



E-PAPER

Tackling Climate Change and Propelling a Green Transition under the African Continental Free Trade Area

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published by Heinrich-Böll-Stiftung Washington, DC, and Africa Policy Research Institute, May 2022

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Summary

The African Continental Free Trade Area (AfCFTA) agreement is expected to lift 30 million people out of extreme poverty by 2035. African countries are looking to take advantage of improved market access under the AfCFTA to increase production and trade through agriculture, fisheries (blue economy), forestry and mining activities. While increased production in pursuit of trade opportunities under the AfCFTA will contribute to greenhouse gas emissions, this can also form a key part of the solution in shaping the transition of African economies to green growth, climate mitigation and adaptation. This paper explores the opportunities and challenges of addressing climate change under the AfCFTA. It draws from ongoing global and African discourse on climate change, and from the growing body of research on the AfCFTA and environmental sustainability. It provides recommendations on how African governments, African stakeholders and development partners in the European Union and the United States of America can achieve climate change objectives through the AfCFTA.

The paper makes four major points:

While the AfCFTA makes minimal references to the environment, it can be adjusted to support environmental and climate change actions by building on the approach taken in the now stalled World Trade Organisation (WTO) Environmental Goods Agreement (EGA) negotiations. This would involve ensuring that tariffs, non-tariff barriers and other restrictions to trade in environmental goods and

services are eliminated. Benefits from such actions would include the development of green value chains for environmental goods and services in Africa, even as trade liberalization ensures that there is little or no need to develop green industries that cover all the many product lines-up to 304-that exist across the 10 sectors identified by the EGA.

- As the AfCFTA forms part of a broader green economic transition plan for Africa, pursuant to the objectives of the Paris Agreement and national and continental targets on climate change, decarbonization in the energy sector and in trade-related sectors like transportation are central to the green transition under the agreement. For countries like Algeria, Angola, Equatorial Guinea, Mozambique, Nigeria, South Africa and Zimbabwe that rely on fossil fuels either as export receipts or for domestic power generation, the green transition to net zero emissions and de-carbonization would require policymakers to devise a phased approach over decades. Successful green transition would further hinge on development partners providing technical and financial support that are beyond what is currently on offer.
- While there might be utility in including some provisions in the AfCFTA framework that enhance the strategic link between trade and the environment, there are two reasons why doing this might not be optimal. First, past challenges in implementing trade agreements and the absence of a strong enforcement mechanism suggest that there may be limited value in incorporating an additional Environmental Protocol to the AfCFTA. Second, at the multilateral, continental and regional levels Africa has no shortage of agreements, commitments, and initiatives that deal extensively with environmental sustainability and climate. Introducing detailed provisions on climate into the AfCFTA would to some degree, amount to duplicating the Africa Climate Change Strategy, Africa's Green Recovery Action Plan (2021–2027) and various regional strategies on climate change that African governments have committed to elsewhere. One solution would be to reinforce support for the implementation of these existing initiatives on climate change and environmental sustainability, while at the same time supporting measures to consolidate, incorporate and synchronize current efforts under the AfCFTA such as the preparation of a Strategic Environmental Assessment (SEA) of the AfCFTA to support how environmental considerations can nevertheless be effectively incorporated into the implementation of the Agreement.
- Development partners like the EU, Germany and the USA have a critical role to play in supporting Africa's green transition under the AfCFTA.

Within this context, the paper recommends the following:

i. Development partners should target enhanced support for regions that are vulnerable, lack resources for climate adaptation and possess limited capacity for trading under the AfCFTA. These include small island states, countries in the Horn of Africa, the Great Lakes and Sahel regions. Some countries in these regions have large informal sectors and informal cross-border trade that are not captured under the AfCFTA and that require a nuanced approach to addressing climate issues.

- ii. Development partners should use AfCFTA as an entry point for working with African policymakers to devise targeted and enhanced support for the development of export-capable green value chains, climate adapted agriculture, green manufacturing and services in energy and transportation and other sectors that are pivotal to Africa's green transition and decarbonization, while also supporting initiatives and investments into the circular economy.
- iii. In forming partnerships with Africa's private sector, developing partners should support the adoption of complementary tools like the Voluntary Sustainability Standards (VSS). Adoption of VSS will help producers in the manufacturing, mining and agriculture sectors use global and regional value chains effectively to improve environmental sustainability and transition to green value chains. Such modification of production processes-that could include incentive mechanisms for development partners to help cover the costs of criteria compliance with the standards and adoption of best practices and tools-would essentially mitigate the negative impacts on the environment while improving competitiveness in trade under the AfCFTA.
- iv. Development partners should align initiatives like the EU Green Deal and other African environmental sustainability initiatives like the Great Green Wall with the AfCFTA agreement in ways that are responsive to local needs and fosters greater local ownership. Actual commitments by development partners to support a green transition in Africa have fallen short of expectations and should be ramped up with speed. As the largest emitters of greenhouse gases, these countries and even China should deliver on their promises and make substantial climate funds available to African countries to mitigate and adapt to the inevitable negative impacts of climate change.

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"No other continent in history has been tasked with the challenge of developing without polluting while simultaneously being the victim and lowest contributor to emissions."

President of Nigeria Muhammadu Buhari, cited by Africa-Europe Foundation (AEF) at the Climate and Energy in the Africa-Europe Partnership: Leading the Way to the AU-EU Summit, 20 January, 2022

1. Introduction

The commencement of trade under the African Continental Free Trade Area (AfCFTA) on 1 January 2021 ushered in a new era and optimism for the growth of intra-African trade and investment. This is especially so as countries seek to recover from the economic disruption brought about by the COVID-19 pandemic, which compounded the low-growth environment facing many African countries. African countries are looking to take advantage of improved market access under the AfCFTA and to increase production and trade through agriculture, fisheries (blue economy), forestry and mining activities while seeking value addition through industry. The removal of tariffs under the AfCFTA, if successful, is also expected to double Africa's manufacturing output from USD 500 billion in 2015 to USD 1 trillion by 2025 and create an additional 14 million permanent jobs. While estimates vary and depending on the ambition of liberalization and trade facilitation efforts, the UNECA and African Union Commission estimate that intra-African trade generally will increase from its current 18 percent to 50 percent by 2040, while intra-African trade in agricultural products is forecasted to increase from 20 to 30 percent. The AfCFTA is expected to help diversify intra-African trade by incentivising production and trade industrial goods as opposed to extractive goods and natural resources. Historically, just over 75 percent of African exports to third countries comprised of extractive commodities whereas only 40 percent of intra-African trade involved extractive. Trade diversification allows countries to develop resilience to weather market volatility. It enables a gradual shift from an over dependence on commodities to more sophisticated, higher value-added products and services with greater productivity. This shift enables more inclusion of small and medium-sized African firms within value chains. The AfCFTA is also expected to lift 30 million people out of extreme poverty by 2035.

With current leading emitters of greenhouse gases having done so mainly because of their high levels of industrialization, increased production in pursuit of trade opportunities under the AfCFTA may contribute greenhouse gas emissions that cause global warming and climate change if green energy is not immediately prioritised across African countries. It is thus the case that while the increased production might exacerbate the climate change

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problem, it is also possible for it to be a key part of the solution to the problem if climate mitigation and adaptation and transition to green growth are immediately prioritised.

As a trade agreement, it is noteworthy that the AfCFTA is not a panacea for addressing the challenges of climate change. It carries its own limitations for what it can achieve in terms of spurring action on climate change while, nevertheless, having the potential to be part of a collective arsenal of tools that African policymakers and development stakeholders can use to support climate adaption in industrialization and trade and help build resilience and environmental sustainability as part of Africa's green economic transition. This paper explores the opportunities and challenges for addressing climate change under the African Continental Free Trade Area (AfCFTA). With regard to how the green transition will undeniably be at the heart of the next decade of cooperation between Africa, Europe and the United States, and such that "green investments" form the basis of future job creation and industrial growth, we discuss the role that development partners like the European Union and the United States could play to support the implementation of climate change objectives through the AfCFTA.

Climate change affects production and trade patterns across different sub-sectors and will impact the potential success of the AfCFTA via disruptions to trade, supply chains and shifting comparative advantages. This paper examines the relationship between industrialization and climate, considering the industrialization imperative under the AfCFTA. It discusses the relationships between agriculture, fisheries, and service sectors and climate under the AfCFTA. It highlights key service trade sub-sectors that are sensitive to climate issues, and which can also help address environmental sustainability such as tourism, transport, environmental services and energy services.

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Finally, the paper discusses how key development partners like the USA and EU can provide targeted support to strengthen environmental sustainability and climate-proofing under the AfCFTA, in line with multilateral, African and environmental sustainability and climate commitments undertaken by African countries. Recognizing the resource limitations facing development partners in addressing climate change, the paper discusses complementary arrangements such as the EU Carbon-Border Adjustment Mechanism (CBAM) that can be leveraged to support the AfCFTA on climate change.

2. Industrialization, the AfCFTA and climate change

"The well-trodden path to industrialisation and national prosperity — from the UK in the 18th century to South Korea in the 20th — has gone something like this: get dirty, get rich, get clean."

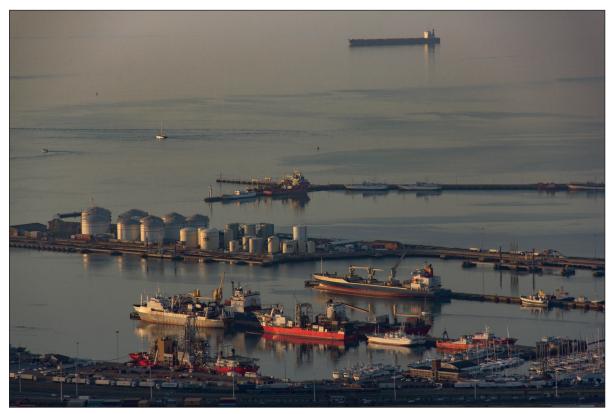
David Pilling, Financial Times, 7 October 2021

2.1 Industrialization, AfCFTA and climate change

Industrialization is key to trade and is arguably the most talked about subject among African policymakers. Also, it is generally acknowledged that the expansion of small-scale manufacturing and trade in manufactured goods are important milestones of the economic development process. The experiences of Asian countries like Malaysia, Thailand, Vietnam, South Korea and Singapore, among others, have demonstrated the transformative nature of industrialization.

Given its potential to drive growth, prosperity, jobs, and better incomes for all, industrialization has also always been regularly cited in campaign promises across Africa. Yet despite these promises, Africa remains the world's least industrialized region and has seen its share of global manufacturing decline from three percent in the 1970s to about 1.9 percent today (United Nations SDG 9). Manufacturing today accounts for only about 10 percent of Africa's GDP. Worse still, gains in the sector are somewhat concentrated in few countries; with over 60 percent of the value of manufacturing production concentrated in the four countries of Egypt, Nigeria, South Africa and Morocco.

Article 2(f) of the AfCFTA Protocol on Trade in Goods speaks to boosting intra-African trade in goods through enhanced socio-economic development, diversification and industrialization across Africa. The Protocol also speaks to supporting continental industrialization programs such as the Plan of Action for the African Union's Accelerated Industrial



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Development for Africa (AIDA) initiative that was adopted by the Summit of AU Heads of State and Government in 2008. Again, the African Union's Agenda 2063 provides the overarching blueprint for Africa's inclusive growth and sustainable development. The success of Agenda 2063 hinges on achieving sustainable industrialization and trade. Among the priority areas of Agenda 2063 are: (i) the promotion of technology and innovation driven manufacturing / industrialization and value addition; and (ii) transforming Africa's economies through beneficiation of natural resources, as well as raising productivity and competitiveness. However, the question is, how can Africa achieve this sustainable economic transformation through industrialization with the AfCTA while being responsive to climate change?

Historically, fossil fuels have underpinned the industrialization journey of the major developed and emerging economies. While Africa's total emissions are low, African manufacturing already emits about 440 megatons of carbon dioxide equivalent, which is roughly 30 to 40 percent of total emissions on the continent. This highlights how greater industrialization on the continent would also translate into more emissions. Under a business-as-usual scenario and in response to trade opportunities under AfCFTA, increased industrial production with conventional technologies would raise climate risks through higher levels of greenhouse gas emissions, pollution, deforestation and land degradation. It is noteworthy that the business-as-usual scenario and an industrialization that is fuelled by fossil fuels may not be available to Africa's manufacturing sector under the AfCFTA, taking for instance how European countries have begun to consider taxes on GHG emissions of imported goods. These may see African manufacturing gradually become uncompetitive, thereby putting the achievement of the AfCFTA objectives at risk.

Therefore climate change presents an enormous development hurdle for African trade. The transition to green manufacturing and industrialization will be challenging as climate shocks can derail Africa's industrialization aspirations. It is estimated that adapting to climate change could cost the continent about USD 50 billion annually by 2050, with losses exceeding 20 percent of GDP due to extreme temperatures. In addition, there is a USD100 billion per annum financing gap for African infrastructure as well as in investments in those skills that are needed for green industries to thrive.² Yet, there are opportunities for Africa to achieve industrialization without polluting the earth. As it has been argued, "half of the continent's potential 2050 GHG-emitting industries have not yet been built, Africa (thus) has an opportunity to leapfrog more developed nations and build a low-carbon manufacturing sector from the ground up". Furthermore, they argue that Africa's manufacturing sector would need to reduce its scope 1 and 2 manufacturing emissions by roughly 90 percent relative to 2018 levels as part of the international effort to reach net-zero emissions by 2050. The balance of 10 percent could be addressed through additional technologies and mitigation measures such as carbon capture and storage, and reforestation.

2.2 Decarbonizing energy at pace with Africa's development objectives is key to sustainable industrialization and trade

Considerations of Africa's green transition should be cognizant of how its emissions have been historically low. For instance, what a Rwandan resident would emit in a year is equivalent to what a UK resident emits in five days. Also, despite being home to 15 percent of the world's population the continent accounts for just four percent of global carbon emissions. The considerations should also be cognizant of how Africa's current emissions are currently distributed. For example, as shown in Figure 1, in 2018, energy needs in manufacturing, electricity generation, buildings and other fossil fuels accounted for up to 74.5 percent of its emissions. The emissions were concentrated in five sectors, namely, cement, coal-to-liquid, iron and steel, oil refining and fertiliser production. Data on the low levels of emissions and the distribution of Africa's emissions and concentrations in few industries provide real opportunities to prevent the continent from becoming serious polluters. It can form the basis for climate-proofing existing industries to incorporate emissions abatement and mitigation technologies. For instance, upgrading vehicles in Africa's mining sector can reduce its emissions by 40 percent. It is crucial that Africa's decarbonization occurs in tandem with the current pace of Africa's development.

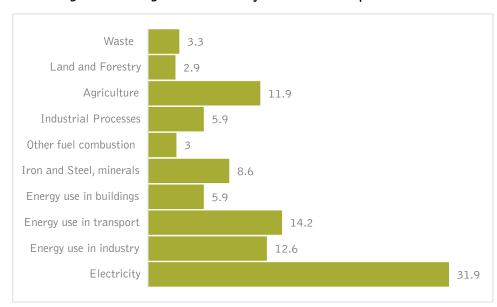


Figure 1: Global greenhouse gas emissions by source 2018 (percent)

Source: World Resources Institute

South Africa illustrates the socio-economic challenges and the opportunities of decarbonization and those trying to achieve an optimal design for a green transition. The similarity that South Africa has with other African economies like Angola, Equatorial Guinea, Nigeria, Zambia and Zimbabwe, which are heavily reliant on fossil fuels for their power generation, industries and exports further make its case worth exploring (see Box 1). The South African funding arrangement has been cited as a breakthrough that could serve as a model for developed nations to help finance energy transitions in Africa. With the four countries of Algeria, Egypt, Nigeria and South Africa accounting for three-quarters of the continent's emissions, such funding would help African countries keep their relatively low emissions while pursuing their development goals, like reducing poverty and increasing energy access.

The case of South Africa also demonstrates that industrialization for sustainable development in Africa should have multi-sectoral and multi-directional linkages to domestic economies. This will stimulate economic growth, diversification and intra-African trade under the AfCFTA. An example of such linkages is Africa's participation in the renewable energy value chain for the Battery Electric Vehicle (BEV) market. A low-carbon future will be mineral intensive due to high demands for essential minerals from producers of battery electric vehicles and from those that manufacture components for solar photovoltaic, wind and geothermal low carbon technologies.

Box 1: The challenge of decarbonization in Africa: the case of South Africa

South Africa is the only African country that is categorized as industrialized and whose experience highlights the challenges of sustaining industrialization, job creation and trade under the AfCFTA. It has one of the continent's leading producers and exporters, which are expected to benefit under the AfCFTA and it is one of the major sources of FDI across the continent. However, South Africa's economy is heavily reliant on fossil fuels and the country is one of the biggest carbon emitters on the African continent, with coal accounting for 77 percent of the country's energy needs. It is also one of the countries in the world most vulnerable to climate change. The heavy reliance on fossil fuels has raised questions about the long-term sustainability of economic growth.

On November 2, 2021 at the COP26 Climate Conference, an agreement was announced where the European Union member states, the United Kingdom and the United States will provide assistance to South Africa worth USD8.5 billion over the next five years, to transition from heavy reliance on fossil fuels towards green energy sources. This has resulted in internal policy debates on whether funds should go to EVs, hydrogen or the state-owned energy utility (Eskom). Eskom would like the bulk of "green funding" to help establish renewable energy sources in the country, repurposing coal power and investing in new, sustainable energy sectors such as wind. The Department of Trade and Industry would like to see funds used to boost electric-vehicle production to help preserve automotive as a major export sector and take advantage of the AfCFTA. Another proposal with strong support from Germany is to invest in green hydrogen and to position South Africa as a major producer in decarbonizing activities such as steelmaking and shipping. The cost implications of such a transition to cleaner energy, together with politics associated with reforms to the energy sector present significant hurdles to be overcome. Decommissioning ageing coal plants forms a critical part of the strategy to reach net-zero carbon-dioxide emissions by 2050. This could deliver 250,000 jobs and more than USD10 billion in gross value-add to the economy over 25 years, if an ambitious green recovery is pursued, according to the Global Wind Energy Council (GWEC). The major electricity utility Eskom, which is central to the green transition, is USD27 billion in debt.

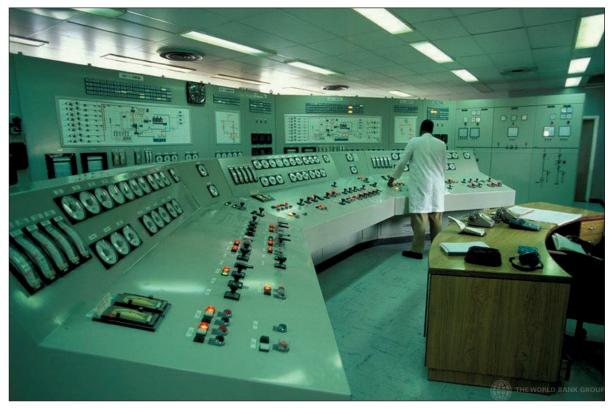
Sasol and the energy utility Eskom are key pillars of industrialization in both the South African and broader African economy. The two firms are major players under the AfCFTA in terms of exports and investment around the African continent. Eskom sells electricity to seven countries, namely, Zimbabwe, Lesotho, Swaziland, Namibia, Botswana, Mozambique, and Zambia — which are part of the Southern African Power Pool (SAPP). Sasol's Secunda coal to liquid (CTL) plant is one of the world's leading single emitters of greenhouse gases. The company has, however, committed to be net zero in emissions by 2050 with a short-term target of reducing carbon emissions by 30 percent by 2030. It will also make no future investments in

coal after 2043. It aims to use more power from clean energy and eventually switch to natural gas in the 2030s then ultimately to hydrogen. The Green Economy Tracker (GET) for South Africa shows there are strong policies supporting green economy efforts. However, clear implementation targets remain to be articulated. There is a disconnect between industrial policy instruments and the green economy. South Africa's post-Covid Economic Reconstruction and Recovery Plan (ERRP) includes objectives to decarbonize the economy and for 22.5 percent of the energy mix to be sources from wind energy by 2030, up from five percent in 2021. This is expected to create 130,000 direct and indirect jobs between 2022 and 2026 in the development, construction and installation phase of wind energy. However, out of necessity and pragmatism, the ERRP also reinforces a fossil fuel-based economy. Currently, South Africa lacks sufficient transmission network to further enable the development of the wind industry, and it has little infrastructure for gas, such as pipelines or liquefied natural gas (LNG) terminals. Some of the coal-to-liquids (CTL), which is not cost effective to repurpose (for example, no storage and blending facilities) will eventually have to be sold or closed. These are some of the costs but also opportunities involved in the energy switch. The government and private sector have agreed to the concept of a "just energy transition." This is an effort to create new green jobs in renewable energy and other sectors and hopefully win public buy-in for the impending change.

Source: Kirsten Hund et al.

Where it is affordable and viable, African policy makers and development partners should target investments and skills in the development and dispersion of renewable energy solutions across their respective economies. This should also include incentives for businesses to adopt renewable energy products. The African automotive sector is an example of a sector where green industrialization can be pursued with support from development partners. In February 2022, twelve business and automotive associations from Europe and the African Association of Automotive Manufacturers (AAAM) signed a memorandum of understanding (MoU) to drive the development of the automotive industry in Africa. As stakeholders seek to leverage trade and investment opportunities for the automotive industry under the AfCFTA, it is important that they ensure the growth in car ownership across the continent does not become tantamount to increased carbon emissions.

As noted in the previous section, African countries could "leapfrog" the need for hydrocarbons through widespread adoption of renewable energy solutions. For the leapfrogging to be viable, however, such energy solutions must allow for industrial competitiveness. Traditional fossil fuels like natural gas continue to offer businesses across Africa the least-cost option for reliable energy supply compared to renewable alternatives. This is despite technological advances. Developed countries would thus do well to be cognizant of this fact lest they cause the removal of fossil-fuel based but cost-effective energy sources from Africa's energy mix and thereby hamper Africa's development. A widespread adoption of renewables can only be considered viable if the cost structure is reduced significantly.



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Nonetheless, there is a lot of scope for innovation by Africans in this space, and solid arguments for a balanced approach in the energy mix as Africa moves gradually to achieving net zero.

2.3 Recommendations and points for policy consideration

- Heavily fossil fuel reliant industrialization successes in Europe, North America and more recently in Asia cannot be easily replicated in Africa. Therefore, industrialization through support of arrangements like AfCFTA should incorporate climate adaptation while remaining mindful and balanced with respect to considerations of cost and competitiveness.
- The green transition in industrialization presents opportunities for both local manufacturing and production for exports if trade liberalization under the AfCFTA can be sequenced and balanced to provide policy space for the development of green industries. The efforts would include innovation, production and trade in environmental goods and services wherein a heterogeneous set of producers in green value chains would act to protect the environment and manage natural resources sustainably. The EGA negotiations (WTO list) identified at least 304 environmental goods organized into 10 sub-sectors based on environmental use. Examples include products linked to sustainable agriculture like irrigation equipment, construction, pollution control, natural resource efficiency, waste management and energy materials like solar and

so on. Trade facilitation and investment in key industries whose products relate to pollution control, natural resource efficiency, waste management and solar energy materials will also go a long way in ensuring that such opportunities materialize. Some useful comparative ideas in developing green value chains can also be drawn from the work undertaken by the Asia-Pacific Economic Cooperation countries in liberalizing tariffs on 54 environmental goods and developing an extensive body of work to develop and finance environmental goods and services industries.

- The growth of Battery Electric Vehicles (BEV) presents opportunities for policy-makers and industry to integrate the mineral sector and promote environmentally sustainable mineral beneficiation for African countries, while providing possible multi-sectoral and multi-directional linkages to domestic economies in the development of renewable technologies to provide clean energy locally and for intra-African trade.
- A business-as-usual approach would lead Africa down an unsustainable path. To promote the transition towards green industrial production, African policymakers should reform and improve business and regulatory frameworks to facilitate private capital flows and the absorption and adaptation of information and communications technology (ICT), artificial intelligence and skills to stimulate private sector growth and trade under the AfCFTA. Support from development partners like the World Bank's International Finance Corporation (IFC) and Climate-Smart Mining Initiative would also help resource-rich African countries benefit from the increasing demand for minerals and metals while ensuring a framework is in place for the sustainable development of the mining sector in a manner that minimizes the environmental and climate footprint.

3. Agriculture, fisheries, and climate

Nearly 80 percent of the world's poor typically rely on agriculture, forestry, and fisheries for their livelihood. Agriculture is an important climate-sensitive sector for Africa and under the AfCFTA. The sector provides livelihood for most of the population and much of African agriculture is rain-fed. There are already considerations that some countries could see yields reduced by as much as 50 percent in the current decade and that fish catches could decline by as much as 50 percent by 2050, affecting both food security and trade under the AfCFTA. Africa is not spared in this regard. The African Climate Policy Centre projects that the GDP in five African sub regions would suffer a significant decrease because of a rise in global temperatures. For scenarios ranging from a 1°C to a 4°C increase in global temperatures relative to pre-industrial levels, the continent's overall GDP is expected to decrease by 2.25 to 12.12 percent; with Western, Central and Eastern Africa being more adversely impacted than Southern and Northern Africa.

Agriculture's role is therefore not only crucial in mitigating, but also in adapting to climate change. The Sustainable Development Goals (SDGs) and the Paris Agreement acknowledge the critical importance of agriculture in dealing with the large climatic changes currently faced, the severity of which is likely to increase in the future. Nearly 80 percent of the Nationally Determined Commitments (NDCs) to meet the Paris Agreement commitments, contains plans of action on agricultural mitigation, while 90 percent of the NDCs that include adaptation, selected the agricultural sector as a priority area for action. Furthermore, both the Paris Agreement and the SDGs stress the safeguarding food security and ending hunger in the face of climate change. In subsections that follow, the paper briefly



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highlights issues related to African agriculture and fisheries in the context of sustainable development, trade, and climate change

3.1 Impact of climate issues on sub-sector performance in Africa

Africa is vast. This vastness means its areas span distinct climatic zones and that climate change will affect its regions differently. Climate change is expected to affect both crop and livestock production systems negatively in most regions, although some countries may benefit from the changing conditions. The changing climate is also adding to resource problems such as water scarcity, pollution and soil degradation. Climate change is projected to negatively impact the four pillars of food security – availability, access, utilisation and stability – and their interactions. Key risks to agriculture include reduced crop productivity due to heat stress, drought, pest damage, disease damage and flood. These will adversely affect food system infrastructure, food security and livelihoods at the regional, national and individual household levels. Figure 2 summarizes some of the impacts of climate change on crops, fisheries, livestock and poultry.

Figure 2: Climate change impacts on sub-sector performance in Africa

Crops

Decreased yields of staple crops such as maize, wheat, sorghum, and fruit crops, such as mangoes, widening food insecurity gaps.

Under the worst-case climate change scenario, a reduction in mean yield of 13% is projected in West and Central Africa, 11% in North Africa and 8% in East and Southern Africa.

Livestock & Poultry

Changes in climate could affect animals both directly and indirectly.

Heat waves, which are projected to increase under climate change, could directly threaten livestock.

Drought may threaten pasture and feed supplies.

Drought reduces the amount of quality forage available to grazing livestock.

Fisheries

Many fisheries already face multiple stresses, including overfishing and water pollution. Climate change may worsen these stresses.

Changes in temperature and seasons can affect the timing of reproduction and migration. Many steps within an aquatic animal's lifecycle are controlled by temperature and the changing of the seasons.

Source: EPA; WMO

The issue of food security concerns and trade liberalization is an important one worth noting. The debate has been ongoing since the 1980s, dating back to the General Agreement on Trade and Tariffs (GATT) and the WTO Doha round, where agricultural trade liberalization was the main contentious issue that led to the stalled negotiations. In the EPAs, this issue has been long standing. To date, arguments for and against agricultural trade liberalization persist and go beyond the confines of climate change. Within the AfCFTA, trade remedy and safeguard measures are detailed. There are four provisions in the AfCFTA Protocol on Trade in Goods, dealing with Anti-dumping and Countervailing Measures, Global Safeguard Measures, Preferential Safeguards and Cooperation among the State Parties. The detail appears in Annex 9 on Trade Remedies and in the AfCFTA Guidelines on Implementation of Trade Remedies.

3.2 International Impact

Climate change will affect food security at the global level by disrupting food availability, reducing access to food and affecting food quality. For example, increases in the frequency and severity of extreme weather events interrupt food delivery. Spikes in food prices after extreme events are expected to increase in the future. Increasing temperatures can contribute to spoilage and contamination. Internationally, these effects of climate change on agriculture and food supply are likely to be like those seen in Africa. However, other stressors such as population growth may magnify the effects of climate change on food security. In developing countries, adaptation options like changes in crop management or ranching practices or improvements to irrigation are more limited than in the industrialized nations.

Impacts to the global food supply are a cause for concern because food shortages can cause humanitarian crises and national security concerns.

3.3 Addressing climate change effects under the AfCFTA

At the core of the AfCFTA are the agendas for trade liberalization and how to facilitate trade towards boosting industrialization, the growth of regional value chains and intra-African trade. The linkages of trade to the environment are not explicit. There is no dedicated annex dealing with the environment or climate change in the AfCFTA. Climate change issues are dealt with separately at the African Union Commission (AUC). The AUC developed the AU Climate Change and Resilient Development Strategy and Action Plan to guide to coordinate and support the Continent's response to Climate Change for the period 2022-2032. As the AfCFTA focuses more on trade liberalization, an agreement has been reached on trade in goods, where rules of origin requirements have been adopted on nearly 90 percent of goods on the tariff lines of the AU member states. Sensitive products, of up to seven percent of tariff lines, will be fully liberalized over 13 years for least-developed countries (LDCs) and 10 years for non-LDCs. The remaining three percent of tariff lines may be excluded from tariff liberalization. Criteria for designating "sensitive" or "excluded" products include matters of food security, national security, fiscal revenue, livelihood and industrialization.

By supporting a shift from extractives and commodities, the AfCFTA provides an opportunity to tackle climate change. Appetite remains low among African leaders, however, as highlighted by the recent demands from African leaders at the 6th Africa – EU Summit. The Chair of the AU, President Macky Sall of Senegal, underlined at the Summit the commitment of African countries to the Paris Climate Agreement but stressed Africa's need to continue to develop gas as a source of energy. Current efforts under the AfCFTA such as the preparation of a Strategic Environmental Assessment (SEA) of the African Continental Free Trade Area (AfCFTA) to support how environmental considerations can nevertheless be effectively incorporated into the implementation of the Agreement.

3.4 Recommendations and points for policy consideration

It is important to emphasize that the AfCFTA will create the single largest market in the world in terms of the number of countries and people. With a population expected to reach over 2.4 billion by 2050, Africa needs to be able to meet its demand for food, water, and energy at a time when environmental volatility is high. Regarding the AfCFTA, policymakers should:

- Ensure that the AfCFTA is supported with accompanying measures and complementary policies that link the agreement and the environment to the already negotiated annexes on sanitary and phytosanitary measures (SPS), technical barriers to trade (TBT) and trade facilitation mechanisms and introducing a simplified and harmonized trade regime, especially for cross-border agricultural trade like the Common Market for Eastern and Southern Africa (COMESA) simplified trade regime.
- Ensure that the AfCFTA contains additional trade related provisions that promote sustainable agricultural production in response to climate change. The adoption of organic farming, for example, which not only preserves the environment, also brings high returns on organic produce, as it fetches a premium in international markets and makes a compelling case for inclusion of such provisions.
- Create an enabling environment for greater cooperation among governments, private sector, international development organizations and other stakeholders on mobilizing financial resources to implement the transition towards sustainable agricultural development at the AU level. Such resources can be used for example, in capacity building, research, and development as well as for investment in improved agricultural technologies in line with the goals and objectives of the AfCFTA. Food security concerns and an agricultural trade liberalization debate has been ongoing since the GATT era. The impact on African food security and small-scale rural farmers of trade liberalization under the AfCFTA and other arrangements like EPAs is a subject which requires more detailed analysis beyond the narrow confines of climate change that are explored in this paper. To address food security concerns, within the AfCF-TA Protocol on Trade in Goods, there are four provisions (Annex 9 of the Protocol), dealing with Anti-dumping and Countervailing Measures, Global Safeguard Measures, Preferential Safeguards and Cooperation among the State Parties. Beyond this, at the national and regional levels, member states are challenged to continue to find sustainable ways to both incentivize domestic food production and investment. This includes a gradual shift to more commercial approaches to agriculture, mechanisms to improve prices and price stability of food crops, better organization of rural farmers and so on. Already, sub-sectors like horticulture, that have a quick financial turnaround have proved attractive to youth entering agriculture and this should be encouraged. These are areas where the support of development partners and non-governmental organizations is invaluable, while also helping to support climate adaptation of agriculture through investments like irrigation and improved seed varieties.

4. Services, the AfCFTA and climate change

The service sector has emerged as a key driver of global trade and national economic transformation. This is because services such as business services, engineering, communications, transport, logistics, informatics and financial services are integral to value chain competitiveness in different sectors of the economy. The service sector is the fastest growing sector producing more than two-thirds of economic output and jobs, while attracting nearly two-thirds of Foreign Direct Investment (FDI). The value of commercial service exports has expanded at three times the rate (three percent) of merchandise exports. According to the WTO, services could account for nearly one-third of world trade by 2040. In 2019, services accounted for about 55 percent of Africa's GDP and 75 percent of FDI to the continent, while the share of services in Africa's trade stood at 22 percent in 2016. Globally, however, Africa accounted for only three percent of the world's total service imports and two percent of the world's total exports of services. This is even as African service exports are dominated by travel (42 percent) while service exports are more diversified in developed economies across financial, business, insurance or intellectual property services.

Services are critical for economic diversification and have allowed some developing countries to partially circumvent the industrialization phase and 'leapfrog' from agriculture to higher value-added services. Service industries offer many advantages. For example, they are generally less capital-intensive compared to manufacturing and mining. They offer greater mobility, are more accessible for female workers and require less capital to start up. The fourth industrial revolution has ushered in a digital economy which underpins a service-intensive economy. While agriculture continues to be the main source of employment for Africans in countries such as Angola, Botswana, Cabo Verde, Djibouti, Eswatini, Mauritius, Namibia, São Tomé and Príncipe and South Africa, the service sector employs more than 60 percent of the working population.

In terms of climate change, services are also generally "cleaner" compared to other economic activities like manufacturing and mining. Africa stands to gain from increasing its ability to participate in the service trade. Commendably, policymakers are already committing to designing service policies that are aimed at increasing regional integration such that the growth of service value chains are thereby facilitated. Five of the eight officially recognized African Regional Economic Communities (RECs) – COMESA, EAC, ECCAS, ECOWAS and SADC – have concluded regional service agreements or policies. These arrangements serve as building blocks for enhancing trade in services under the AfCFTA, and ensuring that intra-African trade in services attain its potential. Generally, the AfCFTA presents a new opportunity to drive trade in services, as it can unlock the investments that the SDGs and a green transition require.

4.1 AfCFTA Service Provisions

Together with various elements of the consolidated text, the Service Protocol to the Af-CFTA Agreement entered into force on May 30, 2019. Negotiations are underway to develop a schedule of sector-specific commitments that will see each country remove market access restrictions towards boosting intra-African trade in services. At a July 2018 Summit, the Assembly adopted five priority service sectors where initial commitments should be made by 2022. These sectors, that are five out of twelve on the WTO Services Sector Classification List, include the business, communication, financial, tourism, travel, and transport services. Commitments on the remaining seven sectors of construction, education, health and social, recreational, and cultural, distribution, environment, and other services would be submitted in the next phase.

A key step in promoting the link between trade and climate-related services is identifying what those services are (see Annex 2). Thereafter, trade negotiators and policy makers can begin addressing barriers to trade in those services and also initiate policies that can nurture growth in their sub-sectors. It should also be noted that the transition towards climate adaptation and mitigation of greenhouse gas emissions will rely on a diverse range of services that will be met through local and foreign services providers. This will offer opportunities for business services, transport, telecommunications services, construction and related engineering services.

4.2 Addressing barriers to trade in climate-related services under the AfCFTA

Diverse barriers impact the growth of trade in services. These include opaque regulatory regimes as well as financial, economic, institutional, political and technical barriers. Market access may also be impeded by barriers stemming from monopolistic or oligopolistic tendencies in markets, and policy distortions caused by discriminatory subsidies. AfCFTA negotiators must address these issues while paying attention to the climate problem and to the transition to green growth. Developed country partners can assist with the reform process by helping African countries to address restrictions that inhibit investments into some of these service sectors. The growth and investment into African mobile and ICT services is instructive and may point to the need for greater privatization and/or commercialisation of some climate-related services to attract private investment, for example. Sub-sectors such as waste collection may also create opportunities for green technology and skills transfer.

Trade barriers that may affect climate-related services, and which must be addressed under the AfCFTA, are observed in the form of investment restrictions like foreign equity limits, legal form, and economic needs tests and in impediments to the temporary movement of service providers as related to quotas, labor market tests and limitations on the duration of stay for foreign providers. Many services related to climate change such as

business services or construction tend to be labor intensive and engage high-skilled personnel. This may present obstacles concerning qualification and licensing, work permits and other immigration and labor market requirements. The AfCFTA should address the above-stated barriers by improving regulatory transparency and market access commitments, especially in services related to the environment and climate change.

4.3 Sustainable trade in energy services

Electricity supply is a key sub-sector of trade in services. Given the major contribution of energy services to greenhouse gas emissions, it is also a critical part of the nexus between services and climate change. Electricity infrastructure projects in Africa have traditionally focused on government procurement because of the scale involved. Increasingly, however, there is interest in creating an enabling environment that allows for devolution and diversification of the energy sector, away from large scale suppliers. Most of the generation, transmission and distribution issues and the related cross-border trade in energy are dealt with outside of the framework of the AfCFTA and fall within the purview of the various regional power pools, through various regional infrastructure master plans and through bilateral and plurilateral infrastructure energy projects. With support from development partners like the International Renewable Energy Agency (IRENA), the respective regional power pools have been assessing and developing prospects for significantly enhancing the share of renewable energy in the generation mix. For example, an early assessment by IRENA for the Southern African Power Pool (SAPP) showed that on the condition that the costs of renewable energy technologies continue to fall while fossil fuel prices increase, the share of the technologies in southern Africa electricity production could increase from 10 percent in 2013 to 46 percent in 2030.3 Such a scenario envisaged roughly 80 percent of new energy capacity between 2010 and 2030 being RE technologies. It further envisaged the development of decentralized renewable energy technology options to develop sufficiently to compete with conventional grid expansion. IRENA's assessment also demonstrated that REs could help reduce the average generation costs by nine percent.

In the debate on climate change and trade in electricity, the Production Processes and Methods (PPMs) for producing the source of energy require critical considerations. Different PPMs have varied impact on climate change mitigation and the environment. Some PPMs that involve fossil fuels may be detrimental while others may be beneficial. Cross-border trade in electricity services raises debates on whether renewable energy and non-renewable energy may be regulated, labelled, or taxed differently, depending on the "likeness" of the product. International trade law prohibits such differentiation where it involves like products and the issue is also subject to the principles of a most-favored nation and national treatment under GATT 1994. To promote renewable energies in pursuit of climate objectives, establishing a framework for making such energy distinctions becomes necessary, basing such different treatment on the modes of production of energy. The issue would involve two basic types of PPMs, namely, product-related PPMs (PR-PPMs); and non-product-related PPMs (NPR-PPMs).

Under the AfCFTA, negotiators may consider services related to the production of electricity from renewable energy sources, or this can be subject to unilateral energy sector reforms by member countries. These include service activities such as site selection and pre-construction surveys, design and engineering of the energy-producing facility, construction, upgrading, operation, or maintenance of the facility over a specific contract period, sales of carbon credits on certified emission reduction (CER) markets and so on.

4.4 Environmental services

Environmental services are a critical part of the green transition for Africa. In its definition of environmental services, it is important for the AfCFTA to go beyond the framework of the WTO's Services Sectoral Classification List (MTN.GNS/W/120) — otherwise known as the W/120 list — around which the AfCFTA service negotiations are crafted. The W/120 was established in 1991 and reflects a now dated delineation of the environmental industry. Environmental services under the AfCFTA include activities such as collection and treatment of wastewater and refuse (solid waste), the collection and management of hazardous and non-hazardous waste, environmental remediation services, sanitation and similar services, noise abatement and other environmental protection services not elsewhere specified. In the procurement of these services, regulations can be crafted in a manner that encourages a balance between liberalization and local participation, for example, by encouraging joint ventures and local content. Liberalization helps encourage competitiveness of local firms, and foreign participants or investors may introduce new environmental technologies, equipment and sustainability processes that can benefit the sub-sector and the broader economy.

To illustrate how trade policy could support climate and environmental sustainability objectives, six-nations—Costa Rica, Fiji, Iceland, New Zealand, Norway and Switzerland—began negotiations on an Agreement on Climate Change, Trade and Sustainability (ACCTS) in 2020. Under the proposed agreement, the participating countries seek to reduce barriers to trade in environmental goods and services, gradually remove their fossil fuel subsidies, and encourage the use of voluntary eco-labelling programs and mechanisms. The agreement is expected to continue evolving in line with changes in the climate agenda. It is unlikely that AfCFTA negotiators would go so far in the service commitments as what is envisaged in the ACCTS. Nevertheless, it does demonstrate a commendable level of ambition that even small-island states are exhibiting to address the trade and climate change nexus.

To successfully monitor progress with the green transition in sectors such as environmental services, it is essential to improve the quality of data collection on service production and trade among African countries. Given the importance of public procurement and local/municipal governments in driving environmental services, it would be useful for development partners to target support for strengthening areas like public financial management and procurement at the municipality level. Strengthening regulatory cooperation,

under the RECs for example, can further help in providing a coordinated approach to adopting international standards and a program of reform for de-carbonization and elimination of fossil fuel subsidies.

4.5 Travel, Transport and Tourism services under the AfCFTA

Freight transportation contributes about eight percent of global CO2 emissions, according to the International Transport Forum and is expected to double its contributions by 2050 due to increasing demand for freight services. Similarly, air transportation, including commercial travel which benefits sectors like tourism services is also a major contributor to emissions. The carbon footprint of domestically produced versus imported foodstuffs is quite complex. The choice of transport mode (air, road, maritime, rail or sometimes multi-modal) and distances travelled are just part of the contribution to CO2 emissions. Also, the product lifecycle and means of production, such as the use of fertilizer, greenhouses and various energy and chemical intensive methods also contribute to emissions and environmental degradation.

Under the AfCFTA, African countries can work to reduce the impact of trade on the environment and strive to meet climate change targets through initiatives that are conducted along Africa's transport corridors. It was recently announced that the Central and Northern Corridors in Eastern Africa aim to reduce greenhouse gas emissions by 20 percent and 15 percent respectively, and using 2020 and 2021 as the baselines. This is a good development; seeing that the Northern Corridor (approximately 2,080 km) is a multimodal trade



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route linking the landlocked countries of the Great Lakes Region with the Kenyan maritime seaport of Mombasa. Similarly, the Central Corridor (approximately 2,170km) links the seaport of Dar es Salaam to the landlocked countries of East Africa. Both routes are crucial arteries for the domestic, regional integration and international trade of the East African countries. They form part of a network of ten major corridors in East Africa with a total length of about 15,000 km.

African tourism is predominantly nature based, and many tourism destinations are at risk from the negative effects of climate change. Wildlife and fauna, that are sources of tourist attractions, are negatively impacted by declining biodiversity and disappearing natural habitats. The shrinking of glaciers on Mount Kilimanjaro and the drying up of transboundary water bodies like the Lake Chad Basin in the Sahelian zone of west-central Africa and Lake Victoria in East Africa are other indicators of the ravaging impacts of climate change on Africa tourism. Tourism facilities in the coastal zones of Mombasa, Kenya, located are furthermore threatened by rising sea-levels. In Senegal, coastal erosion has already led to hotel closures. Nevertheless, the tourism sector is ideally placed for a mix of both private and public sector initiatives in tourism accommodations and activities, to address climate change in the construction and operation of tourism accommodation and activities. Such initiatives can be targeted at reducing waste, increasing recycling, and using renewable energy.

4.6 Recommendations and points for policy consideration

- Policymakers should recognize that the supply of services is being impacted by climate change and that services will play a key role in Africa's green transition as technological advancement and digitalization continue to create new opportunities in trade and services. In drafting commitments on service liberalization under the AfCFTA and in developing sector regulations as part of on-going service sector reforms, environmental services should be increasingly incorporated towards encouraging investments in the environmental service sub-sector. Given the tendency of environmental services to be politically sensitive, this must be done in a balanced manner that ensures local participation.
- For success, environmental service development should be underpinned by carefully designed policies. Development partners can play a useful role in providing expertise, lessons learned, best practices and resources for the crafting and implementation of environmental service strategies.
- The above sections identified various key services that are relevant for the green transition under the AfCFTA. Given the experience with service commitments under the RECs and the GATS, member states might be unlikely to make ambitious commitments on certain sub-sectors such as environmental services. This would likely be out of concerns over safeguarding the policy space.

- There is scope for development partners, the RECs and national policymakers to provide sector-specific support for decarbonization and other climate change strategies for critical service sectors like energy, transport and environmental services.
- Examples like the transport sector highlight how initiatives to support a green transition for trade in services will have the most traction when anchored in regional and national programs. This demonstrates sub-sectors where development partners can also provide targeted support.

5. The role of development partners in supporting environmental sustainability under the AfCFTA

"The average Malian consumes less electricity each year than the average Londoner uses to power their tea kettle. Yet when delegates from Mali, and other poor countries like it, arrive in Glasgow for COP26 next month, the expectation will be for them to do everything they can to stop their emissions from rising."

David Pilling, Financial Times, 7 October 2021

The preceding discussion has highlighted that there is consensus among African countries on the importance of addressing climate change and the need for a shift towards more sustainable economic development and trade under the AfCFTA. Although the sequencing and timing of the transition are also important, the major obstacles to these movements are the costs of financing the green transition and the decarbonization of key sectors like energy, transport, and manufacturing. The United Nations Framework Convention of Climate Change (UNFCC) estimates that Africa has a USD2.3 trillion investment gap in its core infrastructure across six key sectors: namely, electricity, transport, building, industry, low emissions fuels, agriculture and forestry, which must be addressed if Africa wants to meet its climate goals by 2030. A potential source of funding is private investment. The UN Race to Zero and the Glasgow Financial Alliance for Net Zero (GFANZ) supported by Vivid Economics estimate that 70 percent of the direct investment globally could come from private investors. Another potential source of finance is corporate investments. Corporate investors are potentially the biggest investors in decarbonization projects. It is projected that about 40 percent of total investments or USD960 billion annually between 2021-2025 will come from them. Corporate investments would be complemented by various private actors from commercial banks to infrastructure funds, pension funds, development banks, institutional investors, private equity and venture capital, as well as options for blended financing.

It is worth noting that the climate financing is separate from Africa's other infrastructure financing gap of about USD100 billion per annum. Thus, it raises questions and fears of debt, both public and private, and the challenge of developing a sufficient number of bankable green projects, given the limited domestic capacity for project preparation in some African countries. To limit public debt, some capital can flow to privately managed climate projects in sub-sectors such as energy, transport, logistics, agriculture and sustainable and low carbon mining and manufacturing. This initiative will help facilitate investment transactions across multiple countries requiring blended finance structures.

It is important to caution that there is skepticism among African stakeholders as to whether such technological leap frogging under the green transition is possible. Nevertheless, development partners can help facilitate needed investments. Many of Africa's financially constrained economies have deposits (some newly discovered) of fossil fuels such as coal, oil and gas that they are keen to exploit and are a part of their national economic development plans, and this reality must be recognized especially by the major developed partners.

Europe is one key partner financing green investments in Africa. The EU has a domestic policy of eliminating or offsetting its greenhouse gas emissions by 55 percent by 2030 and achieving net zero emissions by 2050. Europe's European Green Deal will have major implications for how the EU will trade with Africa in the medium to long term period. Events like the EU-AU Summit offer an opportunity for a complete overhaul and renewed partnership on climate and energy for the next decade. This can be achieved in part by aligning initiatives like the EU Green Deal (EGD), with the AfCFTA, as well as with African initiatives to address climate like the Great Green Wall.

The USA is also redefining its approach to Africa. The Joe Biden administration has pledged to double aid on climate change for Africa and other developing countries by 2024 to reach USD11.4 billion a year. This amount falls short of what climate activists had been hoping for and is lower than the EU's spending on climate aid in 2019 (USD24.5 billion). The USA has undertaken to invest USD3 billion annually in climate adaptation projects globally by 2024. Its flagship Power Africa initiative will continue to focus on financing the development of African energy infrastructure with a heavy bias for renewable energy. Considering that the USA is the largest source of emissions per capita, it has to do more than the current initiatives to support less resourced African countries to respond to a climate crisis that they did not cause.

Through the Comprehensive Africa Climate Change Initiative (CACCI), which was launched at the United Nations Conference of the Parties (COP26), the US and the AUC have also entered a partnership that will strengthen country-level implementation of NDCs, and NAPs led by African leaders and institutions. According to USAID, the partnership advances the Global Climate Ambition Initiative that was announced by the White House at the U.S.-hosted Leaders' Climate Summit, and will support partner countries in establishing net-zero strategies and strengthening resilience to climate change.

Following from the above-mentioned issues, below are some recommendations to development partners:

i. Channel resources towards national and regional projects

One good way of supporting environmental sustainability and the green transition under the AfCFTA would be to channel resources towards national and regional projects across Africa, including those that are trade specific. While 14 percent of the world's population reside in Africa, just three percent of climate financing flows to Africa, which is additionally home to 7 out of the 10 countries that are most vulnerable to climate change. The major developed countries have fallen short of pledges made in 2006 to raise USD100 billion in climate change and climate adaptation-related financing by 2020. Africa received just 26 percent of climate funding between 2016-2019 (roughly equal to USD5 per person annually), compared to 43 percent for Asian countries. The COVID-19 pandemic has also affected climate finance significantly. African countries are now pushing to mobilize a ten-fold increase in funding by 2030 (to at least USD1.3 trillion), and for a stronger political commitment from developed nations with respect to provide the funding. Some of the funding can be directed towards the implementation of the AfCFTA, by supporting the development of green and blue economy value chains that then promote the environmental agenda and help the continent shift away from high-emission production patterns that are not environmentally sustainable. Such an approach helps to capture the much broader and cross-cutting climate issues confronting African countries.

ii. Increasing availability of climate financing and simplifying procedures for easier access

European development partners should diversify financial instruments (concessional loans), guarantees and grants in ways that promote the financing of Africa's green transition. Institutions such as the European Investment Bank (EIB) are well positioned to invest in helping Africa to leapfrog over fossil fuel-based industrialization towards cleaner sources of energy infrastructure and business models. In 2020, the EIB signed more than EUR5 billion in loans (public and private investments) across Africa. This included the largest ever annual EIB financing for climate action in Africa, with 71 percent financing targeted at fragile states — a new record. The blue economy is a priority for the EIB and the bank is targeting at least EUR5 billion of investments between 2019-2023 under its Blue Sustainable Ocean Strategy. Much of this stake should be invested in Africa as a way of supporting the implementation of the AfCFTA, either directly or indirectly. African countries have expressed frustration at the complexity involved in accessing climate financing. The majority of climate financing flows to middle-income countries like India and Mexico. About 37 percent of the Green Climate Fund's (GCF) resources (the single largest source of global climate financing) flowed to African countries. However, just 22 entities from Africa were accredited to directly access funding from the GCF. This is regrettable, given that national and sub-national institutions are well positioned to best direct GCF resources to local projects and communities that respond to a country's unique climate vulnerabilities and requirements. Some African countries also face a capacity problem and have limited capability to prepare project pipelines for climate financing and effectively coordinate implementation. Capacity building is required to address this challenge.

iii. Align climate initiatives and measures with African realities to avoid counter-productive results

There is a need for the EU to revisit some of its well-intentioned proposals which can be potentially counter-productive to decarbonization efforts such as the Carbon-Border Adjustment Mechanism (CBAM) in its current form. Under the proposal, companies importing iron, steel, aluminium, fertiliser, cement, or electricity into the EU would be required to purchase carbon certificates that reflect the same carbon prices faced by European producers under the EU's emissions trading system. This would require importers of energy-intensive goods to pay a price for environmental damage and could lead to African producers selling into other markets with lower standards, thereby undermining efforts at climate action under the AfCFTA. Moreover, African producers may resist the implementation of higher environmental standards under the AfCFTA because of costs. Similar concerns arise with de-funding of fossil fuel-related projects by development partners and truncated timetables toward net-zero emissions that have challenging implications for African countries with limited resources.

One recommendation would be for the EU to apply special and differential treatment for African export and industries during the green transition, which recognizes the unique and vulnerable position facing the continent and its industries. Such an approach would be consistent with the general pro-development *aquis* of EU-Africa trade and co-operation arrangements like the Economic Partnership Agreements (EPAs). The European Commission's proposal to label gas and nuclear projects as "green" under the sustainable finance taxonomy, provides an opening for increased EU financing for natural gas production in Africa as part of the green transition. Energy and infrastructure financiers like the EIB, are urged to align themselves with this flexibility proposed by the European Commission and raise their emission thresholds to allow for more investments in natural gas in Africa as a necessary "bridge" towards net zero emissions.

iv. Development partners should increase collaboration and partnerships with regional and continental development banks on climate financing

In addition to provision of financing, development partners are encouraged to establish partnerships in developing green value chains, sourcing critical raw materials for environmental goods, and sharing technologies in industries such as those that produce battery electric vehicles. Partnerships will help to align areas of the EGD that impact Africa with the continent's own stated development priorities.

The African Development Bank (AfDB) is an example of an African institution that has been a major player in the development of the AfCFTA and that is expected to be a key partner in the implementation of the agreement. In October 2021, the AfDB and the AfCFTA secretariat agreed to work towards a memorandum of understanding to facilitate effective collaboration, and the Bank has committed to integrating the AfCFTA into its country and regional strategies. The Bank has already mobilized USD12 billion of climate financing to help support improved climate-resilience and low-carbon development in Africa between 2011-2015. It signalled its intention to raise the average spending on climate

support to 40 percent beginning in 2020, up from 26 percent in the previous decade. The Bank is currently implementing the Climate Investment Funds (CIF), an USD8.3 billion multilateral climate finance mechanism, which provides developing countries with grants, concessional loans, and risk mitigation instruments to develop a portfolio of projects in renewable energy, forestry, and climate-resilient development. Initiatives like the CIF provide entry points where African financiers with support from other development partners can integrate climate financing with support for regional trade under the AfCFTA.

v. Invest in innovation centres in collaboration with regional economic communities

Africa has lagged behind other regions in innovation, research, and development (R&D). Although there are commendable achievements in individual countries in stimulating innovation and R&D, there is a great deal more that can be done to help channel financing from development partners into investments in innovation and R&D on green industries, including, in sectors like agriculture where a considerable proportion of the environmentally vulnerable labor force in Africa operate. While solutions such as technology transfer and support from development partners for investments in R&D in Africa are options, in practice this does not occur very often for various reasons. Perhaps given the commercial potential of investments in green industries, there may be better prospects of encouraging both private and public sector cooperation, which includes universities, between developed partners of the EU, USA and Africa. The automatic sector provides a recent example of potential EU-Africa collaboration on R&D building on the foundation of a memorandum of understanding between the parties.

vi Encourage private sector participation from EU and US

International development agencies together with local governments and development banks can jointly encourage private sector participation in climate adaptation and resilience building by developing strategies and products that will incentivize increased private investments. This can be achieved through providing concessional financing, risk mitigation instruments and comprehensive investment plans that clearly outline the strategies, resources required and expected outcomes in addressing climate change. A practical example would be to support the development of "green value chains" involving environmental goods and services. Another example could be for development partners to incentivize the adoption of complementary tools of trade for African producers, such as Voluntary Sustainability Standards (VSS). These incentives could help cover the costs of criteria compliance with VSS and adoption of best practices and tools.

vii Support the inclusion of informal trade and the informal sector into the AfCFTA and climate change discussions

Africa's informal sector has been reported to be the largest in the world. Over 50 percent of economic output and 85 percent of employment in Africa are generated in the informal sector, largely through agriculture and trade. Intra-African trade in goods is estimated at

between 15-18 percent of total trade on the continent. However, limited available statistics and estimates suggest that informal cross-border trade (ICBT), which goes largely unrecorded, constitutes approximately 60 percent of regional trade on the continent, with women accounting for 70 percent of informal cross-border traders.

In Eastern Africa, for example, the Afreximbank estimates that ICBT could be worth as much as 80 percent of the value of formal trade. Despite the prevalence of ICBT in Africa, policy makers and the AfCFTA do not really address the needs of the ICBT. The informal economy and ICBT tend to draw mixed reactions from regulators and policymakers. Some view them as a threat to formal business, while some perceive them as a creative ecosystem and response to the challenges in trade regulation. For example, some RECs have introduced initiatives to support ICBT and remove trade barriers affecting ICBT, such as the simplified trade regions (STR) in the East African Community (EAC) and in the Common Market for Eastern and Southern Africa (COMESA).

For inclusive growth, the trade benefits of the AfCFTA must carefully consider and incorporate ICBT and the climate change challenges that sector faces. The informal economy and informal trade are also largely absent from climate change policy discussions. Increasing quantities of greenhouse gas emissions (GHGs) and pollutants are being generated by the informal economy worldwide. For many African countries, with a large informal sector and ICBT, a green (low carbon) transition under the AfCFTA and various climate-related legislation is difficult. ICBT actors tend to operate beyond the state's regulatory reach and do not fully adhere to environmental regulations.

Evidence suggests that the informal sector and ICBT are fertile ground for innovation on reducing GHGs through small changes in practices and technology, such as the introduction of cleaner and GHG mitigating energy sources.

Policy makers and development partners must factor-in the informal economy and ICBT into climate change mitigation in order to have more inclusive and effective GHG reduction measures. The special challenges and needs of the informal economy and ICBT need to be better understood and must be considered when setting baselines for climate action and play a critical role in climate change mitigation. ICBT have precarious livelihoods and tend to have few or no resources to commit to climate adaptation. Addressing the climate adaptation challenges of informal sector trade requires innovative approaches, as traditional policy responses to climate change may not be feasible.

vii Specific vulnerable regions in Africa require targeted and enhanced climate support

Targeted and enhanced support needs to be directed at regions in Africa that are struggling to take advantage of trade opportunities under the AfCFTA because they are particularly vulnerable to climate change or lack the resources for climate adaptation. These include small island states facing challenges of rising sea levels, which negatively affect their blue economies; countries in the Horn of Africa and Sahel regions confronted by desertification, prolonged droughts and pestilence like locusts that affect agriculture; and

countries in the Great Lakes region and similar regions dealing with sensitive shared water resources. Countries in some of these regions also have large informal sectors and a high share of ICBT that require a nuanced approach to addressing climate issues if they are to participate meaningfully in trade under the AfCFTA.

viii Support the development of Africa's circular economy to help tackle climate change and create opportunities for climate mitigation

An area of low-hanging fruit is development partners supporting the development of Africa's circular economy. There is a clear connection between the circular economy and climate mitigation. The circular economy has evolved from its early objectives of minimizing waste and recycling towards broad-based strategies for ensuring that resource use is more sustainable throughout the product lifecycle. The transition to a circular economy enables resource savings and lower material and resource consumption that in turn reduce GHG emissions and allow for better environmental outcomes while creating opportunities for trade and economic diversification in the process. According to the Stockholm Environment Institute, in the construction services sector alone, circular economy interventions have led to an estimated cut in emissions of about 61 percent. Consequently, the Government of Sweden, for example, has included the circular economy as a key priority in its climate policy action plan.

With Africa's embrace of the circular economy, national trade policies that are pursuant to the AfCFTA should be designed and implemented with an eye to furthering the objectives of the circular economy. This includes greater use of renewable or recovered inputs, minimizing waste and pollution, repair, refurbishment, remanufacturing or recycling as well as sharing and leasing existing assets. The African Circular Economy Alliance, which was launched in 2017, identified five key industries under the African circular economy that could reshape the continent. These include: (i) the water conversion industry, related to agriculture and managing of food waste in organic fertilizer, (ii) plastic water recycling, (iii) promotion of mass timber industries to mitigate / abate emissions from urbanization, industrialization, and electrification, (iv) e-waste recycling and (v) recycling of garments and textiles. All these sub-sectors involve components of services and industry and include both the formal and informal sectors. They are initiatives that development partners could support by assisting with circular economy policy design and implementation, and by building technical expertise within industries that are participating in the circular economy while providing ample financial support. From the AfCFTA perspective, member states could consider adopting incentives that encourage the development of industries, products and trade in the circular economy. The exact nature of what these incentives might look like requires more detailed examination, beyond the limited scope of this paper.

Annex 1: Examples of AUC and selected RECs commitments on Climate

Name of Organisation/ REC	Programme/ Provision	Brief overview and or targets
African Union	Africa Climate Change Strategy	Designed to be a framework to guide actions in member states towards low-carbon emissions development.
		Underscores the development of national climate change and low emissions development strategies across the continent, focusing on issues such as investments for building resilience, capacity building, resource mobilization and nature-based solutions.
African Union	Agenda 2063	The AU member states aspire to establish a prosperous Africa based on inclusive growth and sustainable development.
		Goal 7 of Aspiration 1 aims to put in place measures to sustainably manage the continent's rich biodiversity, forests, land, and waters and using adaptive measures to address climate change risks
African Union	Comprehensive African Agricultural Devel- opment Programme (CAADP)	Through CAADP, African governments agreed to allocate at least 10 percent of national budgets to agriculture and rural development, and to achieve agricultural growth rates of at least six percent per annum. CAADP also supports member states to enhance resilience to climate variability
African Union	Green Recovery Action Plan (2021 – 2027)	To embolden action on five priority areas that include: - (i) improving climate finance, (ii) supporting the just transition to renewable energy, (iii) nature-based solutions and a focus on biodiversity, (iv) resilient agriculture, and (v) green and resilient cities
		Work on the plan is already underway and will continue until 2027.
SADC	Climate Change Adaptation (CCA) Strategy	The main goal of the strategy is to lessen impacts of climate change through adaptive water resource development and management in the Southern African region.
		Recognizes that water issues impact a range of sectors, including energy, health, and agriculture. Likewise, adaptation measures are required at different levels of governance and management oversight.

(Continued)

Name of Organisation/ REC	Programme/ Provision	Brief overview and or targets
ECOWAS	ECOWAS CLIMATE CHANGE PLAN (ECCP)	Aim to contribute towards the achievement of the sustainable development goals of the ECOWAS sub-region by supporting ECOWAS countries to mitigate the impacts of climate change through the deployment of renewable energy and the implementation of energy efficiency measures, while enhancing the social, economic and energy security benefits.
COMESA	COMESA Strategy on Climate Change	Aims to bring about the achievement of the COMESA Vision by building the resilience of the region to the impacts of climate change.
EAC	EAC Climate Change Policy	Aims to guide partner states and other stake-holders on the preparation and implementation of collective measures to address climate change in the region while assuring sustainable social and economic development. The policy is guided by the EAC Climate Change Masterplan and the Climate Change Strategy.
IGAD	IGAD Regional Climate Change Strategy (IRCCS) Drought and Disaster Resilience and Sustainability Initiative	The strategy has identified eight sectoral and cross- sectoral priority areas including: Capacity building for addressing climate change challenges and meeting INDCs, GHG inventories. Strengthening early warning systems; and Data, information, and knowledge management.
CENSAD	There is currently no policy or strategy in place.	CEN-SAD currently has 24 member states aspiring to establish an economic union for the free movement of goods, services, and commodities. It is important to note that all the members of CEN-SAD belong to other RECs such as ECOW-AS, ECCAS and COMESA where climate change policies or strategies exist.

Sources: COMESA; EAC;

Annex 2: Indicative cluster of services related to climate change and the environment

General Environmental services	 Management consulting services Technical testing and analysis services Related scientific and technical consulting services Geographic information system services Interdisciplinary research and experimental development services Solid waste management services Emissions monitoring and control of pollutants in the air Extraction, treatment, and distribution of water services
Business services	 Legal services Architecture Engineering Management consulting Technical testing and analysis Maintenance and repair of equipment Research and development (interdisciplinary) Computer and related services e.g., data processing services
Industry	 R&D and engineering services for heat and power recovery; material recycling and substitution; and process-specific technologies Life-cycle analysis and eco-product design with a focus on energy efficiency and low carbon emissions Energy performance contracting applied to industrial plants (e.g., design and modification of systems to generate additional power, heating or cooling from an existing fuel stream, or to convert to combined heat and power) Maintenance and repair of equipment Wholesale trade services Services incidental to manufacturing, retailing services
Construction and related ed engineering services	 Energy performance contracting applied to commercial buildings Energy performance contracting applied to residential buildings Architectural and engineering services for design and construction of green buildings, passive solar buildings, and zero-emissions buildings Building renovation services (e.g., retrofitting of insulation) Urban planning and landscape architectural services

Transport	 Transport services based on modal shifts from road transport to public transport, on non-motorized transport, or using low carbon vehicles Distribution and transportation services
Infrastructure	 Telecoms services used in connection with "smart grids" (e.g., improved supply and distribution efficiency and fuel switching to low carbon energy sources) Energy management services applied to infrastructure management such as water infrastructure (e.g., valves, pumps, treatment plants) Integrated engineering and project management Real-time data analysis and monitoring Turn-key projects
Energy services	 Services to improve the efficiency of power generation at existing facilities Services incidental to energy distribution
Renewable energy	 R&D services are playing a key role in the current period of development of energy generated from naturally replenished resources Financial services Design and engineering of production facilities Construction of facilities and installation of equipment Operations and maintenance of facilities Training of personnel
Carbon capture and storage (CCS)	 Design, building and operation of facilities R&D services playing a key role in the current period of development of CCS solutions
Services incidental to agriculture, forestry, and logging	 R&D, studies, consulting and training (e.g., focusing on improved crop and grazing land management to increase soil carbon storage) Services incidental to agriculture Research and experimental development services on chemistry and biology R&D, studies, consulting, and training on tree species improvement (to increase biomass productivity and carbon sequestration) Improved remote sensing technologies for analysis of vegetation/soil carbon sequestration potential, mapping land-use change
Education services	Higher education and vocational education services

Source: reproduced from 'Trade in Services Related to Climate Change: An Exploratory Analysis' by Ronald Steenblik and Massimo Geloso Grosso

References

Abebe, Selam K and Charra T Terfassa. 2021. COVID Recovery and Climate Finance. South Africa Institute of International Affairs (SAIIA) Policy Briefings. Available online at https://media.africaportal.org/documents/Policy-Briefing-251-abebe-terfassa.pdf

Abnett, Kate and Susanna Twidale. 2021. EU proposes world's first carbon border tax for some imports. Reuters. Available online at https://www.reuters.com/business/sustainable-business/eu-proposes-worlds-first-carbon-border-tax-some-imports-2021-07-14/

African Business. 2022. Will EU-AU summit reshape Europe-Africa relations? African Business. Available online at https://african.business/2022/02/trade-investment/will-eu-au-summit-reshape-europe-africa-relations/

African Development Bank. 2022. African Development Bank sets course to close infrastructure gap with Board approval of its first public private partnerships strategic framework. African Development Bank. Available online at https://www.afdb.org/en/news-and-events/press-releases/african-development-bank-sets-course-close-infrastructure-gap-board-approval-its-first-public-private-partnerships-strategic-framework-48875

Afreximbank. 2020. African Trade Report 2020: Informal Cross-Border Trade in Africa in the Context of the AfCFTA. Afreximbank. Available online at https://afr-corp-media-prod.s3-eu-west-1.amazonaws.com/afrexim/African-Trade-Report-2020.pdf

AUC. 2022. African leaders push for adequate financial and technical support to address climate change challenges in the lead up to COP27. TradePress, African Union Commission (AUC). Available online at https://au.int/en/pressreleases/20220206/african-leaders-push-adequate-financial-and-technical-support-address-climate

Avendaño, Andrea, Arturo Caballero, Valeria Gozalo and Martín Paz. 2015. Joining the Dots of Informality and Climate Change: A Discussion Paper for Practitioners. Konrad-Adenauer-Stiftung e.V. Available online at https://pir.pe/wp-content/uploads/Informality-and-Climate-Change-Joining-the-dots-of-Informality-.pdf

Beverly, Emily J et al. 2020. Rapid Pleistocene desiccation and the future of Africa's Lake Victoria. Earth and Planetary Science Letters, Volume 530, 115883. Available online at https://bit.ly/3tT70CL

Bouchene, Lyes, Kartik Jayaram, Adam Kendall and Ken Somers. 2021. Africa's Green Manufacturing Crossroads: Choices for a Low-Carbon Industrial Future. McKinsey. Available online at https://www.mckinsey.com/business-functions/sustainability/our-insights/africas-green-manufacturing-crossroads-choices-for-a-low-carbon-industrial-future

Brenton, Paul and Vicky Chemutai. 2021. The Trade and Climate Change Nexus: The Urgency and Opportunities for Developing Countries. World Bank Group. Available online at https://openknowledge.worldbank.org/handle/10986/36294

References 39/₄₆

Brown, M E et al. 2015. Climate Change, Global Food Security, and the U.S. Food System. 146 pages. USDA. Available online at https://www.usda.gov/sites/default/files/documents/CCFS_Executive_Summary.pdf

Brown, Louise and Natalia Alayza. 2021. Why the Green Climate Fund Should Give Developing Countries Greater Direct Access to Finance. World Resources Institute. Available online at https://www.wri.org/insights/why-green-climate-fund-should-give-developing-countries-greater-direct-access-finance

COMESA. 2020. COMESA Strategy on Climate Change 2020-2030. Common Market for East and Southern Africa. Available online at https://fanrpan.org/wp-content/up-loads/2021/05/COMESA-CIMATE-CHANGE-STRATEGY.pdf

De La O Campos, Paula Ana, Chiara Villani, Benjamin Davis and Maya Takagi. 2018. Ending extreme poverty in rural areas — Sustaining livelihoods to leave no one behind. FAO. Available online at https://www.fao.org/3/CA1908EN/ca1908en.pdf

Dalberg, World Economic Forum and African Development Bank. 2021. Five Big Bets for the Circular Economy in Africa. Insight Report. Available online at https://www.afdb.org/en/documents/five-big-bets-circular-economy-africa

DW. 2021. African Nations Miss Out on Climate Funding. DW. Available online at https://www.dw.com/en/african-nations-miss-out-on-climate-funding/a-59787149

EAC. n.d. EAC Climate Change Policy Framework. East African Community Secretariat. Available online at https://www.eac.int/environment/climate-change/eac-climate-change-policy-framework

EC, SADC EPA Agreement, 2016. European Commission, Brussels, Available online at https://trade.ec.europa.eu/doclib/docs/2015/october/tradoc_153915.pdf

EC. n.d. Economic Partnerships, Brussels. Available online at https://ec.europa.eu/trade/policy/countries-and-regions/development/economic-partnerships/

ECA, 2021. Experts call for green trade under the AfCFTA to tackle impacts of climate change. Economic Commission for Africa. Available online at https://www.uneca.org/stories/experts-call-for-green-trade-under-the-afcfta-to-tackle-impacts-of-climate-change

Englund, Mathilda and Karin André. 2021. A circular economy: a tool to bridge climate mitigation and adaptation? Stockholm Environment Institute. Available online at https://www.sei.org/featured/circular-economy-mitigation-and-adaptation/

EPA. 2017. Climate change impacts on agriculture and food systems. Snapshot report, United State Environmental Protection Agency (EPA). Available online at https://19janu-ary2017snapshot.epa.gov/climate-impacts/climate-impacts-agriculture-and-food-supply_. html

Economic and Social Research Council. 2014. Informal economy missing from climate change debate. Wired Gov. Available online at https://www.wired-gov.net/wg/wg-news-1.nsf/0/893FC0937BCCECE380257C9500328928?OpenDocument

References 40/₄₆

International Renewable Energy Agency. 2013. Southern African Power Pool: Planning and Prospects for Renewable Energy. International Renewable Energy Agency. Available online at https://www.irena.org/publications/2013/Jun/Southern-African-Power-Pool-Planning-and-Prospects-for-Renewable-Energy

FAO. 2019. Agriculture and climate change — Challenges and opportunities at the global and local Level — Collaboration on Climate-Smart Agriculture. FAO. Available online at https://www.fao.org/3/CA3204E N/ca3204en.pdf

Farahane, Matias Jaime and Almas Heshmati. 2020. Trade and Economic Growth: Theories and Evidence from the Southern African Development Community, Institute of Labour Economics (IZA). Available online at https://ftp.iza.org/dp13679.pdf

Ighobor, Kingsley. 2020. Digital Trade is the Next Big Thing in Africa: Wamkele Mene, Secretary General, African Continental Free Trade Area Secretariat (AfCFTA). Africa Renewal. Available online at: https://library.au.int/digital-trade-next-big-thing-africa-wamkele-mene-secretary-general-african-continental-free-trade

International Labour Organization. 2018. More than 60 per cent of the world's employed population are in the informal economy. International Labour Organization. Available online at https://bit.ly/3q0IIqx

HKTDC. 2022. AFRICA: AfCFTA Member States Reach Agreement on Rules of Origin. TradePress, HKTDC Research. Available online at https://research.hktdc.com/en/article/OTgyNDYyMTc5

Hund, Kirsten, Daniele La Porta, Fabregas, Thao P Fabregas, Tim Laing, and John Drexhage. 2020. Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition. International Bank for Reconstruction and Development/The World Bank. Available online at https://bit.ly/3ut3pNt

Majune, Socrates, Judy Kiende and Evelyne Kihiu. 2021. Intra-Africa Trade in Services and the Prospects of AfCFTA. 24th Annual Conference on Global Economic Analysis. Available online at https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=6216

Mlaba, Khanyi. 2021. COP26: South Africa Gets \$8.5B Boost to Wean Off Coal Power. Global Citizen. Available online at https://www.globalcitizen.org/en/content/cop26-south-africa-funding-coal-power/

Northern Corridor Transit and Transport Coordination Authority. 2021. Member States adopt the Greenhouse Gas Emissions Estimation Model. The Northern Corridor Digest. Available online at http://www.ttcanc.org/documents/Northern_Corridor_DIGEST_Issue_No2_March2021.pdf

Nordås, Hildegunn K and Ronald Steenblik. 2021. Trade in Environmental Services: The Quiet Revolution. Council on Economic Policies. Available online at https://www.cepweb.org/trade-in-environmental-services-the-quiet-revolution/

References 41/₄₆

OCHA. 2020. The African Continental Free Trade Area Agreement and agricultural development: challenges and prospects. United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA). Available online at https://reliefweb.int/report/world/african-continental-free-trade-area-agreement-and-agricultural-development-challenges

Olafuyi, Mariam. 2019. The Informal Economy and the African Continental Free Trade Agreement: Making Trade Work for the Often Overlooked. Afronomicslaw. Available online at https://www.afronomicslaw.org/2019/01/10/the-informal-economy-and-the-african-continental-free-trade-agreement-making-trade-work-for-the-often-overlooked

Oxfam. 2020. Average Brit will emit more by 12 January than residents of seven African countries do in a year. Oxfam. Available online at https://oxfamapps.org/media/press_release/average-brit-will-emit-more-by-12-january-than-residents-of-seven-african-countries-do-in-a-year/

Pilling, David. 2021. Can African Countries Prosper by Going Green? Financial Times. Available online at https://www.ft.com/content/aac449c1-5414-4692-909b-59b780d61fe9

Reinsch, William A, Emily Benson and Catherine Puga. 2021. Environmental Goods Agreement: A New Frontier or an Old Stalemate? Center for Strategic and International Studies. Available online at https://www.csis.org/analysis/environmental-goods-agreement-new-frontier-or-old-stalemate

Sauvage, Jehan and Christina Timiliotis. 2017. Trade in Services Related to the Environment. 0ECD Trade and Environment Working Papers 2017/02. Available online at https://www.oecd-ilibrary.org/trade/trade-in-services-related-to-the-environment_dc99bf2b-en

Savvidou, Georgia and Christopher Trisos. 2021. This is how much Investment is Needed to Mitigate Climate Change Across Africa. World Economic Forum. Available online at https://www.weforum.org/agenda/2021/10/five-finance-climate-adaptation-africa-falls-short/

SDG and SDSN. 2020. Africa SDG Index and Dashboards Report 2020. Kigali and New York: Sustainable Development Goals (SDG) Centre for Africa and Sustainable Development Solutions Network (SDSN). Available online at https://s3.amazonaws.com/sustainabledevelopment.report/2020/2020_africa_index_and_dashboards.pdf

Sengupta, Somini and Rick Gladstone. 2021. Biden Vows to Double Aid on Climate Change, One of the Key Issues Facing Leaders. New York Times. Available online at https://www.nytimes.com/2021/09/21/climate/climate-biden-un-general-assembly.html

Sembene, Daouda and Hanna Brown. 2021. Financing Opportunities and Challenges for Africa's Informal Sector. Center for Global Development. Available online at https://www.cgdev.org/blog/financing-opportunities-and-challenges-africas-informal-sector

Signé, Landry and Chelsea Johnson. 2018. The potential of manufacturing and industrialization in Africa – Trends, opportunities, and strategies. Brookings Africa Growth

References 42/₄₆

Initiative. Available online at https://www.brookings.edu/wp-content/uploads/2018/09/Manufacturing-and-Industrialization-in-Africa-Signe-20180921.pdf

Somorin, Olufunso, Muthoni Nduhiu and Robert Ochieng. 2021. Financing Adaptation in Africa: The Key to Sustainable Development? SAIIA Policy Briefing No 250, October 2021, South Africa Institute of International Affairs. Available online at https://media.africaportal.org/documents/Policy-Briefing-250-somorin-nduhiu-ochieng.pdf

Songwe, Vera. 2019. Intra-African trade: A path to economic diversification and inclusion, in Boosting Trade and Investment: A New Agenda for Regional and International Engagement. Brookings Institution. Available online at https://www.brookings.edu/research/intra-african-trade-a-path-to-economic-diversification-and-inclusion/

South Centre, 2007. Trade Liberalisation and the Difficult Shift Towards Reciprocity. Fact Sheet No.3, South Centre. Available online at https://www.southcentre.int/wp-content/uploads/2013/08/AN_EPA3_Trade-Liberalisation-and-Reciprocity-in-EPAs_EN.pdf

Steenblik, Ronald and Massimo Geloso Grosso. 2011. Trade in Services Related to Climate Change: An Exploratory Analysis. OECD Trade and Environment Working Papers. Available online at https://www.oecd-ilibrary.org/trade/trade-in-services-related-to-climate-change_5kgc5wtd9rzw-en

Steinfatt, Karsten. 2020. Trade Policies for a Circular Economy: What Can We Learn From WTO Experience? World Trade Organization Staff Working Papers. Available online at https://www.econstor.eu/handle/10419/222561

Stuart, John. 2019. Services Are the New Economy. Trade Law Centre for Southern Africa. Tralac. Available online at https://www.tralac.org/blog/article/14295-services-are-the-new-economy.html

Szirmai, Adam, Wim Naudé, and Ludovico Alcorta. 2013. Pathways to Industrialization in the Twenty-First Century: New Challenges and Emerging Paradigms. WIDER Studies in Development Economics. Oxford: Oxford University Press. Available online at https://oxford.universitypressscholarship.com/view/10.1093/acprof:oso/9780199667857.001.0001/acprof-9780199667857

Tafirenyika, Masimba. 2016. Why has Africa failed to industrialize? Africa Renewal: August - November 2016. United Nations. Available online at https://www.un.org/africarenewal/magazine/august-2016/why-has-africa-failed-industrialize

The Economist, 2021. What is the European Green Deal? The Economist. Available online at https://www.economist.com/the-economist-explains/2021/06/01/what-is-the-european-green-deal

Transport Day. 2022. Africa Automotive Associations Sign Historic MOU With Europe. Transport Day. Available online at https://transportday.com.ng/africa-automotive-associations-sign-historic-mou-with-europe/?utm_source=rss&utm_medium=rss&utm_campaign=africa-automotive-associations-sign-historic-mou-with-europe

References 43/₄₆

Triki, Chema and Jonathan Said. 2021. Maximising the Green Path to Industrialisation in Africa. Tony Blair Institute for Global Change. Available online at https://institute.global/advisory/maximising-green-path-industrialisation-africa

UN. 2020. Climate Change Around the World: A View From The UN Regional Commissions. UN Chronicle. Available online at https://www.un.org/en/chronicle/article/climate-change-around-world-view-un-regional-commissions

UNCTAD. 2014. The role of international trade in the post-2015 development agenda, United Nations Conference on Trade and Development. Available online at https://unctad.org/system/files/official-document/cid33_en.pdf

UNCTAD. 2016. Trading into Sustainable Development: Trade, Market Access, and the Sustainable Development Goals. United Nations Conference on Trade And Development. Available online at https://unctad.org/system/files/official-document/ditctab2015d3_en.pdf

UNCTAD. 2019. Economic Development in Africa Report 2019: Made in Africa: Rules of Origin for Enhanced Intra-African Trade. United Nations Conference on Trade And Development. Available online at https://unctad.org/system/files/official-document/edar2019_en_ch5.pdf

UNCTAD. 2019. Mission to unlock Africa's services sector. United Nations Conference on Trade and Development. Available online at https://unctad.org/news/mission-unlock-africas-services-sector

UNCTAD. 2021. Implications of the African Continental Free Trade Area for Trade and Biodiversity: Policy and Regulatory Recommendations. United Nations Conference on Trade and Development. Available online at https://unctad.org/system/files/official-document/ditctedinf2021d3_en.pdf

UNCTAD. 2021. Trade and Development Report 2021. From Recovery To Resilience: The Development Dimension. United Nations Conference on Trade and Development. Available online at https://unctad.org/webflyer/trade-and-development-report-2021

USAID. 2021. USAID announces New Partnership with African Union Commission to reach Paris Agreement Goals in Africa. United States Agency for International Development. Available online at https://www.usaid.gov/news-information/press-releases/nov-8-2021-usaid-announces-new-partnership-african-union-commission-reach-paris-agreement-goals

Usman, Zainab, Olumide Abimbola and Imeh Ituen. 2021. What Does the European Green Deal Mean for Africa? Carnegie Endowment for International Peace. Available online at https://carnegieendowment.org/2021/10/18/what-does-european-green-deal-mean-for-africa-pub-85570

Walsh, Gareth et al. 2021. A Just Transition for Africa: Championing a Fair and Prosperous Pathway to Net Zero. Tony Blair Institute for Global Change. Available online at https://institute.global/advisory/just-transition-africa-championing-fair-and-prosperous-pathway-net-zero

References 44/₄₆

White, Tamara. 2021. Africa Proposes Expanding and Tracking Climate Finance. Brookings, Africa in Focus. Available online at https://www.brookings.edu/blog/africa-in-focus/2021/10/23/africa-in-the-news-energy-and-climate-finance-updates-mozambiques-debt-write-off-and-us-covid-19-vaccine-donation/

WMO. 2020. State of the Climate in Africa 2019, WMO-No. 1253. World Meteorological Organization. Available online at https://library.wmo.int/index.php?lvl=notice_display&id=21778#.Yi4NEXrMLIU

World Bank. World Integrated Trade Solution. Available online at https://wits.worldbank.org/

World Bank. 2020. The African Continental Free Trade Area: Economic and Distributional Effects. World Bank. Available online at https://openknowledge.worldbank.org/handle/10986/34139

World Trade Organization. 2020. World Trade Report 2019: The Future of Services Trade. World Trade Organization. Available online at https://www.wto.org/english/res_e/publications_e/wtr19_e.htm

References 45/₄₆

Imprint

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Place of publication: https://us.boell.org/ https://afripoli.org/

Release date: May 2022

Layout: Saravanan Ponnaiyan, Chennai, India

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