

RISK&OPPORTUNITIES

Société Générale Economic and Sector Studies

Africa and climate change: needed investments will be difficult to finance

Clément GILLET

Economist – Africa

Particularly vulnerable to global warming, African states have already begun to develop climate strategies, often ambitious but which remain conditional on greater international climate financing. Indeed, the need for climate investments is considerable (equivalent to 1.5% to 6% of the regional GDP per year on average by 2030), even though the region is already unable to finance on its own other investments that are just as essential (infrastructure, health, education, etc.). Even under optimistic assumptions, it is likely that Africa will have a "climate financing gap" of around USD 50 billion per year over the next 10 years, for which innovative solutions (mainly from the private sectors of advanced countries) will have to be found.

Most countries have started to develop climate strategies...

THE FIRST STEP IN CLIMATE POLICIES HAS BEEN TAKEN...

In the previous issue of Risk&Opportunities, we explained that Africa, although a "marginal contributor" to global warming, was highly vulnerable to it. Faced with this observation, most African states have already put in place climate policies.

Within the framework of the COP21, the first step of the climate commitments is for the "Parties" (i.e. states) to present their "Nationally Determined Contributions" (NDC), detailing their post-2020 plan to reduce the amount of GHGs emitted (quantified objectives, implemented and planned policies, allocated financing, etc.). These NDCs must be updated regularly, according to the evolution of GHG emissions.

According to the Africa NDC Hub¹, by mid-February 2022, all African countries – except Libya – have submitted their first NDC (mostly between end-2016 and end-2017), and 44 out of 54 countries have already updated their NDC. Given the very low level of GHG emissions in African countries (see above), it should be noted that the vast majority of reduction targets are expressed in relation to a "Business As Usual" scenario (BAU – what GHG emissions would have been without any change in climate policies), unlike most developed countries, which commit to a reduction in emissions in relation to a reference year (2005 in general). In addition, between the COP21 (2015) and the COP26 (2021), the poorest countries – marginal contributors to global GHG emissions – have started to underline the lack of international (concessional) financing earmarked for their climate transition, even though i) the international community is asking them to meet ambitious reduction targets and ii) their domestic financial resources remain limited (see below). Thus, most of the poorest countries have chosen, in the context of the revision of their NDCs, to communicate in terms of reduction targets "conditional" on obtaining the related international financing (table 1).

¹ A research hub created and hosted by the African Development Bank, and financed by several multilateral agencies (African Union, United Nations, FAO, etc.)

Table 1: main objectives in terms of GHG emissions reduction for selected African countries

	Updated NDC?	Reduction target		
		%	Year	vs.
Algeria	No	7%	2030	BAU
Morocco	Yes	18% minimum 46% incl. conditional	2030	BAU
Tunisia	Yes	27% min. 45% incl. conditional	2030	2010
Egypt	No	Not announced		
Senegal	Yes	7% min. 29% incl. conditional	2030	BAU
Ghana	Yes	15% min. 45% incl. conditional	2030	BAU
Côte d'Ivoire	No	28%	2030	2012
Nigeria	Yes	20% min. 45% incl. conditional	2030	BAU
Cameroon	Yes	12% min. 35% incl. conditional	2030	BAU
Angola	Yes	21% min. 36% incl. conditional	2030	BAU
South Africa	Yes	Not applicable (fixed objectives)*		
Mozambique	Yes	Not applicable**	2025	BAU
Kenya	Yes	32%	2030	BAU

Source: SG Economic and Sector Studies, UNFCCC, Africa NDC Hub.

*: South Africa committed to a level of annual GHG emissions of 350-420 Mt of CO₂ equivalent in 2030 (incl. LULUCF). As a comparison, the country's GHG emissions stood at around 450 Mt CO₂ eq. in 2020 (incl. LULUCF).

** : Mozambique committed to a reduction in GHG emissions of 40 Mt CO₂ equivalent during the 2020-25 period (or 8 Mt CO₂ eq. par annum on average), vs. a BAU scenario in which emissions would have stood at 54 Mt CO₂ eq. in 2025 (excl. LULUCF).

It is obviously difficult to judge the sufficiency, ambition or realism of these different commitments. However, we can note that the research institute Climate Action Tracker², one of the reference institutes for the "rating" of national climate policies, rates rather well the few African countries studied³: among the 8 countries whose climate ambitions are judged "almost sufficient" (i.e. able to limit global warming to 2°C), 5 are in Africa. Only South Africa's and Egypt's policies are more poorly judged, respectively at "insufficient" (i.e. average rating)⁴ and "highly insufficient"⁵.

² <https://climateactiontracker.org/#>

³ Although still few African countries are studied at the moment: Morocco, Gambia, Nigeria, Ethiopia, Kenya, South Africa, Egypt.

⁴ South Africa is penalized by its desire to preserve (partially) an energy mix based on abundant domestic coal resources.

⁵ Egypt is penalized by its ambition to scale up domestic natural gas production and use, and for not having a quantifiable emissions reduction target or an updated NDC.

... BUT THE ARSENAL REMAINS INCOMPLETE FOR THE MOMENT

While the first step of climate commitments (in the "short/medium term" in terms of climate) has been taken, the rest of the "climate arsenal" put in place by African countries remains incomplete.

First of all, it remains difficult for the countries of the continent to effectively monitor their climate commitments. Indeed, most countries do not have (to date) "Monitoring, Reporting and Verification" (MRV) systems, which would allow for example i) to collect climate data in real time or ii) to easily integrate them into other cross-cutting plans: financing plans (climate or other), monitoring of the Sustainable Development Goals (SDGs), etc. Many remediation actions are underway (creation of dedicated national agencies, dedicated trainings, etc.), but the backlog is significant, as is the general lack of statistical capacity in Africa.

Second, Africa has made less progress in developing two other areas of global climate policy:

- Long-term climate commitments. For example, only four countries in the region (South Africa, Nigeria, Benin, Morocco) have submitted their Long Term Low Emission Development Strategies (LT-LEDs)⁶, with another ten or so under development. Moreover, even less countries (South Africa, Nigeria and Malawi) have declared a "Net Zero Emissions" type of commitment, but have apparently not yet included this commitment in their official climate policies (NDCs or others)⁷.
- National Adaptation Plans (NAPs)⁸. According to the Africa NDC Hub, only 6 African countries had submitted their NAPs by October 2021 (but 44 plans were being drafted).

Significant investment needs...

... EQUIVALENT TO 1.5% TO 6% OF GDP PER YEAR ON AVERAGE BY 2030...

Of course, the main question mark as to whether or not these climate ambitions will materialize remains financing. It is difficult to precisely assess the investments needed for the "proper" climate transition of an entire region, especially when the statistical capacities of this region remain deficient (see above).

⁶ LT-LEDs are the long-term horizon of NDCs. Unlike NDCs, they are not mandatory. Nevertheless, they place NDCs in the context of countries' long-term planning and development priorities, providing a vision and direction for future development.

⁷ According to "Net Zero Tracker" (<https://zerotracker.net/about/>). South Africa and Malawi have made commitment for 2050, Nigeria for 2060.

⁸ The NAPs are a sort of operational declination of the NDCs, with the aim of identifying medium- and long-term adaptation needs (to climate change) and developing and implementing strategies and programs to meet them.

Generally, investment policies to fight against global warming are divided into two parts: i) those aiming at mitigating climate change, in particular through the reduction of GHG emissions and the protection/improvement of "carbon sinks" (forests and soils, for example); and ii) those aiming at adapting as well as possible to the negative effects of climate change, through a modification of the modes of organization, the location of activities, or the techniques used.

This distinction between mitigation and adaptation is similar in most cases (but not all) to the distinction explained in the previous issue of Risk&Opportunities between physical risks and transition risks. Thus, physical risks are most often addressed through adaptation investments, while transition risks are most often addressed through mitigation investments.

Here again, two recent studies can be mentioned:

- The IMF (2020) indicates that adaptation costs could amount to between USD 30 and 50 billion per year by 2030, for Sub-Saharan Africa alone. This study does not quantify mitigation costs.
- The Africa NDC Hub⁹, based on African countries' NDCs (and reported projects or financial needs), gives a comparable – though slightly lower – estimate of average annual adaptation costs, estimated between USD 26 and 41 billion for Africa as a whole over the same period. However, these amounts would be supplemented by "loss and damage needs" ranging from USD 289 to 441 billion (cumulative over the next 10 years), depending on the global warming scenario selected (less than 2°C and more than 4°C increases in the average global temperature, respectively). Thus, in total, the investments needed to mitigate physical risks could amount to USD 55 to 85 billion per annum. The Africa NDC Hub study also estimates mitigation costs at USD 71.5 billion per year (again over 2020-2030).

These amounts (table 2) should be compared to total African GDP (estimated at less than USD 2.4 trillion in current terms by the end of 2020), total tax revenues raised on the continent (USD 440 billion in 2020), or total regional investment (private and public – USD 620 billion in 2020)¹⁰.

⁹ Africa NDC Hub; "Africa's NDC journey and the imperative for climate finance innovation"; 2021.

¹⁰ To compare with the last "non-Covid" year: USD 2,480 billion, 504 billion and 670 billion respectively in 2019.

Table2: needed climate investments are large when compared to the region's key metrics

Necessary climate investments, as estimated by...						
Over the 2020-2030 period	USD billion, per annum			% (2020)		
	Min	Max	Avg.	of GDP	of budget receipts	of investment
<i>... Africa Hub NDC (perimeter: Africa)</i>						
Physical risks	55	85	70	2.9%	16%	11%
<i>Adaptation</i>	26	41	34	1.4%	8%	5%
<i>Loss and damage</i>	29	44	37	1.5%	8%	6%
Transition risks / mitigation			72	3.0%	16%	12%
<i>... IMF (perimeter: Sub-Saharan Africa)</i>						
Physical risks / adaptation	30	50	40	2.4%	15%	10%

Source: SG Economic and Sector Studies, IMF, Africa NDC Hub.

... AND THAT COME ON TOP OF OTHER, PRE-EXISTING NEEDS THAT ARE ALSO CRUCIAL

Unfortunately for Africa, these necessary climate investments come on top of other investments in areas where the continent is also lagging behind other emerging zones: "physical" infrastructure (energy, water supply and sanitation, information and communication technology, road and other transport infrastructure, etc.); human capital (health, education, poverty reduction, etc.); or even more generally to fully realize its growth potential through a more sustainable, more resilient model of development (i.e. not only focused on a few "pockets of growth" such as extractive industries or large cities acting as international hubs, etc.)¹¹.

It is difficult to give a comprehensive estimate of these total investment needs, if only because several categories "overlap" (i.e. an investment in renewable energy can be counted in both the "climate" and "energy" categories). Nevertheless, we can note for example that:

- The African Development Bank estimated (in 2018) the continent's infrastructure needs at USD 130-170 billion per year;
- A recent study (early 2022) by the Brookings Institute¹² estimates the total amount of investments needed for infrastructure, climate and biodiversity preservation at USD 200 billion per year by 2025, then at nearly USD 400 billion per annum between 2025 and 2030.

¹¹ This issue was discussed more extensively in Risk&Opportunities #2 and #3 published in February 2019.

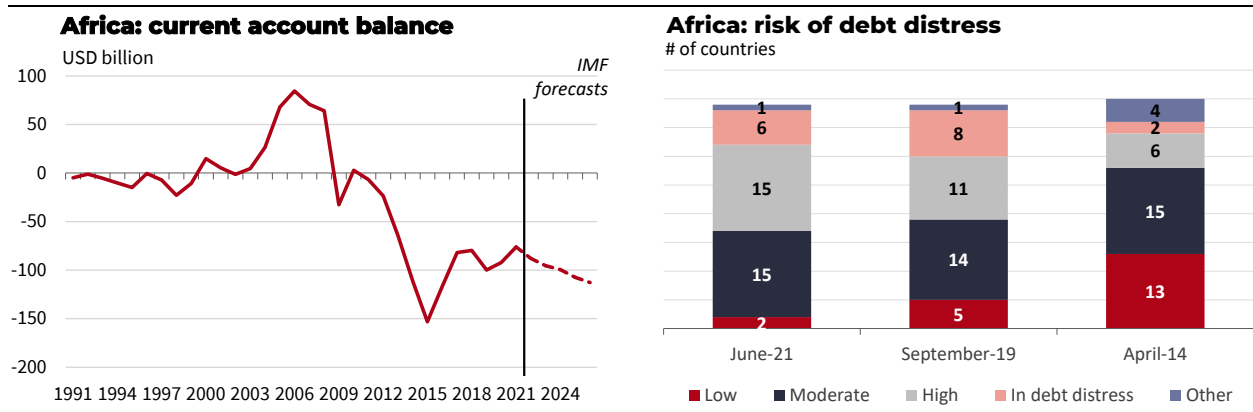
¹² <https://www.brookings.edu/blog/africa-in-focus/2022/02/08/the-criticality-of-climate-finance-for-africa/>

... which will be difficult to finance

LOCAL INVESTMENT CAPACITIES ARE STILL TOO LIMITED

Because of their importance and because they cannot be made "in place of" investments in other equally important areas, climate investments cannot be financed by African countries alone. Local savings capacity is already insufficient to finance current growth, as illustrated by the region's structural current account deficit¹³ (chart 3).

Charts 3 and 4: African countries' investment capacities are already too limited



Source: SG Economic and Sector Studies, IMF, World Bank

On the public side, it is likely that in the coming years African governments will not be able to increase their investments, but will instead have to pursue consolidation policies that will correct public finance trajectories that have often become unsustainable. States in the region have, on average, debt levels that are already too high given their level of wealth (and thus their ability to raise taxes). Moreover, according to the public debt sustainability analyses regularly conducted by the IMF and the World Bank, more than 20 African countries are already in a situation of debt distress or are at high risk of debt distress (a proportion which has deteriorated significantly since 2014 – chart 4).

On the private side, local banking systems generally still seem too narrow to finance the climate transition. Contrary to what was expected at the beginning of the 2000s, bank intermediation has in fact made little progress: the ratio of "bank credit to the private sector as a % of GDP" has remained stable (or even slightly decreased) for more than 30 years in Sub-Saharan Africa (below 30%), whereas it has almost

¹³ As a reminder, the current account balance is the sum of the trade and services balances, current transfers (grants, aid, etc.) and income (wages, dividends, interest, etc.). It can also be expressed as the difference between savings and investment (public and private) at the national level, due to the demand-side decomposition of GDP:
 $GDP = consumption + investment + exports - imports + change\ in\ inventories.$

doubled for the average developing country (from 23% in the early 1990s to 45% in 2020).

A NECESSARY CONTRIBUTION FROM ADVANCED COUNTRIES... NOT (COMPLETELY) THERE YET

Thus, it is essential that advanced (richer) countries contribute to the financing of the African climate transition, via their public and private sectors. As early as during the COP15 (Copenhagen, 2009), advanced countries committed to mobilize USD 100 billion of climate finance per year by 2020 (public + private) for all emerging and developing countries. This commitment was then formalized at the COP16 in Cancun in 2010 and extended until 2025 at the COP21. Unfortunately, the OECD recently confirmed¹⁴ that this target is far from being met, with "only" USD 80 billion of climate finance provided and mobilised in 2019, for example (table 5).

Table 5: climate financing remains insufficient

Climate finance provided and mobilised by OECD countries, for emerging and developing countries							
USD billion	2013	2014	2015	2016	2017	2018	2019
Bilateral public climate finance (1)	22.5	23.1	25.9	28	27	32	28.8
Multilateral public climate finance attributable to developed countries (2)	15.5	20.4	16.2	18.9	27.5	29.6	34.1
Multilateral development banks	13	18	14.4	15.7	24.1	25.8	30
Multilateral climate funds	2.2	2	1.4	2.6	2.9	3.5	3.8
Inflows to multilateral institutions (where outflows unavailable)	0.3	0.4	0.4	0.6	0.5	0.3	0.3
Climate-related officially-supported export credits (3)	1.6	1.6	2.5	1.5	2.1	2.1	2.6
Subtotal (1+2+3)	39.5	45.1	44.6	48.5	56.7	63.7	65.5
Private climate finance mobilised (4)*	12.8	16.7	nd.	10.1	14.5	14.6	14
By bilateral public climate finance	6.5	8.1	nd.	5	3.7	3.8	5.6
By multilateral public climate finance attributable to developed countries	6.2	8.6	nd.	5.1	10.8	10.8	8.4
Grand Total (1+2+3+4)	52.2	61.8	nd.	58.6	71.2	78.3	79.6

Source: SG Economic and Sector Studies, OECD.

*: Private climate finance mobilised attributable to developed countries consists of that proportion of finance from private sources mobilised by bilateral and multilateral public finance interventions in support of climate activities in developing countries which can be attributed to developed countries.

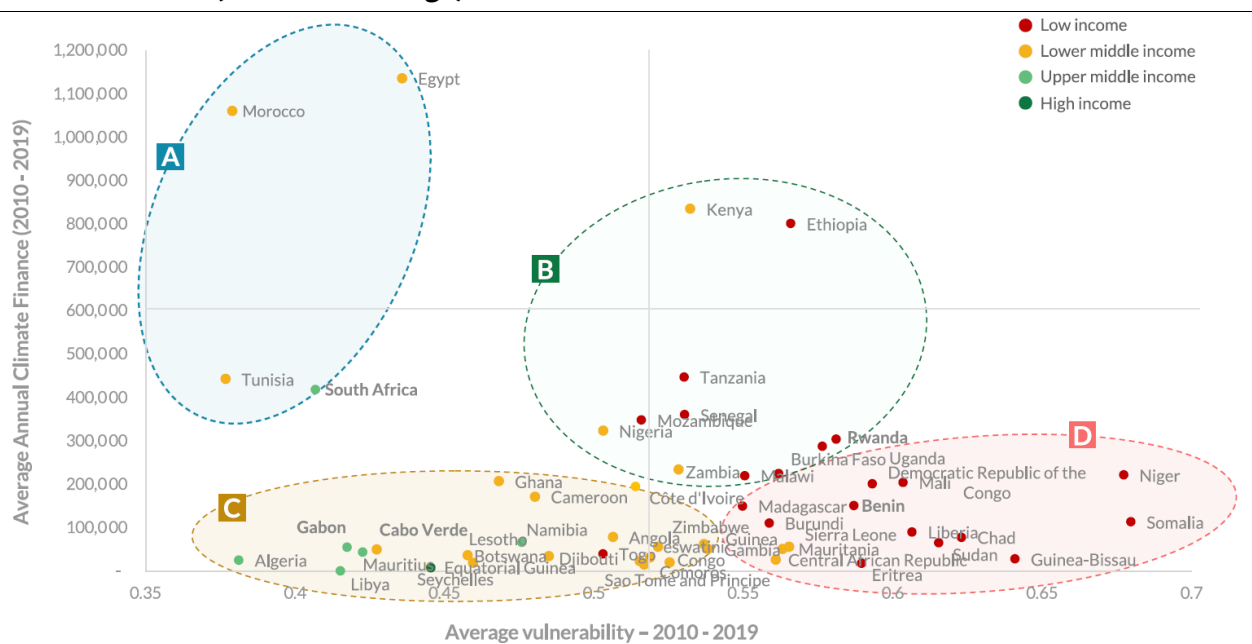
Africa's share of this climate finance has remained broadly stable, rising from an average of 23% between 2010 and 2015 to 26% between 2016 and 2019. Over this

¹⁴ OCDE; "Climate Finance Provided and Mobilised by Developed Countries: Aggregate Trends Updated with 2019 Data"; Paris; 2021.

last period, the continent has received an annual average of USD 18.5 billion from OECD countries – most of these funds being directed to the energy sector.

While advanced countries officially confirmed the USD 100 billion target at the COP26 in Glasgow (although pushing back the target to 2023), it is unlikely that this commitment will be met in the short term, given the increasing budgetary constraints on OECD countries following the Covid crisis. Furthermore, the Africa NDC Hub, using OECD data, indicates that this funding is not necessarily "earmarked" or channelled in an optimal way: the most vulnerable countries (according to the Notre Dame Global Adaptation Initiative vulnerability indicator) are not the ones that receive the most climate funding (chart 6)¹⁵.

Chart 6: countries that receive the most climate funding are not necessarily these which are the most vulnerable (to climate change)



Source: Africa NDC Hub, using the ND-GAIN vulnerability index. Average yearly climate financing expressed in USD.

Category A: countries receiving large funding with relatively lower vulnerability.

Category B: countries receiving medium funding with relatively medium vulnerability.

Category C: countries receiving small funding with relatively lower to medium vulnerability.

Category D: countries receiving small funding with relatively medium to higher vulnerability.

NEW FINANCING SOLUTIONS WILL NEED TO BE FOUND

In total, assuming:

- A (relatively conservative) estimate of climate investment needs of up to USD 100 billion per year (adaptation and mitigation);

¹⁵ Part of the explanation is likely that these countries most vulnerable to global warming most often have very low levels of governance, which can both (i) cut them off from major donors, and (ii) limit their technical capacity to structure and apply for climate finance.

- A persistent difficulty for African countries to finance these investments themselves, due to – inter alia – already fragile balance sheets (as far as governments are concerned) and a still too limited local banking intermediation (as far as the private sector is concerned). The capacity for these countries to finance "on their own" 20% of the needs estimated above already seems relatively optimistic;
- A (gradual, but *a priori* optimistic) increase in international climate finance flows to Africa, from USD 18.5 billion currently to USD 30 billion by 2030;

Africa as a whole would have a "climate finance gap" of about USD 50 billion per year (a very rough estimate, of course), for which innovative solutions (probably from the private sectors of advanced countries that could consider the financing of the African climate transition as an interesting business opportunity) will have to be found.

CONTACTS

Michala MARCUSSEN

Group Chief Economist
+33 1 42 13 00 34
michala.marcussen@socgen.com

Olivier de BOYSSON

Senior Advisor to the Chief Economist
+33 1 42 14 41 46
olivier.de-boysson@socgen.com

Emmanuel MARTINEZ

Chief Environment Economist
+33 1 57 29 57 88
emmanuel.martinez@socgen.com

Ariel EMIRIAN

Macroeconomic analysis
+33 1 42 13 08 49
ariel.emirian@socgen.com

Edgardo TORIJA ZANE

Macro-sectoral and macro-finance analysis
+33 1 42 14 92 87
edgardo.torija-zane@socgen.com

Evelyne BAHN

Asia
+33 1 57 29 37 39
bei.xu@socgen.com

Constance BOUBLIL-GROH

Central & Eastern Europe, Russia
+33 1 57 29 08 73
constance.boublil-groh@socgen.com

Jacopo Maria D'ANDRIA

Macro-finance analysis, UK
33 1 42 14 25 51
jacopo-maria.d'andria@socgen.com

Laurent DEJARDIN-VERKINDER

Macro-sectoral analysis
+33 1 58 98 40 53
laurent.dejardin-verkinder@socgen.com

Joe DOUAIHY

Macro-sectoral analysis
+33 1 58 98 64 87
joe.douaihy@socgen.com

Clément GILLET

Africa
+33 1 42 14 31 43
clement.gillet@socgen.com

Erwan JAIN

Macro-sectoral analysis
+33 1 58 98 05 35
erwan.jain@socgen.com

Alan LEMANGNEN

Euro area, France, Germany
+33 1 42 14 72 88
alan.lemangnen@socgen.com

Danielle SCHWEISGUTH

Western Europe
+33 1 57 29 63 99
danielle.schweisguth@socgen.com

Stéphanie HUET

Assistant
+33 1 57 29 34 97
stephanie.huet@socgen.com

Yolande NARJOU

Assistant
+33 1 42 14 40 07
yolande.narjou@socgen.com

Société Générale | Société Générale Economic and Sector Studies | 75886 PARIS CEDEX 18

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