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West Africa and the Global Climate Agenda

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WEST AFRICA AND THE GLOBAL CLIMATE AGENDA

This paper has been prepared by

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WEST AFRICAN PAPERS

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Abstract

COP27 will return to Africa for the first time since 2016 to follow up on the promises made in Glasgow in 2021 to limit global temperatures to well below 2°C by the end of the century as committed under the Paris Agreement. Nationally determined contributions (NDCs) enable each country to pursue a tailored approach under the Paris Agreement, with countries setting their own mitigation and adaptation targets with the aim of increasing ambition with each subsequent submission. This report analyses the NDCs of 17 countries in West Africa on some of the pressing issues to be discussed at COP27, namely the ambition of targets in NDCs, the financing needs related to NDCs and their implementation. The objective of this report is two-fold: to inform COP participants where the region stands on these matters, and to identify opportunities for the region in updating NDCs.

Key words:

National determined contributions, Paris Agreement, COP 27, Global Climate Agenda, West Africa, climate finance, mitigation targets, UNFCCC

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The Sahel and West Africa Club

The Sahel and West Africa Club (SWAC) is an independent international platform. Its Secretariat is hosted at the Organisation for Economic Co-operation and Development (OECD).

Its mission is to promote regional policies that will improve the economic and social well being of the people in the Sahel and West Africa. Its objectives are to produce and collect data, draft analyses and facilitate strategic dialogue in order to nurture and promote public policies in line with rapid developments in the region. It also promotes regional co-operation as a tool for sustainable development and stability. Its current areas of work are food dynamics, cities and territories, and security. SWAC Members and partners include: Austria, Belgium, Canada, CILSS (Permanent Interstate Committee for Drought Control in the Sahel), the ECOWAS (Economic Community of West African States) Commission, the European Commission, France, Luxembourg, the Netherlands, Switzerland, the UEMOA (West African Economic and Monetary Union) Commission and the United States. SWAC has a memorandum of understanding with the University of Florida Sahel Research Group.

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Table of contents

INTRODUCTION: LOOKING AHEAD TO COP27	6
WEST AFRICA'S NDCS SET AMBITIOUS TARGETS	9
Substantial emissions reductions are possible.....	9
Steps towards sectoral targets.....	12
Challenges of counterfactual scenarios: Improving NDC targets.....	13
Takeaways for COP27 with respect to ambition.....	14
CLIMATE FINANCE FALLS SHORT OF NEEDS IN WEST AFRICAN NDCS	15
Finance likely too little, too late for West African countries to reach targets.....	15
Financial needs in light of COP27.....	20
IMPLEMENTING NDCS: LIMITED CITY INVOLVEMENT	21
Laying the foundations for horizontal integration in NDCs.....	22
Very few signs of vertical integration: Forgotten cities.....	24
Looking ahead to COP27: Implementation.....	26
CONCLUDING REMARKS	26
NOTE	28
REFERENCES	28
ANNEX A. METHODOLOGY	30
ANNEX B. SECTORAL TARGETS	33
ANNEX C. TECHNOLOGICAL NEEDS	39
FIGURES	
Figure 1. Percent of total financing requested in NDCs per West African country.....	17
Figure 2. Amount of USD 100 billion target allocated to West African countries.....	18

Introduction: Looking ahead to COP27

The Paris Agreement provides a framework for multilateral co-operation on climate change mitigation. It aims to limit “the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels taking into account the specific national conditions,” (UNFCCC, 2015_[1]). Staying well below 2°C means all countries must pursue an economic transformation, which carries far-reaching implications for society. Each country, however, faces its own conditions and constraints ahead of this transition, which is why the Paris Agreement guides signatories to tailor their approach to mitigation in line with national circumstances while collectively contributing to the international commitment of below 2°C. One such tool for countries is the nationally determined contribution (NDC), which is a country’s self-determined mitigation effort (UNFCCC, 2015_[1]). Current NDCs specify contributions from 2020 to 2025 or 2030, and countries should increase ambition in subsequent submissions. Every year, countries meet at the Conference of the Parties (COP) to track progress and identify next steps.

COP27 will return the annual meeting to Africa for the first time since 2016. In Egypt, leaders must deliver on promises made in Glasgow in 2021 (UNFCCC, 2021_[2]). Some of these relate to the ambition of NDCs, the financing of targets in NDCs, and the move from targets to implementation, which will be the focus of this report.

- **Ambition:** Updated NDC targets in 2021 fell short of being on track to meet the Paris Agreement goal. Commitments would, at most, limit global warming to 2.4°C (Masood and Tollefson, 2021_[3]). Therefore, the Glasgow Climate Pact urged countries to “revisit and strengthen” their 2030 NDC targets by the end of 2022 (UNFCCC, 2021_[2]). Throughout 2022, non-state and state actors, such as former Executive Secretary Patricia Espinosa of the United Nations Framework Convention on Climate Change (UNFCCC) (UNFCCC, 2022_[4]) and the European Union (Abnett, 2022_[5]), have urged signatories to toughen climate pledges. The Egyptian Environment Minister, Dr Yasmine Fouad, has stated that COP27 will “discuss with all the emitters, whether they are the big emitters or the least emitters, on how they can each deliver on the Paris Agreement” (Seabrook, 2022_[4]).

- **Finance:** The Glasgow Climate Pact also reiterated developed countries' responsibilities to meet their pledge of USD 100 billion per year in climate finance to developing countries, in order to help these countries implement the objectives of the UNFCCC, including the NDCs under the Paris Agreement (UNFCCC, 2021_[2]). In turn, developing countries frequently specify financing needs in their NDCs to meet mitigation and adaptation targets, although this is not required. Developed countries committed USD 100 billion per year in 2009 at Copenhagen and then reaffirmed this in 2015 in the Paris Agreement, with the ambition to provide this sum, in total, by 2020 and maintain this contribution annually until 2025. This target, however, has yet to be met (OECD, 2022_[5]). Climate finance has always been a contentious topic in the UNFCCC process. Nevertheless, Egyptian Foreign Minister and COP27 President Samee Hassan Shoukry promised the upcoming summit would mobilise finance for mitigation and adaptation (International Energy Forum, 2022_[6]).
- **Implementation:** Rania Al Mashat, Egypt's Minister for International Co-operation, stated: "For us, what we want this COP[27] to be about is moving from pledges to implementation. And we want to highlight what are the practical policies and practices, the processes that can actually push the pledges [into action], to bridge that gap" (Harvey, 2022_[8]). In other words, COP27 is supposed to take steps to translate NDCs into action. The Paris Agreement explicitly recognises the role of non-state actors (e.g. civil society, the private sector, financial institutions, cities and other subnational authorities, local communities and indigenous peoples) to implement climate action (UNFCCC, 2015_[1]), alongside a whole-of-government approach, across ministries and sectors (OECD, 2017_[10]; OECD, 2018_[11]).

COP27 has been nicknamed the "African COP" (The Commonwealth, 2022_[12]). Often, however, Africa is perceived as having no—or very limited—agency at these meetings, as noted by Saleim Fakir, the Executive Director of the African Climate Foundation (Fakir, 2022_[9]). Nevertheless, Africa could play a vital role in the global response to climate change, for example, because of its ecological and mineral wealth, especially if financial and governance challenges could be overcome (Mo Ibrahim Foundation, 2022_[14]). Ahead of COP27, this report analyses the 17 NDCs of West African countries to understand the region's ambition, financing needs and potential to implement their NDCs. The analysis identifies key takeaways for attendees of COP27 as well as key considerations for West African countries when revising their NDCs.

- All West African countries strengthened targets since their first NDC submission, and 15 out of the 17 outlined economy-wide targets, as encouraged under the Paris Agreement. West African countries increased their ambitions by either expanding the scope of greenhouse gases (GHGs) or sectors covered, improved monitoring, reporting and verification, enhancing the quality of the data underlying projections,

or even raising mitigation targets. Back-of-the-envelope calculations suggest significant potential for the region to reduce emissions, especially with additional financial and technical resources. Moving forward, the region could boost the credibility of targets in future updates by enhancing the transparency of the models used to calculate these, as done in Benin, Ghana, Guinea, Liberia and Togo. To do so, however, several countries in the region have expressed the need for capacity building and better-quality data.

- So far, mobilised finance (under the Paris Agreement), has fallen short of the specified needs in the region's NDCs. West African NDCs state USD 221.2 to 279.7 billion is needed for mitigation and USD 61.4 to 88.8 billion for adaptation by 2030. So far, only USD 83.3 billion of the USD 100 billion commitment was provided and mobilised by developed countries in 2020. According to OECD estimates, the 17 West African countries received less than USD 6 million in 2020, meaning that the "100 billion" is unlikely to meet the region's needs. However, it is not only a matter of the total finance provided and mobilised, but the inability of these countries to access it, especially through private finance. This obstacle will need to be surmounted since nearly all the NDCs of the region mention the private sector as a potential source of finance to reach NDC targets. Mechanisms to access climate funds need to consider the challenges faced by these countries with limited capacity to navigate the complex and highly technical processes for securing funding.
- With respect to the ability of countries in the region to implement NDCs, all 17 countries show signs of horizontal co-ordination at the national level (e.g. inter-ministerial co-operation), but there is rarely any mention of sub-national actors (e.g. limited vertical integration), even though this is explicitly mentioned in the Paris Agreement. This oversight is problematic because of the rapid urbanisation sweeping across the continent, which without any consideration of climate objectives, runs the risk of creating cities that lock in emissions for decades to come. Therefore, exploring ways to involve local actors in the implementation of the Paris Agreement will be essential not only for West Africa but across the continent.
- This report outlines each of these issues, in turn, and ends each section with key takeaways for attendees of COP27 and countries in West Africa.

West Africa's NDCs set ambitious targets

The Glasgow Climate Pact urges countries to “revisit and strengthen” their 2030 targets by the end of 2022 (UNFCCC, 2021_[2]). This section overviews the state of targets in West African countries’ NDCs as of today, in order to inform deliberations in Egypt. All West African countries amplified the ambition of targets since their *first* submission to the UNFCCC under the Paris Agreement. This is in contrast to other signatories, including major emitting countries such as Brazil, whose subsequent submissions show weakened ambition (Climate Action Tracker, 2022_[15]). Since the first submission, West African countries have expanded the scope of GHGs or sectors covered (e.g., Gambia, Côte d’Ivoire, Liberia), improved monitoring, reporting and verification (e.g. Côte d’Ivoire), enhanced the quality of the data underlying projections (e.g. Guinea and Togo), and even raised mitigation targets (e.g., Guinea-Bissau, Togo and Liberia) (UNFCCC, 2022_[18]). Yet, the credibility of these commitments may be questioned since the transparency behind these targets varies substantially across NDCs. Those with relatively scant information, in turn, may find it difficult to acquire financing or the needed technologies for mitigation. Increased transparency in future revisions would enrich the understanding, credibility and transparency of targets. To do this, however, several countries have mentioned repeatedly in their NDCs the need for better quality data and capacity building.

SUBSTANTIAL EMISSIONS REDUCTIONS ARE POSSIBLE

Almost all of the submitted NDCs have unconditional and conditional economy-wide targets (i.e. meaning the target covers all sectors), except for Mali and Niger which only set sectoral targets (UNFCCC, 2022_[18]). An unconditional target is one that a country can reach with their own resources, whilst a conditional target requires international support of some kind (e.g. financing). Even setting targets is an ambitious step for the region since the Paris Agreement does not require developing countries to do so, stating that “developed country Parties should continue taking the lead by undertaking economy-wide absolute emission reduction targets. Developing country Parties should continue enhancing their mitigation efforts and are encouraged to move over time towards economy-wide emission reduction or limitation targets in the light of different national circumstances,” (UNFCCC, 2015_[1]).

Table 1 lists the targets exactly as written in NDCs, which is why units and timelines differ. All countries, however, set relative targets against a

counterfactual scenario, e.g., Business-as-Usual (BAU), a common practice especially in the first round of submissions (Vaidyula and Hood, 2018^[19]). A counterfactual scenario estimates future emissions in the absence of mitigation. A handful specify absolute targets against a counterfactual scenario (e.g. 9965.96 GgCO₂e below projected 2030 levels) such as in Benin, Burkina Faso, Côte d'Ivoire and Ghana. The remainder set targets in percentage terms (e.g. 18% below BAU). The ambition of conditional targets increases substantially compared to unconditional ones. In other words, countries feel that they can reduce more with more resources. Cabo Verde nearly doubles its reduction commitment whilst Guinea quadruples its commitment. What is uncertain is exactly which additional resources would be needed to reach these conditional targets, since the link to financing or technological needs is often unclear.

Table 1. Emissions reduction targets in West Africa as stated in NDCs

	Unconditional	Conditional
Benin	27.95 MtCO ₂ e (excluding LULUCF) cumulatively compared to BAU over 2021 to 2030	48.75 MtCO ₂ e (excluding LULUCF) cumulatively compared to BAU over 2021 to 2030 (approximately 20.15 %)
Burkina Faso	2025: 9965.96 GgCO ₂ e 2030: 21074.94 GgCO ₂ e 2050: 28803.78 GgCO ₂ e	2025: 15028.51 GgCO ₂ e 2030: 31632.85 GgCO ₂ e 2050: 63674.43 GgCO ₂ e
Cabo Verde	2030: 18% below BAU 2050: decarbonized economy	2030: 24% below BAU
Chad	2030: 0.5% reduction of emissions	2030: 19.3% of emission reduction
Côte d'Ivoire	2030: 37 MtCO ₂ e GHG reductions	120 MtCO ₂ e GHG reductions
Gambia	2030: 2.6% below BAU	2030: 49.7% below BAU 2050: Net-zero
Ghana	2025: 8.5 MtCO ₂ e 2030: 24.6 MtCO ₂ e	2025: 16.7 MtCO ₂ e 2030: 39.4 MtCO ₂ e
Guinea	2030: 9.7% compared to the trend scenario On land use and forestry, 20% of gross emissions reduction in 2030 compared to the trend scenario.	2030: 17.0% compared to the trend scenario On land use and forestry, 49% compared to the trend scenario.
Guinea-Bissau	2030: 10% below BAU	2030: 30% below BAU
Liberia	2030: 10% reduction	2030: 64% reduction
Mali	By 2030: 31% below the energy sector's BAU 25% below the agriculture sector's BAU 39% for land use and forestry BAU 31% for waste sector's BAU	NA
Mauritania	11% from BAU, 1834 GgCO ₂ e in 2030	92% reduction from BAU, 16008 GgEq-CO ₂ in 2030
Niger	For agriculture and forestry: reductions of 4.50% (2025) from BAU reductions of 12.57% (2030) from BAU For energy: reductions of 11.20% (2025) from BAU reductions of 10.60% (2030) from BAU	For agriculture and forestry: reductions of 14.60% (2025) from BAU reductions of 22.75% (2030) from BAU For energy: reductions of 48% (2025) from BAU reductions of 45% (2030) from BAU

Table 1. Emissions reduction targets in West Africa as stated in NDCs (Cont.)

Nigeria	2030: 20% CO ₂ e 2050: Halving current GHG emissions in 2020	2030: 47% CO ₂ e
Senegal	2025: 5% below BAU 2030: 7% below BAU	2025: 23% below BAU 2030: 29% below BAU
Sierra Leone	2025: 5% below BAU 2030: 10% below BAU 2050: 25% below BAU	"Depending on available financial support, Sierra Leone is committed to enhance its mitigation efforts beyond"
Togo	2030: 20.51% below BAU 27.95 MtCO ₂ e (excluding LULUCF)	Additional reduction of 30.06% in GHG emissions by 2030 2030: 48.75 MtCO ₂ e (excluding LULUCF)

Note: Countries use different units: Gg means Gigagrams and Mt means Mega tonnes. CO₂e means CO₂-equivalent is a unit of measurement that standardises the effects of different gases, in terms of CO₂. LULUCF refer Land Use and Land Use Change from Forestry.

Source: The target for each country is from the latest NDC submitted to the UNFCCC NDC Registry (UNFCCC, 2022_[16]).

It is difficult to decipher the potential emissions reductions from Table 1 as every country estimates the counterfactual scenario differently and, at times, the assumptions behind these estimates are unclear. This paper uses the Kaya Identity to project emissions and then uses countries' NDC targets in Table 1 for a back-of-the-envelope calculation to estimate potential total reductions in 2030. The Kaya Identity is a mathematical equation that estimates emissions from gross domestic product (GDP), population, the energy intensity of GDP, and the carbon intensity of energy. It is important to recognise that this analysis is an indicative estimate to calculate potential reductions in the region, as a whole.

Back-of-the-envelope calculations indicate that if West African countries¹ met unconditional NDC targets for 2030 (i.e. targets that can be met without any additional resources), they could reduce approximately **136.7 MtCO₂e in 2030** (excluding Land Use and Land Use Change from Forestry, LULUCF) when compared to a business-as-usual scenario (projected using the Kaya Identity). To put this into perspective, it is about the same as removing 29 million passenger vehicles from the road for one year, equivalent to all the cars in France (the average passenger vehicle emits 4.3 tons per year). If conditional targets in NDCs were met by West African countries—i.e., those where countries need additional resources—back-of-the-envelope calculations estimate reductions of **approximately 340 MtCO₂e in 2030** (excluding LULUCF). This is almost the same as combined annual GHG emissions in France (279.99 MtCO₂eq) and Austria (63.69 MtCO₂eq) in 2020, or removing 340 million passenger vehicles, equivalent to all the privately owned cars in the United States, from the road for one year.

Five of the 17 countries specify long-term targets until 2050: Benin, Burkina Faso, Ghana, Guinea-Bissau and Nigeria. Nigeria aims to halve its current GHG emissions by 2050, whereas Cabo Verde and Gambia set net-zero goals for 2050. Cabo Verde's net-zero target is unconditional.

Long-term targets send a clear signal to public and private actors on an economy's direction, enabling public and private actors to commit early to decarbonisation pathways, identify sectors vulnerable to carbon lock-in, and stimulate risky technological development by providing certainty. The Paris Agreement also encourages countries to formulate and communicate long-term low greenhouse gas emission development strategies, which Nigeria already submitted (UNFCCC, 2015_[11]). Nigeria is one of only 52 countries globally to do so, and the only West African country.

STEPS TOWARDS SECTORAL TARGETS

All countries with the exception of Sierra Leone specify sectoral emission reduction targets for energy and Agriculture, Forestry and Land Use (AFOLU) (Table 2). This also signals the region's commitment to the Paris Agreement since these sectors account for the greatest proportion of GHG emissions in Africa (AfDB, 2020_[18]). The waste sector is often omitted in NDCs as is industry (e.g. cement, chemicals and other industrial non-agricultural activities). The exclusion of industry (by 9 out of 17 NDCs) may need to be revisited in the future since it is the fastest growing sector in terms of GHG emissions levels. In Africa, the relative weight of the industry sector doubled from 3% of all GHG emissions in 1990 to 6% in 2016 (AfDB, 2020_[18]).

Countries frequently set sectoral unconditional and conditional targets against a counterfactual scenario (similar to above), as summarised in Table 2. Ghana, Guinea, Nigeria, Senegal and Togo set unconditional targets for all four sectors, whilst Gambia set targets for all four sectors, except that industry and waste are conditional on additional financing. Appendix B lists the detailed sectoral targets in each NDC. A handful of countries, notably, set non-emission targets as well, which are not captured here or in the Appendix. For example, Nigeria sets targets in the energy sector, such as 13% of population using improved cook stoves by 2030, elimination of kerosene lighting by 2030, and 100 000 extra buses by 2030.

Table 2. Sectoral emissions reduction targets in NDCs

	Energy	Agriculture, Forestry, and Land Use (AFOLU)	Industry	Waste
Benin				
Burkina Faso				
Cabo Verde				
Chad				
Côte d'Ivoire				
Gambia				
Ghana				
Guinea				
Guinea-Bissau				
Liberia				
Mali				
Mauritania				
Niger				
Nigeria				
Senegal				
Sierra Leone				
Togo				

Note: Black means unconditional and conditional targets included in NDCs. Blue is only conditional and blank means unspecified.

Source: The sectoral targets for each country are from the latest NDCs submitted to the UNFCCC NDC Registry (UNFCCC, 2022^[16]).

CHALLENGES OF COUNTERFACTUAL SCENARIOS: IMPROVING NDC TARGETS

Whilst the ambition of countries is undoubted, estimating a counterfactual scenario is technically difficult and highly sensitive (Vaidyula and Hood, 2018^[14]). A variety of informational choices feed into baseline setting including the time period when the baseline starts, which policies are included in the baseline, key parameters affecting emissions estimates (i.e. drivers of emissions such as fuel prices and GDP), methodologies used, assumptions and uncertainties (Vaidyula and Hood, 2018^[14]). For example, Nigeria's previous BAU scenario assumed a 5% annual increase in GDP, but subsequently adjusted this assumption in the recent revision since COVID-19 and other external shocks hit the country hard, which reduced Nigeria's predicted GHG emission level for 2030—and by consequence, its reductions.

In order to provide clarity, transparency and understanding at climate negotiations (as mandated under Article 4.8 of the Paris Agreement), observers to the climate change negotiations emphasise the importance of providing sufficient information on the construction of the model along with the assumptions on which the model is built (Vaidyula and Hood, 2018^[14]). Benin, Ghana, Guinea, Liberia and Togo illustrate best practices in

their NDCs by including data, model types and even assumptions on which the model is based, thus boosting clarity, transparency and understanding. For example, the NDC for Ghana specifies the use of the Greenhouse Gas Abatement Cost Model (GACMO) and Low Emissions Analysis Platform (LEAP Model) to calculate the emissions reductions from specific mitigation measures, which were then aggregated into national and sectoral targets. The model includes assumptions on macro-economic indicators (e.g. value added per sector), demographic indicators (e.g. changes in size and number of households in urban and rural), technology penetration, existing and planned policies, financial indicators (energy and electricity prices, currency exchanges, discount rates), and uses data from 2019 in line with the IPCC 2006 Guidelines for National Greenhouse Inventories.

Yet, such a detailed overview may not be feasible for all countries. Cabo Verde, Gambia, Guinea-Bissau, Liberia, Sierra Leone and Togo refer to the need for capacity building and better-quality data, which could help them in the development of counterfactual scenarios, in addition to monitoring and evaluation.

TAKEAWAYS FOR COP27 WITH RESPECT TO AMBITION

Attendees of COP27, and developed countries in particular, should bear in mind that since the first round of NDCs, all West African countries have amplified their ambitions. Almost all set unconditional and conditional economy-wide mitigation targets and many countries have even translated these targets into sectoral goals that cover the highest emitting sectors. If reached, these targets could be on par with reductions from European countries. The ambition and willingness of the region to mitigate should not be overlooked. Capacity building and access to data, however, were cited repeatedly as barriers to greater transparency in the development of scenarios as well as for monitoring and evaluation.

West African countries could boost the credibility of their mitigation targets in future revisions of NDCs by looking to peers like Benin, Ghana, Guinea, Liberia and Togo, which articulate how their counterfactual scenarios are constructed in a transparent manner. Greater transparency will likely boost the credibility and understanding of targets, including sectoral as well as short-term, mid-term and long-term goals.

Climate finance falls short of needs in West African NDCs

The Glasgow Climate Pact reiterated developed countries' responsibility to meet their pledge of providing developing countries USD 100 billion per year in climate finance (UNFCCC, 2021^[2]). In addition, countries agreed on the process to set a New Collective Quantified post-2025 Goal for climate finance (NCQG), which will replace, from 2025 onwards, the annual USD 100 billion target set in Copenhagen in 2009. Building on the previous "100 billion" target, the process of NCQG is meant to be transparent, deliberate and inclusive, with an established schedule set by the end of 2024. Moreover, the amount of the NCQG is should be determined based *on the needs and priorities of developing countries* (UNFCCC, 2022^[21]). The Technical Expert Dialogue, which is tasked with defining this amount, is looking for ways to assess these needs and priorities (UNFCCC, 2022^[21]).

The analysis in this section calculates the financing needs of West Africa countries, as stated in their NDCs. So far, the "100 billion" target is falling short of these needs, partly because insufficient funds have been mobilised and partly because West African countries have difficulty accessing financing. Nevertheless, this report provides clear estimates of their needs moving forward which could be used to in the process of defining the NCQG, in terms of what is needed for West Africa along with how to improve their access to financing.

FINANCE LIKELY TOO LITTLE, TOO LATE FOR WEST AFRICAN COUNTRIES TO REACH TARGETS

Between now and 2030, West African NDCs specify a need of **USD 341.1 billion** for mitigation and adaptation (breakdown in Table 3) (UNFCCC, 2022^[18]). Of this, 52% of the financing requested by West African countries' NDCs is from Nigeria followed by Mauritania (approximately 13%), as shown in Figure 1. The other 15 countries account for less than 7% of the region's needs.

The total financing needed for **mitigation** is approximately **USD 221.2 to 279.7 billion**. This is a range, as a handful of NDCs do not link financing needs to unconditional vs. conditional goals, i.e. in Cabo Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, and Nigeria. The lower bound of the range contains all countries with unconditional estimates as well as those which did not specify. Similarly, the total financing needed for **adaptation** ranges from **USD 61.4 to 88.8 billion**. This lack of clarity

is a common challenge when estimating financial needs since developing countries often highlight only specific aspects of financial needs or do not report financial needs at all (Halimanjaya et al., 2021_[25]).

Table 3. Financial needs in West Africa as stated in NDCs (in USD billions)

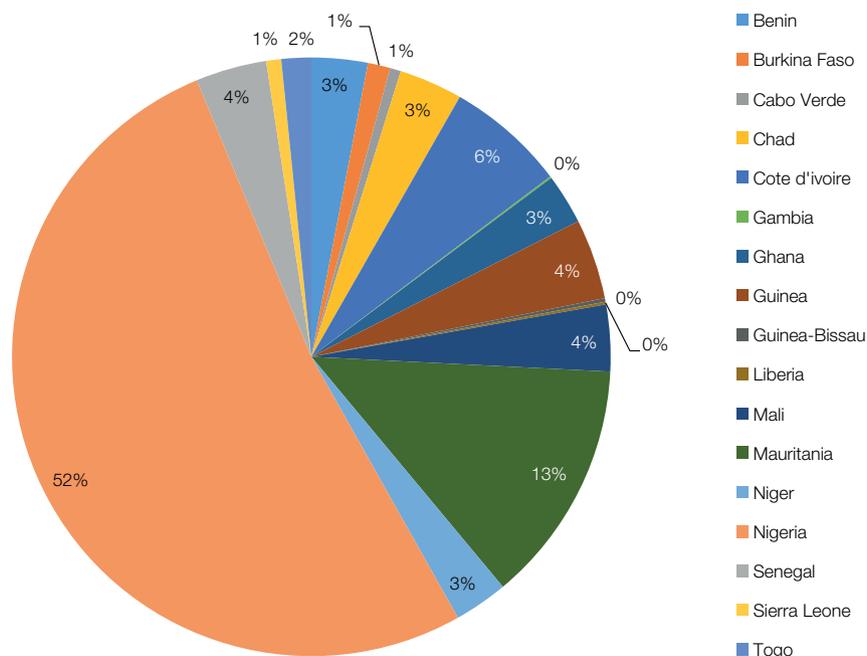
	Total	Mitigation		Adaptation	
		Unconditional	Conditional	Unconditional	Conditional
Benin	10.4	3.5	5.1	1.8	1.2
Burkina Faso	4.1	0.4	0.9	2.8	1.6
Cabo Verde	2.0	1.0		1.0	
Chad	11.7	1.7	5.0	5.0	0.0
Côte d'Ivoire	22.0	10.0		12.0	
Gambia	0.3	-	-	0.3	
Ghana	9.3	5.9		3.3	
Guinea	14.8	13.8		1.0	
Guinea-Bissau	0.7	0.1	0.5	0.0	0.0
Liberia	0.5	0.4		0.1	
Mali	12.2	1.9	1.9	8.5	4.3
Mauritania	44.9	0.7	33.6	10.6	10.2
Niger	9.9	0.2	3.0	6.7	4.3
Nigeria	177.0	177.0		-	-
Senegal	13.1	3.4	5.4	4.3	2.9
Sierra Leone	2.8	0.5	1.2	1.1	0.6
Togo	5.5	0.7	2.0	2.8	2.3
Total (USD billions)	341.1	221.2 to 279.7		61.4 to 88.8	

Note: Cabo Verde provided their needs in Euros. The value was transformed to USD using the exchange rate of 31 August 2022. Nigeria and Guinea-Bissau did not provide their financial needs for adaptation. Gambia did not provide their financial needs for mitigation. Cabo Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia and Nigeria did not specify what portion of their financing was conditional.

Source: The financial needs for each country is from the latest NDC submitted to the NDC Registry (UNFCCC, 2022_[16]).

The financing needs outlined above set useful reference values for private and public investors but it is also important to keep their limitations in mind (Halimanjaya et al., 2021_[25]). On the one hand, there is always uncertainty connected to estimation of future needs. On the other, the UNFCCC found great divergence across countries' definitions of "needs"—especially across sectors—and the methodologies used to identify them. It is likely that these differences also affect the estimations of West Africa's financial needs presented here (Halimanjaya et al., 2021_[25]).

Figure 1.
Percent of total financing requested in NDCs per West African country



Source: (OECD, 2022_[21]).

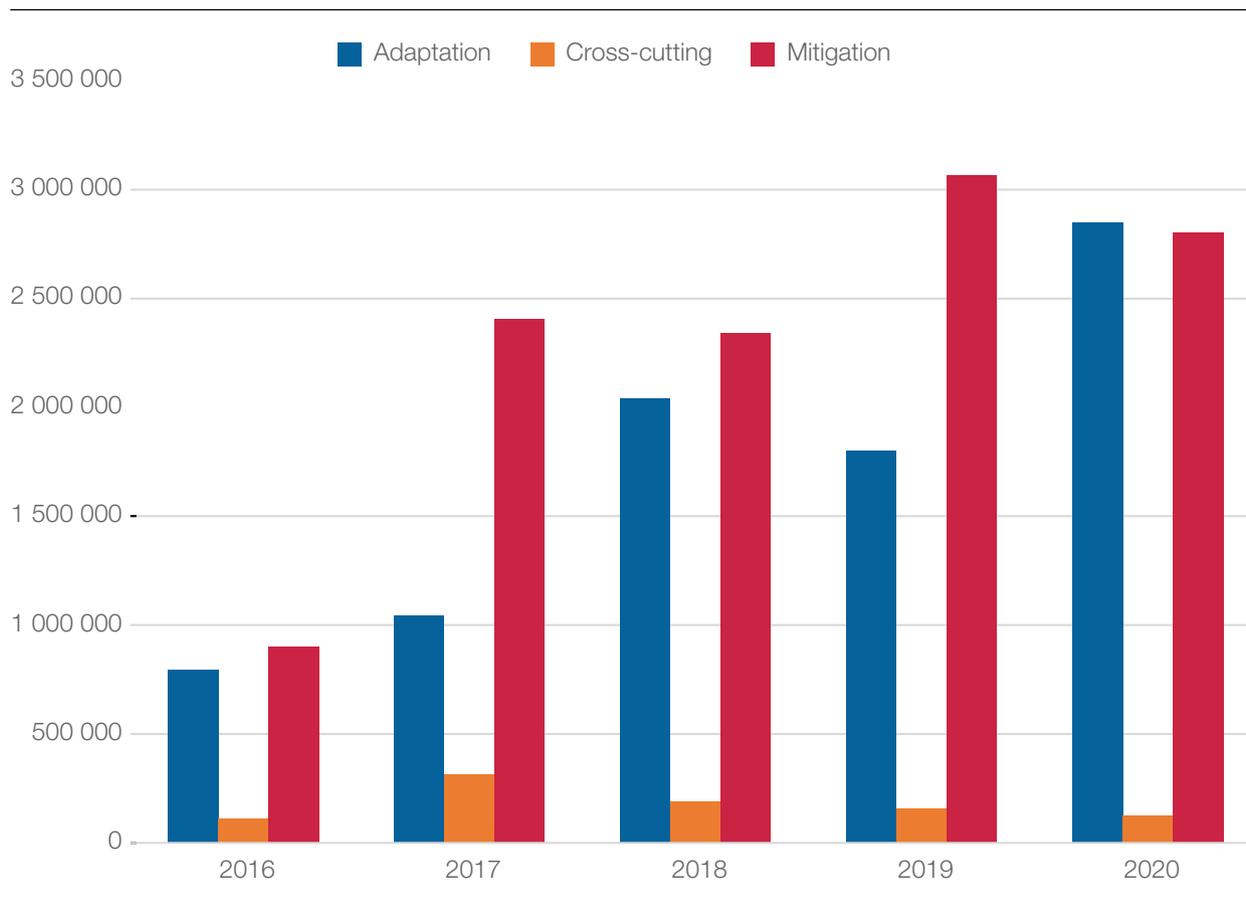
The annual “100 billion” is unlikely to fully meet the requested **USD 341.1 billion** by 2030 specified in West African NDCs. According to the OECD, in 2020, the total climate finance provided (i.e. public) and mobilised (i.e. private) by developed countries for developing countries **amounted to USD 83.3 billion** (USD 48.6 billion for mitigation, USD 28.6 billion for adaptation, USD 6 billion for both mitigation and adaptation). This includes bilateral public finance, multilateral finance, climate-related officially supported export credits, and private finance mobilised by bilateral and multilateral public finance (OECD, 2022_[22]). Some analysts even say the OECD’s numbers, which are based on self-reported data from donor countries, are likely inflated (Timperley, 2021_[23]). While OECD projections estimate that the full USD 100 billion will not be delivered until at least 2023 (OECD, 2021_[24]), there is notable ambiguity over what should be included within the “100 billion” target and what would happen if this target were not reached has not been discussed. Moreover, an analysis by the Standing Committee on Finance (to the UNFCCC) concluded that developing countries actually need USD 5.8 to 5.9 trillion from now until 2030 to finance the actions listed in NDCs (Halimanjaya et al., 2021_[25]).

Of the “100 billion” target, most of the climate finance goes to middle-income countries, not the poorest, most-vulnerable ones, including West Africa. According to the OECD, approximately USD 19.5 billion (of the USD

83.3 billion) targeted the African continent as a whole (OECD, 2022_[21]). This is only 23.4 % of the total amount of climate finance mobilised. According to the OECD's data, **in 2020, West African countries received slightly less than USD 3 million for adaptation and mitigation, respectively—approximately USD 6 million in total** (OECD, 2022_[21]). Even though climate finance to West Africa has tripled since 2016 (Figure 2), it will be far from meeting West African needs by 2030 if investment continues at current rates.

Figure 2.

Amount of USD “100 billion” target allocated to West African countries



Source: (OECD, 2022_[21]).

The issue of climate finance for Africa goes beyond mobilisation challenges; further complications arise from the shortcomings of existing financial mechanisms. African countries receive a tiny proportion of the flows from both the public and the private sector. Public investment still constitutes the largest proportion of climate finance and its importance has even increased recently as private climate investment has stagnated (OECD, 2022_[21]). Accessing public climate finance constitutes a challenge for the most vulnerable and low-income countries as they lack, for example,

fund management capacity, project implementation experience, have difficulties accrediting national entities to different climate funds and cumbersome application requirements, as well as the slow disbursement of climate finance (Timperley, 2021^[22]). In other words, “Many, many African countries are lamenting that they are not able to jump through the hoops [to access climate finance] because of the complexity and the technicality,” says Chukwumerije Okereke, an economist at Alex-Ekwueme Federal University Ndufu-Alike in Ikwo, Nigeria (Timperley, 2021^[22]). Moreover, African countries are seen as high-risk destinations for private finance, preventing their ability to access “cheap” finance from the capital market (OECD, 2022^[21]). Mobilisation of financial flows is only possible through good policies, improved capacity and enabling environments for investment. These are conditions that developing countries struggle to achieve. Building capacity in West Africa is, thus, an important requirement for the region to increase its share of climate finance. Otherwise, West African countries risk being locked into a high carbon trajectory.

West African NDCs aim to access climate finance from a diverse set of public and private actors. Therefore, removing barriers to access, in particular, for the NCQG from 2025 onwards will be crucial. In the majority of cases, the sources of finance are a mix of public and private. The NDC for Gambia mentions, for example, the Federal Ministry of the Environment (in Gambia), the European Union (EU) Global Climate Change Alliance Programme, the World Bank’s Carbon Funds and Facilities and the Climate Investment Funds (CIFs), the Least Developed Countries Fund and the Special Climate Fund of the UNFCCC/GEF, sub-regional development banks, national development banks, and the private sector (UNFCCC, 2022^[16]).

Overcoming these obstacles will not only boost mitigation and resilience, but also development. Nigeria and Mauritania have estimated that investments in climate change adaptation and mitigation could generate over 12 million and 130 000 new jobs, respectively (UNFCCC, 2022^[18]). In terms of health, Ghana estimated that actions to improve air quality could prevent 2 900 premature deaths per year, whilst Côte d’Ivoire estimated a reduction in 7 000 deaths per year (UNFCCC, 2022^[18]). These numbers are accompanied by a general enthusiasm about implementing climate policy since countries expect positive side effects for their economies, their citizens’ health, gender equality and younger populations.

It is extremely rare in West African NDCs to find estimates for losses and damages, which take into consideration the consequences of climate change that go beyond what people can adapt to or when options exist but a country does not have the resources to access or utilise them. Cabo Verde’s NDC estimates that the cost of inaction would lead to USD 2 million of income loss due to crop failure and USD 2 million in losses annually due to landslides (which is likely an underestimate). Guinea’s NDC estimates the cost of inaction at USD 1.91 billion to USD 4.37 billion (UNFCCC, 2022^[18]). While the reasoning behind these estimates is vague, the cost of losses

and damages for the region is likely far higher than what is included in the NDCs, so far. These kinds of data gaps constrain the ability of technical expert groups who are working to define the NCQG from fully grasping the needs and priorities of the region. As West African countries revise their NDCs in the future, clearly quantifying the financing needs for mitigation, adaptation as well as losses and damages will help ensure that their needs are met.

FINANCIAL NEEDS IN LIGHT OF COP27

Attendees of COP27, and developed countries in particular, should bear in mind that the USD 100 billion commitment is a collective agreement that is falling short of needs. Countries made no formal deal on what each party should pay. Instead, countries announced pledges in the hope that others would follow. COP27 could reflect on who will be responsible for delivering the financial transfers required to realise developing countries' targets.

As delegates are looking ahead to understand the present needs and priorities of developing countries and determine how these can be quantified to inform NCQG deliberations, **West African countries could deliberate on how to clearly outline such needs and priorities in their NDCs.** While most countries mention their overall financial needs, they rarely break them down to declare the costs of specific projects, thereby failing to declare future investment opportunities. A first step to improve their appeal to a broader set of investors would be to display financial needs by project in future iterations (OECD, 2018_[24]). Gambia, Ghana and Sierra Leone break down their financial needs by project, and therefore, can be considered best practice cases in the region to inform the actions of others.

All countries—developed and developing—should note that this region may require more public climate finance, in the form of grants aimed at strengthening capacity building, to improve enabling environments that will later allow them to have access to private funding (UNFCCC, 2022_[18]).

Implementing NDCs: Limited city involvement

A key priority for the Egyptian presidency of COP27 is to move towards implementation of the NDCs. However, NDCs as outlined in the Paris Agreement are not necessarily intended to define their implementation. Other documents, such as long-term low emission development strategies (under Article 4) can outline a pathway to 2050 or beyond, or the transparency framework for action (Article 13) tracks progress made in implementing and achieving NDCs (UNFCCC, 2015^[1]). NDCs can offer a glimpse into whether action on climate—mitigation and adaptation—is systematically integrated across sectors and at all levels of government (Aguilar Jaber et al., 2020^[25]). A recent exchange of best practices on implementing and updating NDCs (from Asia, the Middle East and North Africa) found that horizontal and vertical co-ordination is pivotal (NDC Partnership and UNFCCC, 2021^[26]):

- These exchanges showed the importance of strong political commitments and clear plans for integrating ministries and different agencies into climate action. Ministries charged with formulating NDCs were recommended to work closely with ministries of finance, amongst others.
- The second key takeaway found that a whole-of-society approach must be at the centre of the update process for NDCs and implementation (NDC Partnership and UNFCCC, 2021^[26]). “Effective and inclusive engagement with stakeholders from the public (e.g. sub-national levels) and private sectors, civil societies, and academia, as well as youths, women, and marginalized and vulnerable groups, is important to ensuring all facets of society accept NDCs,” (NDC Partnership and UNFCCC, 2021^[26]).

West African countries are demonstrating political commitment and attempts at horizontal integration both in the formulation of the NDCs and in reference to their implementation. In addition, several countries have involved a diverse set of actors, but have often omitted sub-national governments when updating their NDCs and defining their implementation. Overlooking sub-national actors, especially the role of cities, could be a barrier to reaching the objectives of the Paris Agreement, and not only for West Africa. What is remarkable across the continent is the rapid urbanisation expected over the next three decades. How cities urbanise could lock countries in to a high- or low emissions trajectory, as the infrastructure built today could last for decades, with great consequences for the well-being of those who live there. Therefore, the involvement of local actors in NDCs is a crucial issue and an opportunity to meet the objectives of the Paris Agreement.

LAYING THE FOUNDATIONS FOR HORIZONTAL INTEGRATION IN NDCS

High-level political endorsement is key to laying the foundations for the horizontal integration of NDCs. It is equally important that NDCs make reference to existing policy documents (including those by other ministries) and that they outline an implementation strategy with inter-ministerial involvement, in addition to key sectoral policies.

Endorsement of the NDC by a high-level political figure signals a certain degree of buy-in from the national government to act on climate (Aguilar Jaber et al., 2020_[27]). This is especially important in highly centralised countries, as is often the case in West Africa. Leaders in just 3 of the 17 countries have endorsed their NDCs: the Presidents of Liberia and Ghana as well as the Prime Minister of Côte d'Ivoire. Nine Ministers have endorsed their country's NDCs (Chad, Gambia, Ghana, Guinea-Bissau, Liberia, Mauritania, Nigeria, Sierra Leone and Sudan). Those that have not received any endorsement may struggle to translate the political will of NDCs into action (Aguilar Jaber et al., 2020_[27]).

Many West African NDCs mention, at least a desire, to co-ordinate across ministries and explicitly link to existing policy documents in other ministries, a sign of policy coherence (OECD, 2017_[10]; OECD, 2018_[11]). The findings from the NDC analysis range from one extreme, such as Cabo Verde, which refers to at least 22 other existing policy documents, from the National Housing Policy to the National Blue Economy Investment Plan to the Plan for Agricultural and Rural Statistics (UNFCCC, 2022_[18]). At the other extreme, Senegal refers to only five other policy documents (UNFCCC, 2022_[18]). Whether these plans in turn refer to the NDC is beyond the scope of this analysis, but at least basic attempts have been made to link the NDC to existing policy priorities in other ministries.

In addition, most NDCs mention policies to reach these targets across sectors, indicating how the sector should develop, at least in the short-term (UNFCCC, 2022_[18]). West African NDCs tend to concentrate policy actions on the two highest emitting sectors—energy and AFOLU—with less attention dedicated to waste and the industrial sectors. There is, however, substantial variation in the level of detail and granularity of these measures to reach their targets. Senegal, Burkina Faso and Guinea are leaders in the region as their NDCs identify policies that contribute to both unconditional and conditional targets, but this is uncommon. Similarly, only a few countries like Mauritania, Cabo Verde, Liberia and Benin outline nuanced timelines for policy implementation, specifying in which year a policy is supposed to be enacted. Linking policies to targets, in addition to timelines, constitutes an opportunity to strengthen future revisions of their NDCs. Other NDCs go one step further by even outlining the technology transfer needs, which further catalyse implementation—the ones most frequently referenced are energy and AFOLU (see Box 1).

Many NDCs mention the need for horizontal co-ordination and a whole-of-government approach at the implementation stage; however, few countries include this aspect in their documentation. Liberia provides the most

detail. In Liberia, the national Environmental Protection Agency is responsible for ensuring that all sectorial ministries and government agencies combine their efforts to drive the climate agenda (UNFCCC, 2022_[16]). This agency is tasked with leading the collaboration with key entities such as the Ministry of Finance and Development, the Forestry Development Authority, the Ministry of Agriculture, the National Disaster Management Agency, the Ministry of Mines and Energy, and the Ministry of Internal Affairs. In addition, the NDC mentions a technical/expert group, which would meet to bring together technicians and experts from across ministries, agencies and commissions, as well as from civil society, private institutions and academia (UNFCCC, 2022_[16]). Of course, it remains to be seen whether this occurs in practice, but the foundations for inter-ministerial collaboration appear to be in place.

Box 1.**Technological needs in NDCs**

A detailed inventory of the technological needs and how they are linked to mitigation and adaptation goals is rarely included in NDCs. Most of them do not mention the technological needs or make very broad and general statements (e.g. technology transfers are needed to introduce renewable energy). Benin and Gambia lead the region in outlining their technology transfer needs. They outline in great level of detail the technological needs for both mitigation and adaptation, as well as how these needs translate into benefits and align with the objectives of the NDC.

Sierra Leone's and Togo's NDCs, although less detailed than those of Benin and Gambia, also provide sufficient information to understand specific technology transfer needs, the sectors they target, and whether they focus on adaptation or mitigation. Even though some countries have developed a Technology Needs Assessment (TNA), which is sometimes referenced in their NDCs, most countries fail to convey their specific technological needs.

There is an opportunity for countries to follow the examples of Benin and Gambia by incorporating their technological needs in their NDCs and linking them to specific mitigation and adaptation objectives. Given how most needs overlap with the most common sectors targeted for mitigation (Energy and AFOLU), bilateral co-operation could emerge in terms of technology transfers. Appendix C highlights the technological needs for the Energy, AFOLU and Coastal Zones sectors outlined in the NDCs of Benin, Cabo Verde, Gambia, Guinea, Guinea-Bissau, Sierra Leone and Togo.

Cabo Verde, Niger and Togo also mention that they conduct TNAs. Thirteen of the 17 West African countries examined in this report are part of the programme that participates in Technological Needs Assessment projects implemented by the United Nations Environment Programme and the UNEP Copenhagen Climate Centre on behalf of the Global Environment Facility.

VERY FEW SIGNS OF VERTICAL INTEGRATION: FORGOTTEN CITIES

Most West African countries rarely involved local governments when drafting their NDCs. The few exceptions are Benin (consulted with local communities), Cabo Verde (consulted with municipalities), and Burkina Faso (explicitly mentions the involvement of local authorities) (UNFCCC, 2022^[16]). The exclusion of this level of government could undermine policy coherence between levels of government when it comes to climate objectives, which is likely a symptom of the rather high degree of centralisation in these countries. Other countries, even if local governments were excluded, have involved other non-state actors as encouraged by the Paris Agreement, such

as Ghana (consultation with civil society, academia and traditional authorities), Liberia (consultation with civil society, women’s groups, youth groups, the private sector and academia), Nigeria (involvement of civil society) and Sierra Leone (involvement of children/youth, rural populations, and women) (UNFCCC, 2022_[16]).

A handful of NDCs mention the role of local government in implementing a country’s measures. Gambia mentions the role of local governments in national resource management and sustainable development planning. Ghana vaguely mentions that local governments should implement NDCs. Sierra Leone’s NDC emphasises the importance of bottom-up planning. Côte d’Ivoire refers to the need for local governments to integrate climate into local development plans. Burkina Faso states that local governments are responsible for incorporating the NDC into their communal development and regional development plans to ensure that resources for NDC-related activities are funded and carried out. Similarly, Guinea refers to the need for local governments, with support from national-level actors, to integrate climate-friendly investments and implementation into their local development plans.

Climate change is a global problem but its response rests on the shoulders of local actors—in terms of both mitigation and adaptation. Cities account for the largest share of global emissions today. As the African continent is urbanising rapidly, it is very likely that in due course cities will account for increasingly larger share of emissions (OECD/SWAC, 2020_[27]). Thirteen of the world’s 20 largest cities are expected to be on the continent by the end of this century (Angel et al., 2020_[28]). Lagos (Nigeria) is projected to have 80 million people, nearly triple the size of today’s largest city, Tokyo (Japan) (Angel et al., 2016_[29]). How these cities urbanise could lock in emissions, as infrastructure lasts for decades in addition to affecting the resilience of cities—for example, to heat waves. An OECD analysis of 5 625 African urban agglomerations illustrates the increasing loss of green space as cities urbanise, which means these cities are more vulnerable to landslides, coastal erosion, heat waves and floods, to name a few (Anderson, Patiño Quinchía and Prieto Curiel, 2022_[30]). This oversight could be a huge hurdle for West African countries to realise the ambition of NDCs moving forward.

The exclusion of cities in NDCs does not reflect a lack of local action as Dakar, Abidjan, Accra and Lagos are part of the C40 network of cities taking leadership and ambitious action against climate change. The lack of inclusion of cities in NDCs, therefore, likely signals issues with vertical co-ordination.

LOOKING AHEAD TO COP27: IMPLEMENTATION

All participants at COP27 should take note that:

- Most NDCs show signs of horizontal integration, which indicate that West African countries have already started to outline an institutional framework for effective governance. Most West African NDCs list cross-sectoral policy strategies that can guide the realisation of mitigation targets across sectors.
- Vertical integration (i.e., co-ordination and collaboration across different levels of government) is still lacking, especially when drafting the NDCs. This is despite the fact that vertical integration is essential, especially for successful implementation, as the response to climate change rests on the shoulders of local actors and many sub-national actors in the region already take action. In the next round of NDC revisions, West African countries could benefit from engaging local actors by encouraging the active participation of sub-national governments in the drafting of NDCs.

Concluding remarks

The main points of discussion at COP27 will be far from trivial. Reviewing commitments made in NDCs, mobilising finance and moving from words to action could be contentious. With COP27 taking place in Egypt, West Africa has the opportunity to bring its objectives and concerns to the forefront of the negotiations. Taking stock of the positions of West African countries in NDCs on these key issues not only informs the debate, but also points to future considerations as these countries update their NDCs.

The targets in the West African NDCs are ambitious and could have a real impact by 2030. Yet, the analysis shows that these are unlikely to be met due to the inability to access climate finance and the failure to involve cities in the drafting and implementation of NDCs. Even if these obstacles are surmounted, then West African countries should consider greater transparency on the modelling of the counterfactual scenarios used to define these targets in order for these commitments to be taken credibly. Nevertheless, this depends on capacity building and better-quality data.

Only USD 6 million (of the USD 100 billion target) reached Sahel and West Africa in 2020 meaning the region's needs will not be met under this target. Many West African countries envision both public and private finance; therefore removing the barriers to accessing this finance should be a top priority at COP27.

The West African NDCs have already begun to outline an institutional framework that will help them implement policy measures in the future. Nearly all NDCs show clear signs of horizontal integration—in terms of involving other ministries in drafting NDCs, linking to other policy documents, mentioning other ministries in implementation, and even outlining specific measures across sectors. What is severely lacking is vertical integration and the mention of sub-national actors. West African countries could reflect on the rapid urbanisation sweeping the continent, and the importance of cities with respect to mitigation and adaptation in the future.

COPs are not an end in themselves, but a point to assess the status quo and move forward. What is abundantly clear is that West African countries are not passive observers, but actors with agency and the potential for great ambition if they can access potential resources. All West African countries mention in their NDCs the myriad of opportunities associated with economic transformation to achieve the objectives of the Paris Agreement—for jobs, gender, equity, health, and well-being. The world will see if COP27 results in concrete actions, both from West African and developed countries, to catalyse this transformation.

Note

1. Due to data limitations this calculation includes only Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Niger, Nigeria, Senegal, Sierra Leone, Togo.

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Annex A. Methodology

This analysis applies the Framework of Policy Coherence for Sustainable Development (PCSD) to assess the NDCs of the West African region. The Framework was developed to assess interlinkages, trade-offs and synergies among different Sustainable Development Goals (SDG) (OECD, 2018). The PCSD Framework usually consists of three pillars. The adapted version applied for the analysis of the NDCs therefore still consists of the analytical, institutional and monitoring pillars. The Framework's pillars can be flexibly adapted depending on the topic that is analysed.

- The analytical pillar focuses on the fundamental elements on which NDCs are based to give an overview of the state of play, the actors involved and financing sources, as well as the policy areas that need to be considered.
- The institutional pillar assesses the institutional process for promoting policy coherence mentioned in the NDCs by looking at political commitments, policy statements and policy co-ordination mechanisms to determine the alignment of policy goals with implementation strategies.
- The monitoring pillar assesses the key elements mentioned by the NDCs for tracking policy progress with a focus on monitoring and reporting.

Table A.1. Analytical framework

	Questions
State of play	<p>How does the country discuss its responsibilities to contribute to mitigation efforts within the NDCs?</p> <ul style="list-style-type: none"> • Africa • Global <p>What is the current state of GHG emissions? How are emissions displayed in the document? Across sectors, if so, which? Across governmental level, if so, which? Which GHGs emissions are included? Which sector contributes most to countries' GHG emissions? Are mitigation policies that are already implemented mentioned in the document? Are adaptation policies that are already implemented mentioned in the document?</p>
Involved actors	<p>Does the NDC mention who was leading the drafting process, if so, who? Is the NDC endorsed by a high political figure, if so, who? Is the NDC endorsed by political institutions, if so, which? Which actors are mentioned in the NDCs? What are the roles the NDC specifies for the mentioned actors? Involvement in drafting of the NDC</p>
Sources of finance	<p>Which sources of finance are mentioned in the NDC? Which sources of finance are supposed to invest in mitigation? Which sources of finance are supposed to invest in adaptation?</p>
Policy interlinkages	<p>Does the NDC reference any other policy documents?</p>
Policy effects	<p>Which policy areas apart from climate are mentioned in the NDC? In which policy areas is climate policy considered to contribute positively to policy objectives? In which policy areas is climate policy considered to contribute negatively to policy objectives?</p>
Non-policy drivers	<p>Which contextual conditions are highlighted by the NDC? Have contextual factors which might positively influence the policy outcomes been identified in the NDC? Have contextual factors which might negatively influence the policy outcomes been identified in the NDC?</p>

Table A.2. Institutional framework

	Questions
Political commitment	<p>For which year are mitigation targets set in the NDC? What is the reference point for emissions reduction in the NDC? Does the NDC state absolute targets in terms of reduction of MtCO₂, or relative targets in terms of % of GDP? What are the unconditional mitigation targets in the NDC? Does the NDC mention whether the unconditional mitigation targets are more ambitious compared to the first round NDC? Why is the unconditional target of the second round NDC more ambitious compared to the first round NDC? What are the conditional targets in the NDC? Does the NDC mention whether the conditional mitigation targets are more ambitious compared to the first round NDC? Why is the conditional target of the second round NDC more ambitious compared to the first round NDC? What are the conditional targets contingent in the NDC based upon? Does the NDC specify mitigation goals for specific sectors, if so, which? Does the NDC specify adaptation goals, if yes which? What tools does the NDC apply when determining the country's contributions (e.g., quantitative model)? If a quantitative model is applied, on which assumptions is it built?</p>
Policy statements	<p>What are the political priorities mentioned by the NDC? What policy instruments are outlined for mitigation action? If provided by sector If provided for conditional target If provided for unconditional target Are mitigation policies outlined that specifically target urban areas, if so, which? What policy instruments are outlined for adaptation action? (If provided by sector) Are adaptation policies outlined that specifically target urban areas, if so, which? What policy instruments are outlined that achieve both mitigation and adaptation? If provided by sector If provided for conditional target If provided for unconditional target</p>
Policy co-ordination	<p>Does the NDC mention aspects of horizontal integration (i.e., mentions of co-ordination and collaboration between different government departments)? In the context of mitigation? In the context of adaptation? Does the NDC mention aspects of vertical integration (i.e., mentions of co-ordination and collaboration across different levels of government)? in the context of mitigation in the context of adaptation Are local governments mentioned in the NDCs? in the context of mitigation in the context of adaptation What are the responsibilities of local governments with regard to climate policy implementation according to the NDCs? in the context of mitigation in the context of adaptation</p>
Financial needs	<p>What are the costs of inaction? What are the financing needs for mitigation? Are financing needs for both conditional and unconditional mitigation targets listed? What are financing needs for adaptation? Does the NDC outline framework conditions to ensure investment?</p>
Technological needs	<p>Are the technological needs to implement NDCs outlined? What are the technological needs to implement NDCs mentioned in the document? Does the NDC address technological transfer, if so, what is discussed?</p>
Multi-stakeholder involvement	<p>Does the NDC outline mechanisms to involve and promote active participation of stakeholders, if so, which?</p>

Table A.3. Monitoring framework

Questions	
Monitoring	<p>Does the NDC refer to a monitoring system? Who is involved in the monitoring process according to the NDC? What data is the monitoring in the NDC based upon? Does the NDC mention resources and capacity provided for monitoring of the policy progress? Is there a timeline included in the NDC? Is transparency mentioned in the context of monitoring, if so, how?</p>
Reporting	<p>Does the NDC refer to a reporting system? Who is involved in the reporting process according to the NDC? Does the NDC mention transparency measures introduced for the reporting process? Does the NDC mention resources and capacity provided for reporting on the policy progress? Is transparency mentioned in the context of reporting, if so, how?</p>

Annex B. Sectoral targets

Table B.1. Sectoral targets as stated in NDCs

	Energy	AFOLU	Industry	Waste
Benin	12.15% cumulative reductions relative to BAU from 2021 to 2030 (8.4% unconditional, 3.75% is conditional), 18.71 MtCO ₂ e in total	Agriculture: 51.4% cumulative reductions relative to BAU from 2021 to 2030 (29.9 Mt CO ₂ e, 50% is conditional and 50% unconditional) Forestry and Land Use: 40.64 MtCO ₂ e relative to BAU from 2021 to 2030 (37.7% unconditional and 62.3% conditional)	Not mentioned	0.136 MtCO ₂ e relative to BAU from 2021 to 2030, 1.2% unconditional
Burkina Faso	Unconditional (in GgCO ₂ e): 2025: 1 228.66 2030: 2 457.34 2050: 7 371.98 Additional conditional (in GgCO ₂ e): 2025: 1 964.05 2030: 3 928.11 2050: 11 784.31 Total (in GgCO ₂ e): 2025: 3 192.71 2030: 6 385.45 2050: 19 156.29	Unconditional (in GgCO ₂ e): 2025: 7 527.3 2030: 15 054.6 2050: 13 166.8 Additional conditional (in GgCO ₂ e): 2025: 2 569.5 2030: 5 139 2050: 17 986.4 Total (in GgCO ₂ e): 2025: 10 096.8 2030: 20 193.6 2050: 31 153.2	Not mentioned	Unconditional (in GgCO ₂ e): 0 Conditional: 2025: 262.00 2030: 614.80 2050: 1 246.95
Cabo Verde	Conditional: 242 GgCO ₂ e	Unconditional: 2030: Afforestation 7 000 hectares Reforestation 3 000 hectares	Not mentioned	Not mentioned
Cote d'Ivoire	Unconditional: 28.51 MtCO ₂ e Conditional: 24.88 MtCO ₂ e	Unconditional: 5.85 MtCO ₂ e Conditional: 24.88 MtCO ₂ e	Not mentioned	Unconditional: 5.31 MtCO ₂ e Conditional: 5.31 MtCO ₂ e
Gambia	Unconditional (GgCO ₂ e) Energy: 0.08 Conditional (GgCO ₂ e): Energy: 144.22 Transport: 129	Unconditional (GgCO ₂ e): Land use, land-use change and forestry: 169 Conditional (GgCO ₂ e): Agriculture: 1 193 Land use, land-use change and forestry: 760	Conditional: 804 GgCO ₂ e	Conditional: Waste: 497 GgCO ₂ e
Ghana	16 124.76 ktCO ₂ e	23 565 ktCO ₂ e	3 023.69 ktCO ₂ e	2 1313 ktCO ₂ e

Table B.1. Sectoral targets as stated in NDCs (*Cont.*)

	Energy	AFOLU	Industry	Waste
Guinea	<p>Energy (Generation) : Unconditional: 2 000 ktCO₂/year relative to BAU Conditional: 5 104 ktCO₂ relative to unconditional</p> <p>Biofuels: Unconditional: 2 248 ktCO₂/year relative to BAU Conditional: 4 480 ktCO₂ relative unconditional scenario</p> <p>Transportation: Unconditional: 2 300 ktCO₂/year relative BAU Conditional: 2 600 ktCO₂/year relative unconditional scenario</p>	<p>Deforestation: Unconditional: 4 200 ktCO₂/year relative to BAU Conditional: 2 500 ktCO₂/year relative unconditional scenario</p> <p>Reforestation: Unconditional: 451 ktCO₂/year sequestered relative to BAU Conditional: 17 605 ktCO₂/year sequestered relative unconditional scenario</p>	<p>Mining : Unconditional: 1 740 ktCO₂e/year relative to BAU Conditional: 1 160 ktCO₂e/year relative unconditional scenario</p>	<p>Waste : Unconditional: 34 ktCO₂e/year relative to BAU Conditional: 130 ktCO₂e/year relative unconditional scenario</p>
Guinea-Bissau	<p>Total: 44% relative to BAU Unconditional: 7% relative to BAU conditional goal: 37% relative to BAU</p>	<p>Land-use: 40% relative to BAU Agriculture: 4% relative to BAU</p>	Not mentioned	7% relative to BAU

Table B.1. Sectoral targets as stated in NDCs (*Cont.*)

	Energy	AFOLU	Industry	Waste
Liberia	<p>Transport: reducing GHG emissions by 15.1%/49.2 GgCO₂e below BAU levels by 2030</p> <p>Energy: 40.6% below BAU levels by 2030</p>	<p>Agriculture: 40%/ 13 GgCO₂e reduction by 2030 compared to business as usual</p> <p>Livestock: 40%/211 GgCO₂e reduction by 2030 compared to business as usual</p> <p>Forests:</p> <p>1.Reduce GHG emissions from forest conversion by 40% below BAU levels by 2030 (Reduction of 5,147 GgCO₂e in 2030).</p> <p>a. Reduce GHG emissions by 1 800 GgCO₂e per year by limiting Forest Management Concessions</p> <p>b. Reduce GHG emissions by 3 200 GgCO₂e per year by converting timber sales contracts into carbon concessions</p> <p>2. Enhance forest carbon stocks by 1 013 GgCO₂e in 2030</p> <p>a. Reduce emissions by 210 GgCO₂e per year by accelerating the designation of forest Protected Areas</p> <p>3. Enhance other carbon stocks (e.g., in urban canopy) by 600 GgCO₂e</p> <p>4. Reduce emissions by 1 100 GgCO₂e per year by increasing the efficiency of charcoal production and use</p> <p>Coastal Zones</p> <p>a. reduce GHG emissions by approx. a total of 1 800 GgCO₂e</p> <p>Agriculture and Forests: Reduce emissions by 2 100 Gg CO₂e per year by siting 100 000 ha of agricultural concessions onto degraded land by 2030</p> <p>Fisheries: no numerical GHG emission targets</p>	no numerical GHG emission targets	<p>Reduce GHG emissions from waste sector by 7.6% below BAU levels by 2030</p> <p>a. Reduce emissions by 51.26 GgCO₂e per year by supporting the implementation of a landfill gas recovery system</p> <p>b. Reduce emissions by 0.84 GgCO₂e per year by supporting the development of small-scale composting of market waste</p>

Table B.1. Sectoral targets as stated in NDCs (*Cont.*)

	Energy	AFOLU	Industry	Waste
Niger	Unconditional: 2025: 11.20% below BAU 2030: 10.60% below BAU Conditional: 2025: 48% below BAU 2030: 45% below BAU	Unconditional: for agriculture and forestry: reductions of 4.50% (2025) from BAU reductions of 12.57% (2030) from BAU Conditional: for agriculture and forestry: reductions of 14.60% (2025) from BAU reductions of 22.75% (2030) from BAU Other measures mentioned: Sustainable management of forests to reduce GHG and reduce emissions from deforestation	Not applicable	Not applicable

Table B.1. Sectoral targets as stated in NDCs (*Cont.*)

	Energy	AFOLU	Industry	Waste
Nigeria	<p>Residential: 48% of population using LPG, 13% using improved cook stoves by 2030, elimination of kerosene lighting by 2030. 2.5% per year reduction in energy intensity</p> <p>Transport: 100 000 extra buses by 2030 Bus-Rapid Transport will account for 22.1% of passenger km by 2035 25% of trucks and buses using CDG by 2030 All vehicles meet EURO III emission limits by 2023 and EURO IV by 2030</p> <p>Electricity generation: 30% of on-grid electricity from renewables 13 GW off grid renewables Reduce grid transmission and distribution losses to 8% of final consumption, down from 15% in 2018 100% of diesel and single cycle steam turbines replaced Elimination of diesel and gasoline generators for electricity generation by 2030</p> <p>Oil and gas : Zero gas flaring by 2030 60% reduction in fugitive methane emissions by 2031</p>	<p>Agriculture: 1. 50% of cultivated land adopts intermittent aeration of rice paddy fields 2. 50% reduction of crop residues burnt by 2030</p> <p>Forestry and Other Land Use: 1. Improved natural forest management for 128 528 ha of natural forests in the southern belt and southwest quadrant 2. Forest restoration for 115 584 ha of degraded forest area across the states in the southern belt, southwest quadrant and in states located in savanna ecological zone 3. Increased forest protection for 46 219 ha of forest throughout 4. Reduced fuelwood harvest by 19 346 ha 5. Protection and restoration of 13 012 ha mangrove forest ecosystems across all the coastal states in the Niger Delta</p>	80% reduction in HFC consumption by 2047	<p>10% reduction in methane emissions from organic solid waste</p> <p>7.47% recycling rate</p>

Table B.1. Sectoral targets as stated in NDCs (*Cont.*)

	Energy	AFOLU	Industry	Waste
Senegal	Unconditional: 2025: 7.6% 2030: 10% Conditional: 2025: 35.4% 2030: 41.2%	Unconditional: 2025: 1,72% 2030: 2,36% Conditional: 2025: 8,76% 2030: 11,98%	Unconditional: 2025: 0% 2030: 0% Conditional: 2025: 4% 2030: 8,1%	Unconditional: 2025: 10,99% 2030: 11% Conditional: 2025: 65,28% 2030: 65,28%
Sierra Leone	Not specified	Not specified	Not specified	Not specified
Sudan	3 574 580 tCO ₂ e for Utility scale grid connected solar and wind power plants 1 086 360 tCO ₂ e from stand-alone mini grids 26 221 tCO ₂ e from Hydrogeneration improvement 857 506 tCO ₂ e from energy efficiency 463 759 tCO ₂ e efficient appliances in residential areas 6 449 582 tCO ₂ e cleaner transport	Forestry was only mentioned: 35 000 000 tCO ₂ e of removals from 1.7 million hectares of interventions	NA	1 278 822 tCO ₂ e/year from waste management (composting, water treatment, etc.).
Togo	16.89% (2 224.87 Gg CO ₂ -eq) by 2030 (unconditional)	reduction of 28.40% (3 824.20 Gg CO ₂ -eq) by 2030 (unconditional)	limited to hydrofluorocarbon (HFC) sub-sector and corresponds to 0.8% by 2030 (argue cement production does not generate any potential reduction) (unconditional)	reduction of 28.10% (161 125 Gg CO ₂ eq) by 2030 (unconditional)

Source: (UNFCCC, 2022_[16])

Annex C.

Technological needs

Table C.1. Technological needs as stated in NDCs

Country	Energy sector	AFOLU and coastal zones
Benin	<ul style="list-style-type: none"> • Small equipment butane gas cooking equipment • Efficient refrigerators and air conditioners • Bus-boats • Light diesel-electric trains for interurban transport • Solar PV streetlights 	<ul style="list-style-type: none"> • Development and extension of technical itineraries adapted to the new climatic constraints in agro-ecological zone 5 • Mulching • Integrated management of agriculture and livestock of the agropastoral type • Development of small watersheds to improve food and nutritional security for vulnerable populations • Integrated management of lowland rice fields • Integrated soil fertility management • Technology of manure production and use • Low-carbon air and maritime transport
Cabo Verde	<ul style="list-style-type: none"> • Wave energy generation 	<ul style="list-style-type: none"> • Availability of satellite, radar, drone and other international climate observation data, statistics and digital management systems
Gambia	<ul style="list-style-type: none"> • Wind turbines • Upscaling deployment of fuel-efficient biomass combustion stoves • 89 MW of utility-scale solar PV capacity • 3.6 MW of utility-scale wind capacity • Reduction of transmission and distribution losses to 17% • Full replacement of diesel mini grids with solar PV and battery storage systems • Solar water heating facilities to supply 10% of demand by 2030 • 6 MW of solar PV rooftop systems by 2024 • Downsizing the transport sector's carbon footprint 	<ul style="list-style-type: none"> • Sustainable land management • GHG reduction from different rice ecologies • Improving agricultural resilience by implementing climate-smart agriculture • Improving livestock productivity • Reducing food losses • Re-greening degraded landscapes (including protected forests) • Multistrata agroforestry • Aquaculture • Breakwater systems •
Guinea	<ul style="list-style-type: none"> • Mentioned renewable energy in general 	<ul style="list-style-type: none"> • Need for South-South transfer of more advanced decarbonization technologies to complement the Casamance millstone
Guinea-Bissau	<ul style="list-style-type: none"> • Mentioned renewable energy and energy efficiency in general 	
Sierra Leone	<ul style="list-style-type: none"> • Mentioned renewable energy in general • Use of energy-efficient appliances • Building the capacity of the private sector for energy efficiency initiatives • Developing the technical capacity to manufacture energy-efficient cook stoves • Introducing standards for energy efficient infrastructure • Nationally-appropriate mitigation action for the transport sector 	<ul style="list-style-type: none"> • Expanding sustainable forest management and reforestation efforts • Introducing irrigation technologies, including the development of micro-systems for drip irrigation and rainwater harvesting • New approaches to combating soil erosion • Processing and conserving agricultural products • Researching and applying climate-ready crop varieties • Producing biofertilizer as a substitute for chemical fertilizers • Beach nourishment as a response to sea level rise
Togo	<ul style="list-style-type: none"> • High power hydroelectric plant technology • Grid-connected solar photovoltaic (PV) technology • Small or mini hydro technology • Public transport by bus • Road transport technology 	<ul style="list-style-type: none"> • Agricultural land management technology • Integrated agricultural production system technology • Counter seasonal agriculture technology

West Africa and the Global Climate Agenda

COP27 will return to Africa for the first time since 2016 to follow up on the promises made in Glasgow in 2021 to limit global temperatures to well below 2°C by the end of the century as committed under the Paris Agreement. Nationally Determined Contributions (NDCs) enable each country to pursue a tailored approach under the Paris Agreement, with countries setting their own mitigation and adaptation targets with the aim of increasing ambition with each subsequent submission. This report analyses the NDCs of 17 countries in West Africa on some of the pressing issues to be discussed at COP27, namely the ambition of targets in NDCs, the financing needs related to NDCs and their implementation. The objective of this report is two-fold: to inform COP participants where the region stands on these matters, and to identify opportunities for the region in updating NDCs.

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