticized the measure as "green trade protectionism", and for being inconsistent with the UNFCCC principle of CBDR. Leukers (2022) argues that the EU policy violates the UNFCCC principles by establishing an incentive to enact carbon prices equivalent to the ones paid in the EU, a region which is among the most affluent and historically most responsible for climate change. Cosbey et al. (2020) consider the legal compatibility of CBAM with the WTO rules as "restrictions on imports based on the carbon intensity of products may violate provisions on non-discrimination, and policy relief or exemptions for European producers could be seen as a prohibited subsidy under the WTO's Agreement on Subsidies and Countervailing Measures."

Several studies undertaken on the potential impact of the EU CBAM conclude that these measures will undermine the competitiveness of developing country producers, reducing economic development, job losses, increasing poverty, and inequality. A recent study has made some insightful findings on how the EU CBAM could influence inequalities in South Africa. The author concludes as follows: "this thesis found likely adverse effects on distributional outcomes in South Africa, a



country with very high existing inequalities, it is doubtful whether the CBAM is compatible with distributive justice concerns" (Leukers, 2022). Leukers finds that there are "two routes through which adverse effects result: i) by reducing exports in targeted sectors leading to lay-offs, and ii) by motivating higher domestic carbon prices which may be regressive." Another academic study argues that "research on decarbonization processes indicate that Global South countries may be unable to 'go green' at the pace required to remain competitive in global markets' and that 'most countries at relatively high risk of being negatively impacted are located in Africa" (Eicke et al., 2021). The inequity of CBAM on developing countries, especially in Africa, exacerbates the findings of researchers that global warming is already impacting disproportionately on poorer countries. Diefenbaugh and Burke (2019) find that "for most poor countries there is >90% likelihood that per capita GDP is lower today than if global warming had not occurred. Thus, our results show that, in addition to not sharing equally in the direct benefits of fossil fuel use, many poor countries have been significantly harmed by the warming arising from wealthy countries' energy consumption."

### ***CBAM—Summary and Discussion***

CBAM is a unilateral instrument, it is coercive, it undermines the sovereignty of developing countries around the world as it removes their policy space on their approach to carbon reduction, it is designed to protect the competitiveness of the EU carbon emitters while undermining the competitiveness of developing country producers exporting to the EU.

Moreover, since the carbon taxes collected by the EU at the border are intended to be added to the coffers of the EU, they increase the fiscal space for the EU to subsidize carbon emitters at the expense of developing country producers. CBAM is a defeat for multilateral approaches to climate change responses. It will encourage all the major economies in the North and the South to pursue their own carbon reduction and mitigation strategies regardless of the negative impacts this causes on the development of other countries and leading to increased scepticism by developing countries of the intentions of the North to make genuine efforts to contribute to a low carbon world.

Instead, the EU should initiate a genuine multilateral discussion on how to develop a fair and balanced instrument to prevent "leakage" by domestic companies and the potential competitive advantage being passed on to foreign producers. The EU could initiate such a discussion at the UNFCCC and seek the support of all relevant UN agencies such as UNCTAD, UNIDO and UNEP and the WTO. This discussion on reduction of carbon must include a commitment by the major producers of climate-friendly technologies to transfer this knowledge to developing countries to enable their just transition to a low-carbon economy and to advance their CRD strategies. The EU, together with other OECD countries and emerging economies with the means to do so, must seriously consider how to increase the funding available to support the CRD of developing countries so that all countries could move together and no one is left behind.

## 7. Conclusion: Forging a Global Green New Deal

This section concludes the discussion above by setting out the key proposals on how African countries can assert their own agency by engaging actively in the WTO to advance the reform agenda to promote development and inclusivity and in the UNFCCC to advance CRD. Finally, the paper makes key recommendations to African countries to advance a narrative on Africa's CRD interests in the 27th session of the Conference of the Parties (COP27) of the UNFCCC in Sharm-el-Sheikh in November 2022 while advancing the process of forging a global green new deal for all.

### *Reforming the WTO*

The debate in Geneva in the run up to the Twelfth WTO Ministerial Conference (MC12) has continued to push ahead with the agenda of reform that the US insisted on in Buenos Aires in December 2017 at the Eleventh WTO Ministerial Conference. However, the reform agenda of the Biden Administration has been pursued through the use of more subtle language and via a step by step ("agreement by agreement") process rather than the adoption of a full package of reforms pushed for by the Trump Administration (Ismail, 2020). The MC12 Outcome Document signalled the intention to mandate "work towards necessary reform of the WTO. While reaffirming the foundational principles of the WTO, we envision reforms to improve all its functions."<sup>4</sup> The reference to "foundational principles" is controversial and opens up a debate that began in 1946 at the start of the negotiations to create a multilateral trading system. The original principles of the multilateral trade and economic system (the General Agreement on Tariffs and Trade (GATT) and the Bretton Woods System) were based on most-favoured nation (MFN) or non-discrimination

or equality between countries, reciprocity, and trade liberalization. On each of these principles there was a major debate within the GATT in 1946–1948 and indeed in the period before this between the UK and the US. The US demanded MFN treatment (and the end of the colonial preferences exchanged between the UK and its colonies) and the UK wanted to maintain its colonial preferences for its former colonies in the Commonwealth (Ismail, 2008). The developing countries (India and Brazil in the main) argued that developed and developing countries were not equal and that the lesser development situation and status of developing countries should be recognized. They thus called for the principle of S&DT for developing countries to be recognized. It took a long time for the GATT to accept this principle and it was formally recognized in annex four of the GATT in 1964 (Ismail, 2008).

A statement by the Africa Group, Cuba and India, entitled *Strengthening the WTO to Promote Development and Inclusivity*, argues that the Uruguay Round created "many imbalances" and that these have become worse during the Covid crisis.<sup>5</sup> The submission also cites the Uruguay Round declaration asserting that trade is not an end in itself, but a means to "raising living standards and ensuring full employment." It argues that reform should address asymmetries and bring greater balance to WTO rules, "WTO reform does not mean either accepting inherited inequalities or new proposals that would worsen imbalances."<sup>6</sup> Thus both developed and developing countries in the WTO remain locked in an impasse on the basic foundations of the GATT and how to create a balance of responsibilities between themselves that is fair and equitable.

4. World Trade Organization, MC12 Outcome Document of 17 June 2022, WTO Doc. WT/MIN(22)/24 WT/L/1135 (2022).

5. WTO General Council, *Strengthening the WTO to Promote Development and Inclusivity: Communication from The African Group, Cuba and India*, WTO Doc. WT/GC/W/778/Rev.4 (Feb. 11, 2022).

6. WTO General Council, *Strengthening the WTO to Promote Development and Inclusivity: Communication from The African Group, Cuba and India*, WTO Doc. WT/GC/W/778/Rev.4 (Feb. 11, 2022).

United States policymakers and academic observers have long held a polarized view of the world. President Obama remarked in his signing of the Trans-Pacific Partnership: "When more than 95 percent of our potential customers live outside our borders, we can't let countries like China write the rules of the global economy. We should write those rules, opening new markets to American products while setting high standards for protecting workers and preserving our environment" (The White House Office of the Press Secretary, 2016). President Trump has maintained this stance with greater vigour and has led the US-China trade war with great costs to the world economy and the US. The US insistence that the rules of global trade should work to the advantage of the US has led to the collapse of the Doha Round of the WTO and the paralysis of the WTO Appellate Body, threatening the very existence of the multilateral rules-based system that has served the world since the Second World War by creating stability in world trade.

A group of very eminent scholars from the US and China concerned with de-escalating the trade war have argued against a polarized view of the world that sees the only options as that of hyper-globalization or protectionism (US-China Trade Policy Working Group, 2019). Instead, they have called for an alternative approach to globalization that is based on peaceful coexistence and tolerance for different economic paths and systems. This view is consistent with the arguments advanced by development economists that have warned against a self-serving mercantilist view of trade liberalization. In his book, *The Globalization Paradox*, Dani Rodrik has argued that we need to recognize that markets are not self-regulating, or a disembedded sector from society. Each national economy is different. It is embedded in a social context. Liberalizing trade therefore does not have the effect of creating new opportunities for

all automatically by creating new efficiencies or by reallocating resources from one sector to another. Trade liberalization must be seen as a tool for development (Rodrik, 2011).

Thus, the principles, values, and norms of the existing architecture of the WTO are being challenged, and there is a growing expectation that the principles, values, and norms expressed in this discourse must find their way into the new architecture of the WTO. The multilateral trading system—its architecture and underlying principles—is being reshaped to make it more relevant to the needs of the 21st century. This discourse and debate has created new insights as to what is required to re-energize and redefine the concept of multilateralism in the context of the WTO.

### *The UNFCCC and Global Governance*

President Ramaphosa, in his address to the Committee of African Heads of State and Government on Climate Change, held on the 6 February 2022, stated that climate change impacts are costing African economies between 3–5% of their GDP. Again, although African countries are not responsible for causing climate change they bear the brunt of its impacts. He called for African countries to unite and speak with one voice by building a common African position at the UNFCCC COP27. He called for the principle of common but differentiated responsibilities and respective capabilities and Africa's special needs and circumstances to be recognized (The Presidency Republic of South Africa, 2022). Ramaphosa has argued that it is the right of all African and other developing countries to obtain support in the form of finance, technology, and capacity building for their transition to a low-carbon economy and society (The Presidency Republic of South Africa, 2022).

Climate negotiators, at the Bonn UNFCCC negotiations held in June 2022 in preparation for the November COP27 summit in Egypt reported that progress towards meeting developing country concerns were very much on the backburner. The UN Ambassador of Caribbean nations of Antigua and Barbuda, Conrod Hunte, who is the lead negotiator for the Alliance of Small Island States stated that the group of 39 members had not received assurances that “climate finance will be delivered on scale or speed” (Business Day, 2022). Climate negotiators from vulnerable developing countries have been frustrated at the slow pace of the negotiations on their concerns. A report by the Vulnerable Twenty Group of 55 economies (including Kenya and South Sudan) hit most severely by climate change points out that they had lost about 20% of their wealth on average (about \$525 billion) over the past two decades due to the impact of climate change (Business Day, 2022).

### ***An African Narrative***

There are at least three levels of engagement where African countries supported by the AfCFTA Secretariat and the African Union can advance their own interests on CDR and also contribute to the global effort to transition to a low-carbon economy: i) global governance, ii) regional integration in Africa, and iii) bilateral relations with other developing countries and BRICS. Recommendations to Africa's climate and trade negotiators on key messages in each of these spheres are summarized below.

### **Global Governance**

Global rules should be negotiated and agreed multilaterally, rather than seeking punitive measures. Developing and developed countries should work towards a positive trade and environment agenda that focuses on building developing countries capacity to advance their development and climate goals. These should include the following approaches.

First, developed countries should recognize the principle of S&DT and CBDR as agreed in various WTO agreements and UNFCCC conferences. Together with these principles, all trade and climate agreements negotiated multilaterally should provide adequate policy and fiscal space to the developing countries to design their integrated trade-environment-development strategies.

Second, the environmental goods and services agreement being negotiated in the WTO should be inclusive and multilateral, rather than plurilateral and exclusive. Since 2014, eighteen participants representing 46 WTO members from developed countries and two developing countries have been negotiating an environmental goods and services agreement in the WTO. However, this negotiation is very controversial. There is no consensus on the definition of environmental goods. Many of the OECD-identified list of environmental goods are from high greenhouse gas emitting industries, such as iron and steel and aluminium (UNCTAD, 2021). Negotiations on an Environmental Goods Agreement have been inactive since December 2016.

Third, the WTO can use the example of the Doha Ministerial Declaration on the TRIPS Agreement and Public Health (WT/MIN(01)/DEC/2) to also expand TRIPS flexibilities for developing countries in relation to climate-related goods and services. The UNFCCC Paris Agreement set a vision of fully realizing technology development and transfer for both improving resilience to climate change and reducing greenhouse gas emissions. To provide developing countries with additional policy space to secure their climate and environment development initiatives, the WTO could agree on a time-limited climate waiver together with a “peace clause” for disputes on such measures.

Fourth, developed economies such as the EU and the US that are considering applying CBAMs against

the imports from developing countries should rather support a positive trade agenda to encourage and assist developing countries to implement their mitigation commitments and adaptation development strategies. CBAMs are tariffs on imports that are widely regarded as unilateral and coercive, which will raise the costs of production of a large number of products from developing countries, reducing their global competitiveness. The concern of developing countries is that almost all their current production based on fossil fuel energy, from steel and aluminium to agriculture and mining, will become uncompetitive if they are forced to make a drastic transition to the low-carbon process and production methods required by developed countries.

Fifth, developed countries that are mainly responsible for historical emissions have a responsibility to make good on their promises, made in Copenhagen (COP15), for \$100 billion of climate finance per year by 2023 (the original target agreed at Copenhagen was to be met in 2020 but not met) and to increase this to \$750 billion a year by 2030 (Creedy, 2021). These funds are required by developing countries to contribute to adapt to climate change and transition to low-carbon energy infrastructure and production systems and advance their national CDR strategies. A study conducted on South Africa's "just transition" puts the transition risk to implement its Paris commitments at an estimated \$120 billion (1,8 trillion rand)—or 60% of its GDP—in potentially decommissioned assets (Huxam et al., 2019). The Paris Agreement made promises to developing countries to provide them with capacity building. These funds could support developing countries to build their infrastructure for climate resilience and their competitiveness. Providing funding and technical support to developing countries to develop feasibility projects on renewable energy will assist them to access climate finance. A Trade and Environment Fund could be established by the

WTO and other multilateral institutions to provide additional finance to developing countries to source critical green technologies and build climate-smart trade infrastructure.

### **The AfCFTA and Climate-Resilient Developmental Regionalism**

There are at least three ways in which African countries could implement the AfCFTA in a manner that ensures that regional integration supports the transformative industrialization of Africa and facilitates a transition to a low-carbon world economy. African countries should adopt a "developmental regionalism" approach to the AfCFTA that advances their CRD pathways, viz. climate-resilient developmental regionalism (Ismail, 2021). They should advance at least three strategic objectives. First, the smaller countries in Africa—34 LDCs, 6 small island developing states, and 16 landlocked countries—should be provided with S&DT in their liberalization commitments allowing them more time to adjust. Second, the larger African countries should lead the process of building regional renewable energy infrastructure. This process should be accompanied by identifying components in the renewable energy technologies and infrastructure that could be manufactured in Africa. A "just transition" to renewables, particularly for those countries like South Africa that require to shift away from coal and other fossil fuel-based energy, would need to provide adjustment support for workers and communities. Third, African countries should collaborate in building regional climate-resilient infrastructure, such as water resources and climate-smart agriculture to facilitate adaptation of African countries to climate change. Fourth, African countries should maintain the momentum on advancing an ambitious process of building regional value chains in priority sectors, such as i) cotton, textiles and apparel, ii) agriculture and agro-processing, iii) vaccines and pharmaceuticals products, iv) automotive vehicle assembly and

components, and v) the digital economy. In each of these areas African countries should leapfrog into new sustainable technologies required by the new trends towards a “sustainability shift” that is driving consumption patterns in the main northern markets, such as the EU and the US, and embark upon green industrialization. For example, EU and US consumers are shifting towards sustainable cotton and fibres in apparel, and in automobile most of the original equipment manufacturers have signalled that they will stop importing cars with internal combustion engines as from 2035. Africa has the opportunity to develop its own green industries and to leapfrog and become a producer of environmental goods rather than just a consumer of products produced elsewhere (Jensen & Whitfield, 2022). This approach to regional integration of integrating climate resilience within all four pillars of the “developmental regionalism” approach to the AfCFTA can be referred to as climate-resilient developmental regionalism (Ismail, 2021).

### **Bilateral Relations With Other Developing Countries and BRICS**

There are at least three ways in which African countries can collaborate to support the transition to a global low-carbon economy and society. First, the African Group can work together with other developing countries to restore the integrity of the WTO and insist on the strengthening of the rules-based trading system that is fair, just, and development-oriented. African countries can promote the idea of a Global Green New Deal promoted

by UNCTAD in order to build a global consensus on a developmental outcome in the current crisis of governance in the spheres of trade, finance, and climate change and their relationship to each other (Gallagher & Kozul-Wright, 2019). Second, African countries can share experiences on a “just transition” from coal and other fossil fuel-based energy to renewable energies, with other developing countries. They can conduct peer reviews to share experiences and act together with other developing countries in the UNFCCC to negotiate fair and “just transition” mitigation commitments. Third, African countries can collaborate with BRICS countries and utilize their financing instruments, such as the New Development Bank (or BRICS Bank), Asian Infrastructure Investment Bank, and the Silk Road Fund to provide concessional financing for investment in Africa’s cross-border infrastructure projects to reduce transport and logistics costs, without increasing Africa’s unsustainable debt burden.

## REFERENCES

- Adeniran, A. & Onyekwena, C. (2020). *Accelerating green energy transition in Africa through regional integration*. South African Institute of International Affairs. <https://www.africaportal.org/publications/accelerating-green-energy-transition-africa-through-regional-integration/>
- Ancharaz, V. D., & Sultan, A. R., (2010). *Aid for Trade and climate change financing mechanisms. Best practices and lessons learned for LDCs and SVEs in Africa*. International Centre for Trade and Sustainable Development. [https://www.files.ethz.ch/isn/113544/2010\\_03\\_aid-for-trade-and-climate-change-financing-mechanisms.pdf](https://www.files.ethz.ch/isn/113544/2010_03_aid-for-trade-and-climate-change-financing-mechanisms.pdf)
- Anga, B. S. (2008, December 11-12). *Nepad Cassava Initiative – Lessons learned and way forward. NEPAD Pan African Cassave Initiative* [Conference presentation]. Expert Consultation Meeting, University of Greenwich, United Kingdom. [http://projects.nri.org/gcpmd/files/3\\_Anga\\_presentation.pdf](http://projects.nri.org/gcpmd/files/3_Anga_presentation.pdf)
- Bagwandeem, M., & Vutula, N. (2022, April 13). Russia-Ukraine crisis highlights Africa's need to diversify its wheat sources. *The Conversation*. <https://theconversation.com/russia-ukraine-crisis-highlights-africas-need-to-diversify-its-wheat-sources-181173>
- Beukman, R., & Reeler, J. (2021). *A Just Transition in the water sector: Policy brief for the Presidential Climate Commission*. World Wide Fund for Nature South Africa. October 2021. [https://pccommissionflow.imgix.net/uploads/images/1eb85a\\_f43ec386ee134a01b99f917b6bcc547f.pdf](https://pccommissionflow.imgix.net/uploads/images/1eb85a_f43ec386ee134a01b99f917b6bcc547f.pdf)
- Bloomfield, J., & Steward, F. (2020). *The politics of the Green New Deal*. *The Political Quarterly*, 91(4), 770-779. <https://doi.org/10.1111/1467-923X.12917>
- Bellmann, C. (2022). *Trade and climate change in the WTO*. Forum on Trade, Environment and the SDGs. <https://tessforum.org/news/publications/trade-and-climate-change-in-the-world-trade-organization/>
- Bridle, R., & Bellmann, C. (2021). *How can trade policy maximize benefits from clean energy investment?* International Institute for Sustainable Development. <https://www.iisd.org/publications/trade-clean-energy-investment#:~:text=At%20the%20international%20level%2C%20initiatives,a%20transition%20to%20renewable%20energy.>
- Business Day. (2022, 17 June). *Developing nations disappointed with UN climate talks*. <https://www.businesslive.co.za/bd/world/2022-06-17-developing-nations-disappointed-with-un-climate-talks/>
- Committee on Trade Facilitation, *First Review of the Operation and Implementation of the Trade Facilitation Agreement: Adopted at the Meeting of 26 November 2021*, WTO Doc. G/TFA/2 (Nov. 30, 2021).
- Deere Birkbeck, C. (2021). *Priorities for the climate–trade agenda: How a trade ministers' coalition for cooperation on climate action could help*. Global Economy and Finance Programme and Energy, Environment and Resources Programme, Chatham House. October 2021.
- Deere Birkbeck, C., Hale, T., Johnson, L., Jones, E., Klasen, A., Messenger, G., van Asselt, H., & Allan, B. (2020). *Governance to support a global green deal: 11 ways to align global economic institutions with climate action in the next 12-36 months*. Future of Climate Cooperation. <https://www.bsg.ox.ac.uk/sites/default/files/2020-12/Governance%20to%20support%20a%20global%20green%20deal.%2011%20Dec%202020.pdf>
- Department of Forestry, Fisheries and Environment, South Africa. (2021, October 22). *Minister Barbara Creecy on Glasgow International Climate Talks*, [Press release]. <https://www.gov.za/speeches/minister-barbara-creecy-glasgow-international-climate-talks-22-oct-2021-0000#:~:text=At%20the%20Ministerial%20Meeting%20hosted,billion%20a%20year%20by%202030>
- Diffenbaugh, N. S., & Burke, M. (2019). Global warming has increased global economic inequality. *Proceedings of the National Academy of Sciences*, 116(20), 9808–9813. <https://doi.org/10.1073/pnas.1816020116>
- Egesi, C. (2022, May 12). I used to take cassava for granted – but it could help to wean the world off wheat. *The Guardian*. <https://www.theguardian.com/global-development/commentisfree/2022/may/12/cassava-nigeria-wean-world-off-wheat>

- Eicke, L., Weko, S., Apergi, M., & Marian, A. (2021). Pulling up the carbon ladder? Decarbonization, dependence, and third-country risks from the European carbon border adjustment mechanism. *Energy Research & Social Science*, 80. <https://doi.org/10.1016/j.erss.2021.102240>
- Erasmus, D., (2022, June 8). SA's \$8.5bn energy package is intended only for renewables, donor says. *Business Day*. <https://www.businesslive.co.za/bd/national/2022-06-07-sas-85bn-energy-package-is-intended-only-for-renewables-donor-says/>
- European Commission. (2019). *The European Green Deal* (COM/2019/640 final). <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1576150542719&uri=COM%3A2019%3A640%3AFIN>
- European Commission. (2021, 14 July). *European Green Deal: Commission proposes transformation of EU economy and society to meet climate ambitions* [Press Release]. [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_21\\_3541](https://ec.europa.eu/commission/presscorner/detail/en/IP_21_3541)
- European Commission. (2020a). *EU Green Deal (carbon border adjustment mechanism)*. [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12228-EU-Green-Deal-carbon-border-adjustment-mechanism-\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12228-EU-Green-Deal-carbon-border-adjustment-mechanism-_en)
- European Commission. (2020b). *Impact assessment report—Accompanying the document—Proposal for a regulation of the European Parliament and of the Council establishing a carbon border adjustment mechanism* (SWD/2021/643 final). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021SC0643>
- Food and Agriculture Organization. (2013). *Climate smart agriculture sourcebook*. <https://www.fao.org/3/i3325e/i3325e.pdf>
- Gallagher, K. & Kozul-Wright, R. (2019). *A new multilateralism for shared prosperity: Geneva principles for a global green new deal*. UNCTAD and Global Development Policy Center. <https://unctad.org/webflyer/new-multilateralism-shared-prosperity-geneva-principles-global-green-new-deal#:~:text=The%20E2%80%9CGeneva%20Principles%20for%20a,respecting%20the%20space%20for%20national>
- Gore, T., Blot, E., Voituriez, T., Kelly, L., Cosbey, A., & Keane, J. (2021) *What can Least Developed Countries and other climate vulnerable countries expect from the EU Carbon Border Adjustment Mechanism (CBAM)?* IEEP (Institute for European Environmental Policy). <https://ieep.eu/publications/what-can-climate-vulnerable-countries-expect-from-the-cbam>
- GreenCape. (2020). *Background to the South African renewable energy masterplan (SAREM)*. [https://www.green-cape.co.za/assets/SAREM\\_Background-Information\\_20200820.pdf](https://www.green-cape.co.za/assets/SAREM_Background-Information_20200820.pdf)
- Griffith-Jones, S. & Ocampo J. A. (Eds). (2018). *The future of national development banks*. Oxford University Press. <https://doi.org/10.1093/oso/9780198827948.001.0001>
- Huxam, M., Anwar, M., & Nelson, D. (2019). *Understanding the impact of a low carbon transition on South Africa*. Climate Policy Initiative. <https://climatepolicyinitiative.org/wp-content/uploads/2019/03/CPI-EF-Understanding-the-impact-of-a-low-carbon-transition-on-South-Africa-2019.pdf>
- Intergovernmental Panel on Climate Change. (2019). *Climate change and land: An IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*. [https://www.ipcc.ch/site/assets/uploads/sites/4/2020/02/SPM\\_Updated-Jan20.pdf](https://www.ipcc.ch/site/assets/uploads/sites/4/2020/02/SPM_Updated-Jan20.pdf)
- Intergovernmental Panel on Climate Change. (2022). *Climate change 2022: Impacts, adaptation and vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, et al. (Eds.)]. Cambridge University Press. [https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC\\_AR6\\_WGII\\_FullReport.pdf](https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_FullReport.pdf)
- International Renewable Energy Agency (IRENA). (2019). *Scaling up renewable energy deployment in Africa: Impact of IRENA's engagement*. [https://www.irena.org/-/media/Files/IRENA/Agency/Regional-Group/Africa/IRENA\\_Africa\\_impact\\_2019.pdf?la=en&hash=EECD0F6E8195698842965E63841284997097D9AA](https://www.irena.org/-/media/Files/IRENA/Agency/Regional-Group/Africa/IRENA_Africa_impact_2019.pdf?la=en&hash=EECD0F6E8195698842965E63841284997097D9AA)



- International Renewable Energy Agency, Deutsche Gesellschaft für Internationale Zusammenarbeit, & German Development Bank. (2021). *The renewable energy transition in Africa: Powering access, resilience and prosperity*. [https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2021/March/Renewable\\_Energy\\_Transition\\_Africa\\_2021.pdf](https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2021/March/Renewable_Energy_Transition_Africa_2021.pdf)
- International Renewable Energy Agency & The African Development Bank Group. (2022). *Renewable energy market analyses: Africa and its regions*. [https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2022/Jan/IRENA\\_Market\\_Africa\\_2022.pdf?la=en&hash=BC8DEB8130CF9CC1C28FFE87ECBA519B32076013](https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2022/Jan/IRENA_Market_Africa_2022.pdf?la=en&hash=BC8DEB8130CF9CC1C28FFE87ECBA519B32076013)
- Ismail, F. (2007). Aid for Trade. An essential component of the multilateral trading system and WTO Doha development agenda. *World Economics*, 8(1). <https://www.world-economics-journal.com/Journal/Papers/Aid%20for%20Trade.details?ID=265>
- Ismail, F. (2008). Rediscovering the role of developing countries in GATT before the Doha Round. *The Law and Development Review*, 1(1), 50-72. <https://doi.org/10.2202/1943-3867.1003>
- Ismail, F. (2020). *WTO reform and the crisis of multilateralism - A developing country perspective*. The South Centre. <https://www.southcentre.int/book-by-the-south-centre-2020-3/>
- Ismail, F. (2021). *The AfCFTA and developmental regionalism: A handbook*. Trade & Industrial Policy Strategies. <https://www.tips.org.za/research-archive/books/item/4121-the-african-continental-free-trade-area-afcfta-and-developmental-regionalism-a-handbook>
- Leukers, J. (2022). *Border carbon adjustment and inequality distributional equity concerns about the EU CBAM's impacts in South Africa* [Unpublished master's dissertation]. University of Lund.
- Lopes, C. (2022, April 30). The rich world's empty climate promises. *The Jordan Times*. <https://www.jordantimes.com/opinion/carlos-lobes/rich-worlds-empty-climate-promises>
- Lopes, C. and Te Velde, D. W. (2021). *Structural Transformation, Economic Development and Industrialization in Post-Covid-19 Africa*. Institute for New Economic Thinking. <https://www.ineteconomics.org/perspectives/blog/structural-transformation-economic-development-and-industrialization-in-post-covid-19-africa>
- Ministry of Environment and Forestry. (2018). *National climate change action plan 2018 – 2022*. Government of Kenya. [http://www.environment.go.ke/wp-content/uploads/2020/03/NCCAP\\_2018-2022\\_ExecutiveSummary-Compressed-1.pdf](http://www.environment.go.ke/wp-content/uploads/2020/03/NCCAP_2018-2022_ExecutiveSummary-Compressed-1.pdf)
- Ministry of Forestry, Fisheries and the Environment. (2022). *Climate change bill*. Government of South Africa. [https://www.gov.za/sites/default/files/gcis\\_document/202203/b9-2022.pdf](https://www.gov.za/sites/default/files/gcis_document/202203/b9-2022.pdf)
- Monaisa, L. (2021). *European Green Deal: The Carbon Border Adjustment Mechanism and implications for South African and European trade*. Trade and Industrial Policy Strategies. <https://www.tips.org.za/policy-briefs/item/4293-european-green-deal-the-carbon-border-adjustment-mechanism-and-implications-for-south-african-and-european-union-trade>
- Montmasson-Clair, G., Moshikaro, L., & Monaisa, L. (2021). *Opportunities to develop the lithium-ion battery value chain in South Africa*. Trade and Industrial Policy Strategies. <https://www.tips.org.za/policy-briefs/item/4013-opportunities-to-development-the-lithium-ion-battery-value-chain-in-south-africa>
- Nkhonjera, M., (2022). Green industrial development under the African Continental Free Trade Area (AfCFTA): Positioning South Africa's renewable energy manufacturing. In N. Xaba & S. Fakir (Eds.), *A just transition to a low carbon future in South Africa* (152-184). Mapungubwe Institute for Strategic Reflection. <https://mistra.org.za/mistra-publications/a-just-transition-to-a-low-carbon-future-in-south-africa/>

The Presidency Republic of South Africa. (2022, February 6). *President Cyril Ramaphosa: Committee of African Heads of State and Government on Climate Change* [Press release]. <https://www.gov.za/speeches/president-cyril-ramaphosa-cahoscc-committee-african-heads-state-and-government-climate>

Rodrigues, M. N. P., & Rosales, L. F. (2021). *Some Key Elements for Developing Countries in Climate Change Negotiations of COP 26: Climate Finance, Article 6 Negotiations and Implications*. South Centre. [https://www.southcentre.int/wp-content/uploads/2021/10/CPB26\\_Some-Key-Elements-for-Developing-Countries-in-Climate-Change-Negotiations-of-COP-26\\_EN.pdf](https://www.southcentre.int/wp-content/uploads/2021/10/CPB26_Some-Key-Elements-for-Developing-Countries-in-Climate-Change-Negotiations-of-COP-26_EN.pdf)

Schoeman, K. (2022, 19 April). KwaZulu-Natal floods 'the worst we've ever seen'." *Mail & Guardian*. <https://mg.co.za/news/2022-04-19-kwazulu-natal-floods-the-worst-weve-ever-seen/>

Trisos, C. H., Adelekan I. O., Totin, E, et al. (2022). Africa. In: *Climate change 2022: Impacts, adaptation and vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. [H. O. Pörtner, D.C. Roberts, M. Tignor, et al. (Eds.)]. Cambridge University Press. pp 1285–1455. <https://www.ipcc.ch/report/ar6/wg2/>

United Nations Conference on Trade and Development. (2021). *Trade and Development Report 2021. From Recovery to Resilience: the Development Dimension*. <https://unctad.org/webflyer/trade-and-development-report-2021>

United Nations Environment Programme. (2019, July 4). *Aid for Trade Global Review 2019 side event – Aid for trade: a vehicle to build climate resilience*. <https://www.unep.org/events/conference/aid-trade-global-review-2019-side-event-aid-trade-vehicle-build-climate>.

United Nations Environment Programme. (2020). *Aid For Trade: A Vehicle to Green Trade and Build Climate Resilience*. <https://wedocs.unep.org/handle/20.500.11822/32204>

The United Nations Office for the Coordination of Humanitarian Affairs (OCHA). (2021, January 21). *East Africa's locust crisis in numbers*. <https://unocha.exposure.co/east-africas-locust-crisis-in-numbers>

United Nations Water. (2020). *The United Nations world water development report 2020: Water and climate change*. United Nations Educational, Scientific, and Cultural Organization. <https://unesdoc.unesco.org/ark:/48223/pf0000372985.locale=en>

US-China Trade Policy Working Group. (2019). *US – China trade relations a way forward*. The US – China Trade Policy Working Group Joint Statement. [https://www.inet.econ.cam.ac.uk/files/us-china\\_trade\\_joint\\_statement\\_2019.pdf](https://www.inet.econ.cam.ac.uk/files/us-china_trade_joint_statement_2019.pdf)

Wang, X., & Lo, K. (2021). Just Transition: A conceptual review. *Energy Research & Social Science*, 82. <https://doi.org/10.1016/j.erss.2021.102291>

The White House Office of the Press Secretary. (2016, February 3). *Statement by the President on the Signing of the Trans-Pacific Partnership* [Press release]. <https://obamawhitehouse.archives.gov/the-press-office/2016/02/03/statement-president-signing-trans-pacific-partnership>

World Trade Organization, MC12 Outcome Document of 17 June 2022, WTO Doc. WT/MIN(22)/24 WT/L/1135 (2022). <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/WT/MIN22/24.pdf&Open=True>

WTO General Council, *Strengthening the WTO to Promote Development and Inclusivity: Communication from The African Group, Cuba and India*, WTO Doc. WT/GC/W/778/Rev.4 (Feb. 11, 2022).

Xaba, N & Faki, S. (Eds.). (2022). *A just transition to a low carbon future in South Africa*. Mapungubwe Institute for Strategic Reflection. <https://mistra.org.za/mistra-publications/a-just-transition-to-a-low-carbon-future-in-south-africa/>

Zalk, N. (2021, November 17). Africa's development banks: The urgent need for scale. *LSE Business Review*. <https://blogs.lse.ac.uk/businessreview/2021/11/17/africas-development-banks-the-urgent-need-for-scale/>



## RELATED TESS PUBLICATIONS

*Trade and environment at the World Trade Organization: State of play and entry points* by Christophe Bellmann, Carolyn Deere Birkbeck, Marianne Kettunen, and Mahesh Sugathan (April 2022)

*Trade and climate change in the World Trade Organization* by Christophe Bellmann (April 2022)

*Securing a just and inclusive global green economy through trade policy* by Nicolas Lockhart, Dominic Coppens, Katherine Connolly, and Stella Perantakou (March 2022)

*Greening aid for trade: Pathways for a just and fair transition to sustainable trade* by Carolyn Deere Birkbeck (July 2022)

*Promoting and facilitating trade in environmental goods and services: Lessons from regional trade agreements* by Christophe Bellmann and Mahesh Sugathan (June 2022)

## Forum on Trade, Environment & the SDGs (TESS)

The Geneva Graduate Institute  
Chemin Eugène-Rigot 2  
CH-1202 Genève  
Switzerland

 [tessforum.org](https://tessforum.org)

 [@TESSForum](https://twitter.com/TESSForum)

 [info@tessforum.org](mailto:info@tessforum.org)

*Designed by Tohu Design*