Image by Benjamin Stephan

Enhancing private sector finance through the Transparency Framework of the Paris Agreement:
A sub-Saharan African perspective

Authors: Max Horstink, John Thorne, Jessy Appavoo (SouthSouthNorth)

Date: September 2019

Key words: Africa, climate finance, private sector, Paris Agreement, Transparency Framework, NDCs.

Abstract

The financial provisions of the Paris Agreement (PA) oblige developed countries to mobilise and provide financial resources to developing countries and report on progress. Meanwhile, developing countries are required to report on financial and capacity-building support needed and received. This paper argues that a parallel process is required where developing country Parties additionally report on their plans to attract and receive climate finance, in particular from private sources, to fund their Nationally Determined Contributions (NDCs). The article analyses how the United Nations Framework Convention on Climate Change (UNFCCC) reporting requirements currently speak to sub-Saharan African countries´ climate finance plans and architecture, and whether the financing of NDC implementation could be further enhanced through additional guidelines. The analysis supports other research that suggests that most sub-Saharan African countries are dependent on external financial support at a scale that vastly exceeds the amount that is currently pledged by developed countries. This makes the availability of private climate finance crucial for these countries to achieve their PA goals. Moreover, the paper demonstrates that current country documentation including NDCs, National Communications (NCs) and Biennial Update Reports (BURs) do not reflect an advanced level of development towards investment approaches. To address these challenges, climate finance must have a more prominent role in the Convention's Transparency Framework communication requirements and dialogue. Communicating climate finance strategies and investment plans, related progress and barriers, and the envisioned role of the private sector through the Convention's channels, would help keep track of countries´ progress in terms of attracting climate finance, stimulating peer-learning, and enhancing investor confidence by sending a message to the marketplace.

Key policy insights:

1. To ensure financing of sub-Saharan African countries´ NDCs, current guidelines under the PA Transparency Framework should explicitly include these countries' climate finance approaches and the role of the private sector.

2. Resulting reporting should feed the participatory discussions of the Convention, namely the Global Stocktake (GST) and the Standard Committee on Finance (SCF) to inform Parties on updating and enhancing their next round of NDCs.

3. The financial and technical support available through the Convention should have an increasing focus on reporting on sub-Saharan African countries´ climate finance architecture and include training of government officials within the ministries.

4. A sector-based approach to financing the NDCs overseen by multi-sectoral governance could lead to transformative public and private investment flows in sub-Saharan African countries.

5. To support the radical and effective transformation of the productive sectors in sub-Saharan African countries in the medium to long term as required by the PA, the financial sector should be included as a distinct prioritised sector in low emissions development strategies with a focus on governance, regulation, and capacity building.

TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF TABLES

1. Introduction

The PA, adopted in 2015 by 195 countries that are party to the UNFCCC, established a first-ever framework of universal action to tackle climate change, which is set to start in 2020. To be able to achieve the long-term goals set out in the PA, the World Economic Forum (WEF) forecasts that global annual business-as-usual infrastructure investments of US$5 trillion from 2020 would need to be greened (WEF, 2013). Furthermore, there would be additional incremental investment needs of at least US$700 billion per year at the global level, or seven times the agreed amount to be mobilised by the industrialised countries for the implementation of Nationally Determined Contributions (NDCs) to support a 2ºC scenario (WEF, 2013). In 2016, the total annual volume of climate finance was estimated at US$410 billion, albeit noting data gaps (Climate Policy Initiative (CPI), 2017).

Much of the finance needs for the green infrastructure transition are pertinent to the developing world, however, currently only around 3% of this amount is used to fund low carbon development and climate resilience in sub-Saharan African countries (CPI, 2017). Financing countries´ NDCs in the short, medium and long term is a key challenge that needs to be tackled in a more coordinated manner if it is to be mainstreamed in the economies of sub-Saharan African countries. The continent faces a huge infrastructure and finance gap that will need to be resolved by taking into account both the PA and the Sustainable Development Goals (SDGs) to avoid expansion into carbon-intensive capital stocks and being locked in to pathways of increasing greenhouse gas (GHG) emissions in the post-2020 era.

Sub-Saharan Africa is currently not only under-represented in global climate finance flows, but it is characterised by poor investment climates and low investor confidence for a number of reasons including high risk profiles, capacity gaps, underdeveloped markets, policy uncertainties and high transaction costs. These countries will need to focus on an enabling environment to attract climate finance. It is widely recognized that climate change cannot be addressed using public financial resources alone (UNFCCC, 2018). In light of the magnitude of the finance gap, private sector finance will be a critical component (UNFCCC, 2018; World Bank, 2015).

The PA requires countries to draw up NDCs that serve as high-level national climate action plans both to reduce GHG emissions and increase resilience to climate change through adaptation interventions. The NDCs confirm the countries´ continued commitment through increased ambition levels to be pursued, elaborated and submitted to the UNFCCC secretariat in 5-year cycles.

A GST process starting in 2023 and recurring every five years thereafter to assess the collective progress towards achieving the goals of the PA shall inform the preparation of each updated and enhanced NDC. Article 2.1c of the PA stipulates the aim of making finance flows consistent with a pathway towards both low GHG emissions and climate-resilient development (UNFCCC, 2015). This puts climate finance in a central role for the implementation of the accord and sends a strong signal to countries to consider all types of finance (public and private, domestic and international) to fund their NDCs.

Moreover it urges countries to ensure finance moves away from carbon-intensive capital stocks and pathways of increasing GHG emissions. Article 4 affirms commitments to provide financial, capacity and technical support to developing countries for the implementation of their national plans. In response, some developing countries have distinguished between an unconditional and conditional part of their NDC, with the latter part usually representing the aim for higher ambition depending on international financial support.

Article 9 of the PA stipulates that developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention (UNFCCC, 2015). In addition, the accord states that developed country Parties should continue to take the lead in mobilising climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds through a variety of actions, including supporting country-driven strategies, and taking into account the needs and priorities of developing country Parties (Article 4, paragraph 2; UNFCCC, 2015).

Furthermore, Article 13 states that developed country Parties are obliged to divulge information on financial support provided to developing country Parties, and developing country Parties are expected to provide information on financial support needed and received. The PA thus puts the onus on developed countries to mobilise and provide financial resources to developing countries.

This paper argues that a parallel process is required where developing country Parties go beyond merely reporting on financial needs and elaborate strategies and plans to attract and receive climate finance, in particular from private sources, to fund their NDCs. There are currently no specific guidelines or requirements for detail on such plans. This paper builds on the hypothesis that if developing countries formulate and communicate their climate finance strategies and planned architecture, this could increase investor confidence, stimulate peer-learning between developing countries, and enhance both public and private sector climate finance.

At the 24th session of the Conference of the Parties (COP) to the UNFCCC in Katowice, Poland in December 2018, governments adopted a robust set of guidelines for implementing the PA as of 2020, including key principles such as transparency, ambition, and finance. On finance, the COP agreed on a process to establish a new quantified higher goal for climate finance prior to 2025 to follow on from the current target of US$100 billion per year from 2020 to support developing countries. Given the need to mobilise climate finance in sub-Saharan Africa, this paper analyses to what extent and approach private sector climate finance can be enhanced through these reporting requirements and the planned GST processes under the PA, including reporting and participatory dialogue processes.

The following research questions are addressed:

1. How and to what extent can private sector climate finance be enhanced through the provisions of the PA, including the NDC development cycles, the Transparency Framework, the GST and Participatory Dialogue processes?
2. What role must the private sector and especially the financial sector play in these processes?
3. What specific approaches and strategies could be taken to stimulate private sector finance through these processes and would they need to evolve over time as ambition is increased in NDCs?

The arguments and recommendations used in this paper are in part based on the findings of a research project that aimed to assess how the private sector can be best incentivised to contribute to the financing of mitigation and adaptation activities as part of the implementation of NDCs in sub-Saharan African countries.

The project entitled Private Sector Investment for NDC Implementation in Sub-Saharan Africa (PRINDCISSA) focused on research and stakeholder engagement with the objective of assessing and enhancing private sector participation in climate finance for mitigation and adaptation interventions in sub-Saharan Africa. The project aimed to analyse the role of the private sector in sub-Saharan Africa and to assess how domestic and international climate finance, as well as market-based mechanisms and carbon pricing, could further stimulate investment. The above-mentioned analysis led to the development of recommendations for policy-makers at national and international levels to enhance private sector participation in NDC implementation.

2. Background

Sub-Saharan Africa is currently significantly under-represented in global investment flows. Figure 1 represents International Monetary Fund (IMF) investments across several regions and highlights that sub-Saharan Africa experiences the lowest level of private investment.

Increasing private investment is critical for the region to achieve sustainable development over the medium- to long-term. A crucial component of financing climate projects is the provision and conditions of debt. This poses a significant challenge for the region´s climate agenda, as the ratio of credit to GDP is only 18% in sub-Saharan Africa, compared to 37% in South Asia and 47% in Latin America [1][i]. Figure 2 below shows the private sector credit growth across sub-Saharan African countries from 2016 to 2017.

With regard to geographic distribution, Asia remains the principal recipient region of public climate finance flows as indicated in Figure 3.

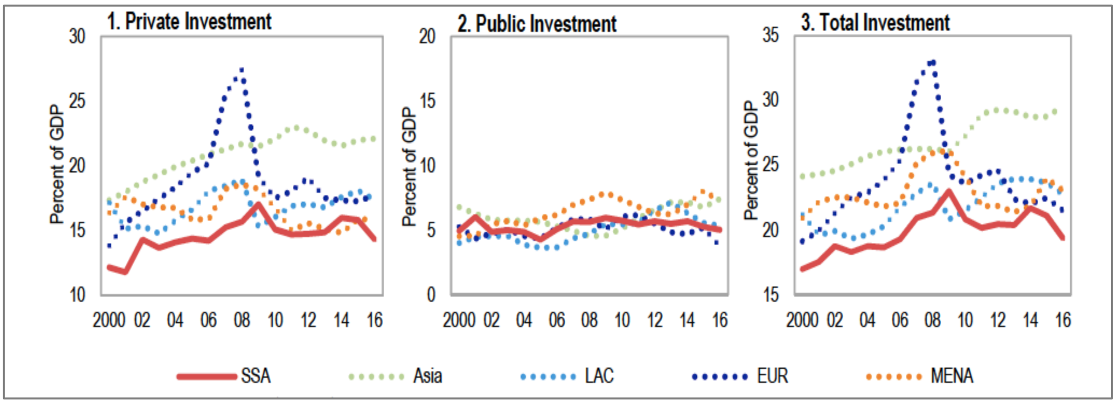

Figure 1: IMF investment vs GDP across regions in the world (IMF, 2018)

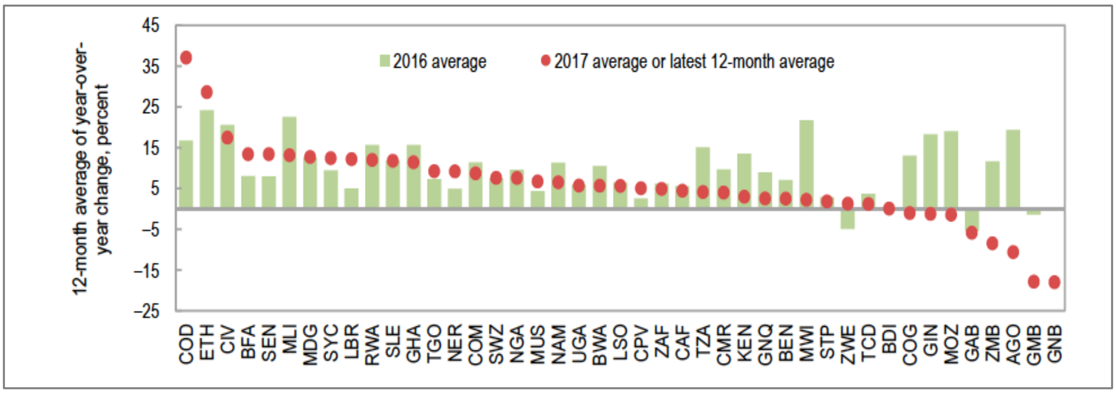

Figure 2: Credit growth in the private sector across sub-Saharan African countries from 2016-2017 (IMF, 2018)

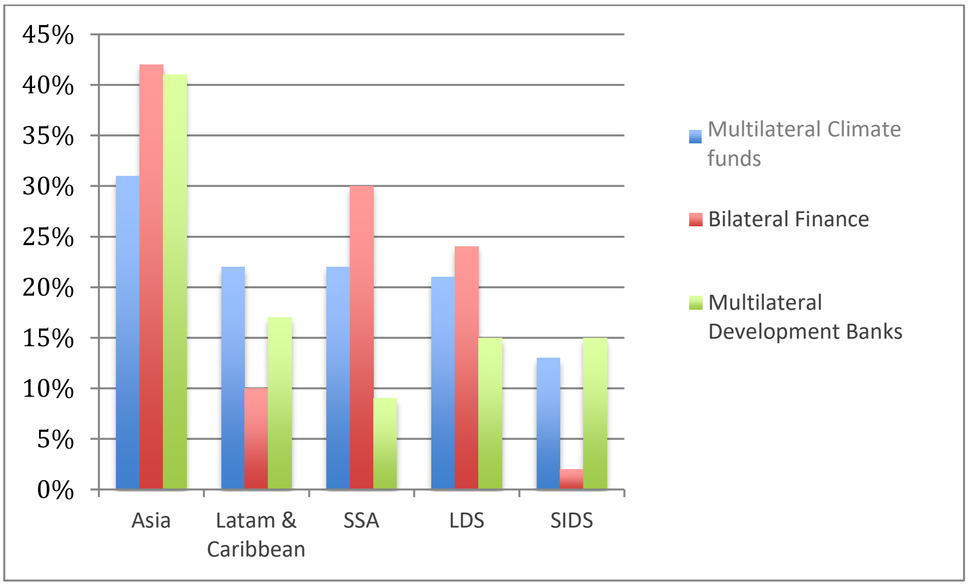

Figure 3: Public climate finance by source and geography for the 2015/16 financial year (UNFCCC, 2018)

3. Methodology

This paper argues that a process is needed that requires developing country Parties to not only report on their financial needs, but to also report on their strategies and plans to attract and receive climate finance, in particular from private sources, to fund their NDCs. The paper builds on the hypothesis that if developing countries formulate and communicate their climate finance strategies and planned architecture, this could increase investor confidence, stimulate peer-learning between developing countries, and enhance both public and private sector climate finance.

The paper analyses to what extent and with what approach private sector climate finance can be enhanced through the international governance structures of the PA, including the NDCs, the Transparency Framework and the GST. It examines how the Convention´s reporting requirements and submissions currently speak to the climate finance architecture, and which elements may be mainstreamed, amplified or incorporated to further enhance private sector financing of NDC implementation.

The paper reviews the initial Intended Nationally Determined Contributions (INDCs) (explanation of INDCs?) that were submitted in 2015 and 2016 to the UNFCCC secretariat, as well as other relevant reports such as NCs and BURs. For this purpose, 27 sub-Saharan African country INDCs were reviewed. Furthermore, existing INDC databases and literature have been consulted to draw further conclusions on sub-Saharan African countries' climate finance approaches.

Section 4.2 of this paper explores the INDCs of sub-Saharan African countries with respect to the countries' approach on implementation and finance, if this information is available. The section examines the level of detail recorded in the INDCs in respect of the climate finance architecture and strategies for sub-Saharan African countries at both the domestic and international levels to determine their approach towards attracting private sector finance and how this is reported. This may include information on investment plans and portfolios, and the associated intended supporting policy framework.

Section 4.3 examines other relevant existing and future reporting requirements under the Convention starting with examples of existing NCs and BURs. The section goes on to assess the guidelines for the future Biennial Transparency Reports (BTRs), and the scope and approach of existing and future participatory dialogue sessions. The information on the climate finance landscape and architecture of the countries presented in the INDCs is compared to the NCs and BURs submissions, to assess the extent to which they differ and whether additional information on investment plans and strategies are presented in these reports.

Using the analysis of existing INDCs, NCs, and BURs, this paper provides recommendations on the drafting of upcoming NDCs, NCs and BTRs under the PA Transparency Framework, and a potential update of the guidelines. The paper draws conclusions on how private sector finance could be enhanced through these processes.

This section builds on research undertaken by the African Development Bank (AfDB) in 2015 that analysed the INDCs of all African countries participating in the Climate Investment Funds (CIF)[ii], which included 24 sub-Saharan African countries (AfDB, 2015). The AfDB study analysed the following features for every country:

- The level of detail of the mitigation policy measures in the INDC, including the existence of Nationally Appropriate Mitigation Actions (NAMAs) and prior engagement in Clean Development Mechanism (CDM) activities.
- The degree of conditional and unconditional mitigation contribution ambition, based on the emission reduction target compared to the baseline.
- The degree of mitigation contribution conditionality, based on the level of financial support requested per capita.
- The willingness to engage in market mechanisms.

The current study includes a number of non-CIF supported countries that are among the top ten emitters in sub-Saharan Africa. The general approach is centred on assessing the existence and quality of climate finance elements in the INDCs and the Transparency Framework documents, and analyses the following additional elements within the country document submissions:

- The nature of the country´s mitigation targets, i.e. whether governments have committed to numerical GHG mitigation targets or to implementing policies or actions.
- The level of detail on the country's investment needs, broken down for planned mitigation and adaptation activities (either aggregate, per activity, or sector), and the conditional and unconditional share, if applicable.
- The level and detail of potential funding sources, whether or not the private sector is specifically included as a target, and whether investment needs are coupled to these sources of finance;
- The existence and quality of country investment plans or strategies.
- The intended approach to market mechanisms (i.e. buy or sell).

Table 1 provides an explanation for the assessment of some of the above criteria, specifying threshold levels and qualitative qualifiers. The other criteria are either deterministic/numerical or can be answered positively or negatively (yes/no). Note that the first three criteria aim to provide an indication of the country´s ambition level and the policy framework that would support it but focus on the NDCs' mitigation component policy only, as per the AfDB's research (AfDB, 2015). The other criterion covers both adaptation and mitigation equally.

Section 4.3 also includes analysis on how the participatory dialogue and assessment sessions, including the GST**,** the SCF, and the biennial High-level Ministerial Dialogue, can stimulate private sector climate finance flows. Section 4.4 and 4.5 discuss how the policy framework and sectoral approaches could unlock the barriers to climate finance.

Using this analysis, conclusions have been drawn on the region's financing needs, the investment climate within the countries and the region, and finally on potential approaches and recommendations to enhance climate finance flows through the PA reporting and participatory dialogue processes. The article concludes with a set of recommendations based on the paper's findings and information gathered from stakeholder engagements within the PRINDCISSA project, existing body of literature and experience in implementing mitigation and adaptation projects in the region.

Definitions	LOW	MEDIUM	HIGH
Level of detail of mitigation policy	INDC with limited specificity and no significant supporting policy documents	INDC that demonstrates engagement in concrete mitigation activities such as development of NAMAs and has a certain level of CDM activity	INDC built on a fully-fledged national GHG reduction strategy and utilises climate policy instruments in a mutually reinforcing manner to achieve real mitigation and sustainable development co-benefits
Emission reduction target in NDC (unconditional)	Less than 5% reduction from baseline	5-10% reduction from baseline	More than 10% reduction from baseline
Emission reduction target in NDC (conditional)	Less than 15% reduction from baseline	15-40% reduction from baseline	More than 40% reduction from baseline
Level of financial support required per capita	Below US$100 per capita	US$100 - 300 per capita	Over US$300 per capita
Level of detail of country NDC investment plans or strategies	NDC with limited specificity and no significant supporting policy documents. NDC may refer to a country investment strategy or investment plans, but does not provide details. Provides overview of investment needs and identifies potential finance sources. May propose the development of a National Fund as a mechanism to mobilise finance from various sources, but does not outline a strategy for the Fund. Presents an early vision on financing the NDC. Presents priority investment areas	NDC may refer to a developed NDC investment strategy or investment plans and provides some level of detail. NDC matches total investment needs to an extensive list of diverse funding sources, and mentions existing sector investment plans. Public Private Partnerships (PPP) will be facilitated to enable the contribution of the private sector in the financing of climate change implementation	NDC clearly refers to and outlines a NDC investment strategy and investment plans. Development of a National Fund as a mechanism to mobilise finance from various sources and an outline of the strategy is provided. Presents range of instruments that aim to stimulate investment. National Investment Programme for certain sectors

Table 1: Assessment of select key criteria

Row 1-3 based on AfDB (2015). Row 4 relates to own research

4. Research findings

4.1 Intended Nationally Determined Contributions (INDCs)

NDCs are at the heart of the PA as they outline Parties' climate action plans towards the achievement of the Agreement's long-term goals. Ahead of COP21 in 2015 where the Agreement was established, COP19 and COP20 invited all Parties to communicate their initial pledges through INDCs to the UNFCCC secretariat to inform the climate agreement negotiations.

In drafting the initial INDCs, countries could not rely on detailed official guidelines since the negotiations failed to deliver detailed requirements. COP20 in Lima in 2014 and the resulting Lima Call for Climate Action delivered rather limited guidelines. Although the UNFCCC convened a series of Regional Technical Dialogues on INDCs to support countries in the process of preparing their contributions, Parties expressed the need for further guidelines resulting in a number of unofficial guides by independent organisations. Countries were thus granted a great deal of flexibility in drafting their INDCs. Most guides, however, suggested means of implementation or resource mobilisation strategies.

The analysis in this paper starts with an exploration of INDCs from sub-Saharan African countries submitted to the UNFCCC Secretariat in 2015 and 2016 in respect of the countries' approach on implementation and means of implementation, if recorded. The paper examines the level of detail in the INDCs with regard to the climate finance architecture and strategies for sub-Saharan African countries at both the domestic and international levels in order to attract private sector finance and how this is reported.

4.2 The climate finance landscape of the INDCs

Notably, all sub-Saharan African countries combined account for 7.2% of global GHG emissions (Climate Watch Data, 2014). These countries have ambitious development paths, and national development plans in place, and intend to integrate these with climate change strategies. The PA therefore provides a unique opportunity to green the infrastructure development of these countries from a relatively early stage and avoid carbon "lock-in".

Most developing countries' NDCs distinguish between conditional and unconditional goals and targets. 'Conditional' often represents an increase in ambition over and above the 'unconditional', subject to external financing, technology development and transfer, and capacity building. Table 2 provides an overview of key characteristics of 27 sub-Saharan African countries' submitted INDCs, representing 91% of GHG emissions in the region, and including the top 10 emitters (Climate Watch Data, 2014).

The table summarises the analysis on country INDCs with respect to the detail of climate ambition, the supporting policy framework and associated investment needs. Key aspects are the detail of mitigation policy and the nature of the mitigation targets (i.e. a concrete GHG mitigation target or commitment to implementing policies or actions), the level of ambition of the contributions broken down in the conditional and the unconditional part (if applicable), the associated investment needs, and the intentions of participating in market mechanisms. To put finance needs into context, 19 countries out of the 27 (70%) included in this research are categorised as Least Developed Countries (LDCs), whereas in total 33 countries out of 49 in sub-Saharan Africa are categorised as LDCs.

Country	Detail of mitigation policy	Ambition of mitigation contribution (unconditional)	Ambition of mitigation contribution (conditional)	External financial support required per capita	Willingness to engage in market mechanisms	GHG Mitigation target	LDC
Nigeria	Medium	High	High	Unclear	Yes, sell	Yes	No
Ethiopia	High	Low	High	High	Yes, sell	Yes	Yes
Democratic Republic of the Congo (DRC)	Low	Low	Medium	Medium	Unclear	Yes	Yes
South Africa	High	Low	Low	Unclear	Unclear	Yes	No
Tanzania	Medium	Low	Medium	High	Unclear	Yes	Yes
Kenya	High	Low	High	High	Yes	Yes	No
Uganda	High	Low	Medium	Medium	Yes	No, actions only	Yes
Sudan	Not examined	Not examined	Not examined	High	Yes	No, actions only	Yes
Ghana	Medium	Medium	High	High	Yes, sell	Yes	No
Mozambique	Medium	Low	Medium	Unclear	Yes	No, actions only	Yes
Côte d´Ivoire	Low	High	High	Unclear	Yes	Yes	No
Madagascar	Low	Low	Medium	High	Unclear, not buying	Yes	Yes
Cameroon	Low	Low	High	High	Yes, sell	Yes	No
Angola	Not examined	Not examined	Not examined	High	Yes, probably sell	Yes	Yes
Niger	Low	Low	High	High	Yes, sell	Yes	Yes
Burkina Faso	Medium	Medium	Medium	High	Yes	Yes	Yes
Malawi	Medium	Low	Low	Unclear	Unclear	No, actions only	Yes
Mali	Medium	High	Medium	High	Unclear	Yes	Yes
Zambia	Medium	Low	High	High	Yes, to meet target	Yes	Yes
Rwanda	Low	Low	Low	High	Unclear	Yes	Yes
Benin	Low	Low	Medium	High	No	Yes	Yes

Sierra Leone	Low	Low	High	Medium	Yes	No, actions only	Yes
Liberia	Medium	Low	Medium	Unclear	Yes	Yes	Yes
Republic of the Congo	Low	Low	High	High	Yes	Yes	No
Lesotho	Medium	Medium	High	High	Yes	Yes	Yes
Namibia	Not examined	Not examined	Not examined	High	Yes, to meet target	Yes	No
The Gambia	Medium	Low	High	Unclear	Yes, sell	Yes	Yes

Table 2: Overview of African countries' NDC landscape
(Columns 2 to 5 adapted from AfDB (2015). Angola, Sudan, and Namibia based on own research; countries arranged in descending order, based on population size)

Key observations from Table 2 and the content of the INDCs include:

- All of the countries have both a mitigation and adaptation component. Developing countries and especially LDCs are most vulnerable to climate change impacts.
- Of the 27 analysed countries' NDCs, 22 (or 81.5%) have committed to GHG reduction targets, either partially or fully conditional upon international finance. Five countries (18.5%) committed to the implementation of policies and actions without setting a mitigation target.
- The research from the AfDB (AfDB, 2015) suggests a low level of ambition from the unconditional mitigation contribution in general in sub-Saharan African countries with 75% of the considered countries marked "low ambition", whereas half of the countries for the conditional part of their NDCs are categorised as "high ambition". This suggests that the pursuit of adequate levels of climate action in these countries is mostly dependent on external financial support and makes the availability of international climate finance, and the private sector finance that will be leveraged by it, crucial to achieve the majority of PA goals for these countries.
- The 'detail of mitigation policy' is marked high for only four countries (16.7%), and medium for almost half of the countries. A vision and high level of detail of national policies indicates country commitment and is generally considered to increase investor confidence.
- Twenty countries out of 27 (74%) indicate they are willing to use market mechanisms in one form or another, one country is not willing, and the other seven countries do not make it clear. Potential engagement with market mechanisms may follow diverse perspectives, while most countries indicate the intention or option to sell carbon credits. Some countries such as Namibia and Zambia declare they would not rule out using carbon markets to support achieving their mitigation goals, which could imply buying carbon credits. The government of Madagascar indicates unwillingness to buy carbon credits but does not make it clear whether it would sell carbon credits. As most of the analysed countries have committed to GHG reduction targets, the rules of Article 6 will need to clarify whether selling countries may count these efforts towards their NDC goals, taking into account double counting issues.

Table 3 provides an overview of the finance needs for NDC implementation for 27 countries in sub-Saharan Africa (based on own research), as far as available in the INDCs (UNFCCC, 2019a). Column 2 presents the total financing needs of the countries to implement their INDCs, column 3 the cost per capita, columns 4 and 5 the unconditional and conditional share of investment, and finally columns 6 and 7 break down the aggregate costs for the countries' planned mitigation and adaptation activities, respectively.

Country	Total (US$ billion)	Total funding US$ per capita	Unconditional share (US$ billion)	Conditional share (US$ billion)	Share for mitigation action (US$ billion)	Share for adaptation action (US$ billion)
South Africa	831,6	15.039	30,7	800,9	734,0	97,6
Ethiopia	150,0	1.760	partly	partly	150	not specified
Nigeria	142	814	partly	partly	unknown	unknown
Tanzania	72,65	1.617	partly	partly	60	12,65
Zambia	50	4.215	15	35	35	20
Madagascar	42,1	2.145	1,7	40,4	6,4	28,7
Kenya	40,0	1.026	partly	partly	not mentioned	not mentioned
Cameroon	35,5	1.878	adaptation not specified	33,7	33,7	1,8
Namibia	33	15.650	0	33	10,4	22,6
Rwanda	24,15	2.306	adaptation not specified	mitigation fully	not specified	not specified
Ghana	22,3	921	6,3	16	9,81	12,5
DRC	21,6	315	0	21,6	12,5	9,1
Côte d´Ivoire	19,4	942	partly	partly	17,7	1,8
Mali	18,9	1.491	5,2	13,7	34,68	13,7
Angola	15,7	849	partly	partly	14,7	1
Sudan	12,9	404	0	12,9	11,7	1,2
Benin	11,6	1.324	not specified	not specified	6,0	5,6
Uganda	10,7	331	3,2	7,5	5,4	2,4
Niger	8,7	506	1,2	7,5	7,1	1,6
Burkina Faso	7,8	496	1,3	6,6	2,0	5,8
Republic of the Congo	5,1	1.389	partly	partly	unclear	unclear
Sierra Leone	0,9	145	mitigation partly	mitigation partly	not specified	not specified
Lesotho	0,59	277	partly	partly	unknown	unknown

Liberia	unknown	unknown	partly	partly	unknown	unknown
Malawi	unknown	unknown	partly	partly	unknown	unknown
Mozambique	unknown	unknown	partly adaptation	mitigation fully, adaptation. partly	unknown	unknown
The Gambia	unknown	unknown	partly	partly	unknown	unknown
Total	1.577		65	1.029	237	238
Total per year	158		6,5	102,9		

Table 3: Overview of finance needs for NDC implementation for sub-Saharan African countries
(based on own research; countries listed in descending order according to total finance needs)

Key observations from Table 3 and the NDCs include:

1. Out of 27 countries, 23 (85%) provided aggregate figures on total financing needs for the implementation of their NDCs. Eighteen countries (67%) provided estimates on the costs for mitigation and 16 countries (59%) provided estimates on the costs for adaptation.
2. Of the total NDCs considered, 26 countries (96%) indicated a (either partly or fully) conditional pledge. For one country it remains unclear, while two countries do not indicate whether their adaptation activities are conditional.
3. Of the countries that provided finance figures, 14 countries (61%) indicated the share of conditional finance they require. Ten of these countries, around 71%, indicated the need for high financial support[iii] per capita, four countries (29%) have medium requirements, and none suggested low funding requirements. The share of conditional funding to total funding needs is 83% on average with only one country requiring a share below 70%. This suggests that currently sub-Saharan African countries do not believe they are capable of raising finance domestically (AfDB, 2015).
4. The costs associated with the adaptation needs range between US$1 billion (Angola) and US$98 billion (South Africa) for the period from 2020 to 2030. The costs associated with the mitigation needs range between US$2 billion (Burkina Faso) and US$734 billion (South Africa) on aggregate for the same period.
5. The climate finance required by sub-Saharan African countries based on the conditional part of their NDCs amounts to at least US$102 billion per year for just 13 of the 49 countries[iv], and does not include large economies such as Nigeria, for which the conditional part has not been identified yet, or are unclear. The funding need for the conditional portion of 13 countries in the region is higher than the total amount pledged for all developing countries across the globe[v], highlighting a significant funding shortfall. Prior to 2025, a "new collective quantified goal" (UNFCCC, 2015) for climate finance, higher than the current goal of mobilising US$100 billion a year by 2020, will be set by the Parties to the PA. It is clear that the conditional targets and commitments from developing countries combined cannot be financed by the developed countries unless either vast amounts of additional climate finance are pledged, or if these large-scale funds are used to effectively leverage private sector finance;
6. At present, significant gaps remain in countries reporting on finance needs and support received. To be able to track progress and financing needs under the PA, all countries must provide figures on support provided, national contributions, and investment needs with respect to both mitigation and adaptation action in a clear and preferably harmonised manner. Since COP24, reporting guidelines have been provided under the Transparency Framework of the PA. These will need to be followed to support crucial future analysis on both public and private sector funding needs.

Table 4 summarises the current climate finance approach that sub-Saharan African countries have reported in their NDCs, if applicable. There are currently no specific guidelines that ask for detail on developing country climate finance strategies or investment plans. Table 4 captures and examines the level of detail recorded in the INDCs with respect to the climate finance architecture and potential investment plans and strategies for sub-Saharan African countries at both the domestic and international levels to determine what these countries are currently doing or planning to do to attract private sector finance, and how they are reporting this.

Column 2 indicates whether countries are reporting and considering an NDC investment plan or strategy of sorts. Columns 3 and 4 reveal whether countries are reporting their investment needs on aggregate and/or per activity or sector, and whether they are broken down for planned mitigation and adaptation activities. Column 5 indicates whether the country has specified if activities are expected to be funded through domestic or international finance. Column 6 indicates whether private sector investment is mentioned in the INDC, and finally, column 7 denotes whether countries have identified specific potential sources of domestic and/or international funds to finance their climate activities.

Country	NDC investment plan or strategy	Required investment	Investment needs per activity / sector	Specified allocation of domestic or international funding per activity	Private sector investment focus mentioned	Specific potential financing sources identified
Nigeria	n/a	No	n/a	No	Yes	Yes
Ethiopia	Low	Partially (mitigation only)	n/a	No	Yes	Yes
DRC	n/a	Yes	Per sector	No	No	No
South Africa	n/a	Yes	Yes (needs more detail)	No	Yes	No
Tanzania	n/a	Yes	n/a	No	No	No
Kenya	n/a	Yes	n/a	No	No	No
Uganda	No indication	Yes	n/a	No	Yes	Private sector only
Sudan	n/a	Yes	Partially (mitigation yes)	No	Yes	Yes
Ghana	Medium	Yes	Per activity	Yes	Yes	Yes
Mozambique	n/a	No	No	No	No	No
Côte d´Ivoire	Low	Yes	Partially (adaptation)	No	Yes	Yes
Madagascar	n/a	Yes	n/a	No	No	No
Cameroon	Low	Yes	Per activity	No	Yes	Yes
Angola	n/a	Yes	Per activity	No	No	No
Niger	n/a	Yes	Adaptation yes, mitigation per sector only.	For some sectors (unconditional vs conditional)	Yes	Yes
Burkina Faso	Low	Yes	Per activity	No	Yes	Yes
Malawi	n/a	No	n/a	No	No	No
Mali	Medium	Yes	Per activity	No	No	Yes
Zambia	No	Yes	n/a	No	Yes	Yes
Rwanda	n/a	Yes	n/a	No	No	No
Benin	n/a	Yes	Per activity	No	Yes	Yes

Sierra Leone	n/a	Yes	n/a	No	Yes	Yes
Liberia	n/a	No	n/a	No	Yes	No
Republic of the Congo	Low	Yes	Per activity	Yes	Yes	No
Lesotho	n/a	No	n/a	No	Yes	No
Namibia	Low	Yes	No	No	Yes	Yes
The Gambia	Low	No	n/a	No	Yes	Yes

Table 4: Overview of financial approaches of NDC implementation for sub-Saharan African countries
(based on own research)

Key observations from Table 4, the content of NDCs, our research and further literature show that:

1. Some Parties are developing investment strategies and plans and national climate change and adaptation funds to assist in allocating resources in their national budgets, to mobilise additional resources, to assist in engaging the private sector, including through establishing public–private partnerships, and to ensure adequate uptake of finance. However, in general activity is still limited.
2. Of the 27 studied NDCs, Mali is the only country that mentions it is developing a NDC financing strategy. But this does not necessarily mean the other countries have not or are not in the process of developing climate finance elements per se. Some countries may choose not to include certain information in their NDCs. For instance The Gambia prefers to address its adaptation needs in the post 2020 context in their National Adaptation Plan (NAP).

   However, in their INDC, The Gambia does refer to planned efforts to develop a comprehensive transformational adaptation investment plan through their NAP. Nevertheless, in general, the NDCs do not reflect an advanced level of development towards an NDC Investment Plan. Nine countries out of 27 indicate some level of investment strategy, plans or thinking in their NDCs. Five of these can be categorised as low level of development [vi], while four point to a medium level. It should be noted that some countries have started developing climate finance strategies and plans after their first NDC was published. Additionally, several countries included in this study have developed sectoral investment plans that have not been mentioned in their NDCs [vii].
3. Of the 23 countries that provided at least partial finance figures, 11 (fully or partially) have provided investment needs per planned activity (47%), two provided aggregate figures at sector level, and 11 only provided aggregate figures for mitigation or adaptation (47%).
4. There are only two countries that match investment needs per activity or activity group to different financing sources. Ghana not only provides an overview of investment needs per activity, but is the only sub-Saharan African country among the studied group that indicates whether the individual activities are conditional or unconditional and matches these investment needs to a variety of specific potential domestic and international sources, including private sector sources. In its NDC, Ghana mentions finance as an essential part of the whole NDC process. The Republic of the Congo also indicates conditionality but for broader categories of activities (and adaptation as a whole), and without breaking down potential domestic and international funding sources apart from distinguishing between grants and loans.
5. Nine countries mention specific international sources. International finance is envisioned as coming from the Green Climate Fund (GCF) (no country mentions the Private Sector Facility), the Adaptation Fund (AF), the Global Environment Facility (GEF), including the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF), other bilateral and multilateral funds, including United Nations programmes and organizations, and foreign direct investment and soft loans.
6. Nine countries (33%) mention specific domestic sources, and six countries indicate they have or will set up a domestic climate change fund.
7. Seventeen countries (63%) indicate the intention to obtain some form of financing from private sector sources. Two Countries solely focus on domestic private sector finance sources, four countries indicate both domestic and international private sector sources, and one country only considers international private sector finance sources. Three countries specifically indicate carbon markets as a potential finance source (although 19 countries show interest in carbon markets). Twelve countries (44%) do not mention any potential finance sources.

A survey conducted in 2017 among national and sector level experts from 52 developing and emerging economies suggests that most developing countries have made limited to no progress in securing funding for NDC implementation activities and that public finance is not used effectively to attract foreign capital (Energy Research Centre of the

Netherlands (ECN) & New Climate Institute (NCI), 2017). Furthermore, there may be a lack of attractive investment opportunities for NDC implementation in these countries, which would limit private sector interest for funding climate action.

Consequently, over 90% of respondents say that their government needs to become more effective in attracting private capital. A limited amount of countries have also adequately quantified the financial resource requirements for NDC implementation (ECN, 2017). Such quantification would be a prerequisite for NDC or sector investment plans and attracting private sector capital. These results are consistent with the conclusions drawn in this paper under Table 4 above.

4.3 The role of finance under the Paris Agreement Transparency Framework

The previous section analysed the INDCs that were submitted in 2015 and 2016 to the UNFCCC secretariat with respect to the climate finance landscape and approach. To further analyse the extent and approach private sector climate finance can be enhanced through the PA reporting requirements and the Participatory Dialogue processes, this section will examine other relevant existing and future reporting requirements under the Convention.

This includes the existing NCs and BURs, the guidelines for the future BTRs, and the scope and approach of the existing and future Participatory Dialogue sessions. Using the analysis of existing INDCs, NCs, and BURs, this section will make recommendations as to the extent that private sector finance could be enhanced through these processes of drafting the upcoming NDCs, NCs and BTRs under the PA Transparency Framework.

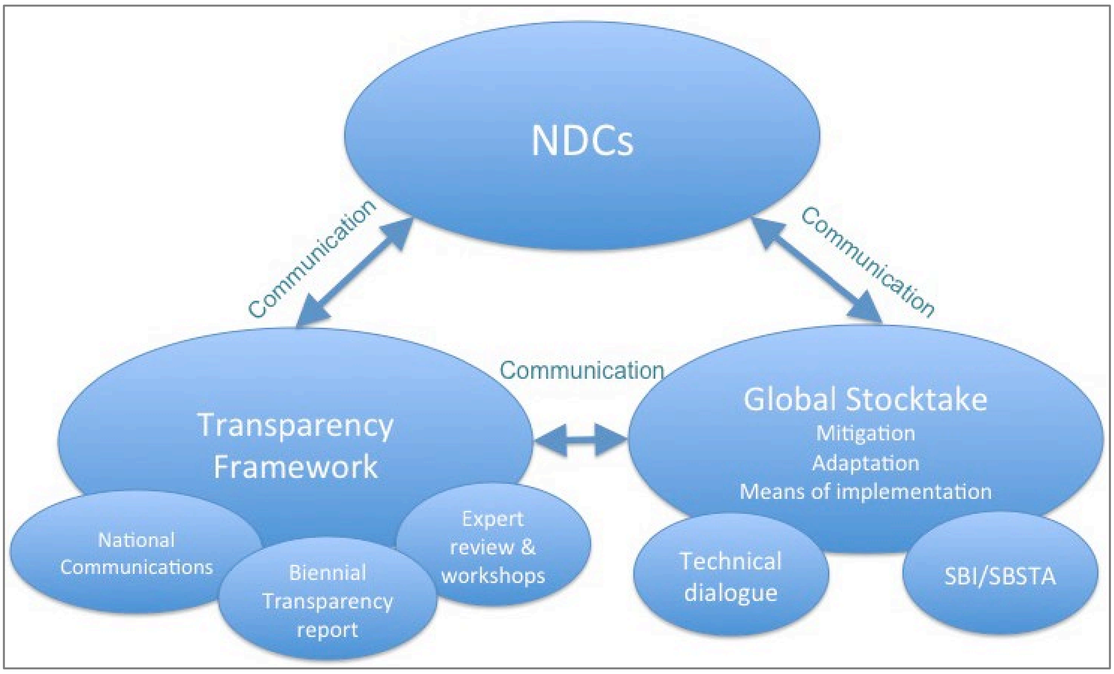

Figure 4: The Paris Agreement Ambition Mechanism
(Source: Authors)

The Transparency Framework and reporting requirements

The BTRs serve to provide information necessary to track progress made in implementing and achieving countries' NDCs. Developed country Parties must provide information on financial support provided and mobilised. Developing country Parties are to provide information on financial, technology transfer and capacity-building support needed and received. LDCs and Small Island Developing States (SIDS) are given the flexibility to submit this information at their discretion. The guidelines do not specifically require information on national or sectoral climate finance strategies, investment plans and portfolios. Guidelines will be reviewed and may be updated, by 2027-2028. However, this grants an opportunity to include more detailed guidelines and requirements pertaining to climate finance approaches of both developed and developing countries.

National Communications and Biennial Update Reports

The information on the climate finance landscape and architecture of the countries presented in the INDCs is compared to the NCs and BURs submissions (UNFCCC, 2019b, UNFCCC, 2019c) to assess the extent to which they differ and whether additional information on investment plans and strategies are presented in these reports.

Current status and scope of NCs and BURs for sub-Saharan African countries:

Of the 27 sub-Saharan African countries studied, all submitted at least one NC, with ten countries (37%) submitting three NCs, 14 countries (52%) submitting two NCs, and three countries (11%) submitting just one NC. Only five of the studied sub-Saharan African countries (18.5%) submitted a BUR. Table 5 provides an overview of submissions.

Country	no. of NCs submitted	Year submitted	no. of BURs submitted 2014-2018	Year submitted
Nigeria	2	2003, 2014	1	2018
Ethiopia	2	2001, 2016	0	
DRC	3	2000, 2009, 2015	0	
South Africa	3	2003, 2011, 2018	2	2014, 2017
Tanzania	2	2003, 2015	0	
Kenya	2	2002, 2015	0	
Uganda	2	2002, 2014	0	
Sudan	2	2003, 2013	0	
Ghana	3	2001, 2011, 2015	2	2015, 2018
Mozambique	1	2006	0	
Côte d´Ivoire	3	2001, 2010, 2017,	1	2018
Madagascar	3	2004, 2010, 2017	0	
Cameroon	2	2005, 2016	0	
Angola	1	2012	0	
Niger	3	2000, 2009, 2017	0	
Burkina Faso	2	2002, 2015	0	
Malawi	2	2003, 2012	0	
Mali	3	2000, 2012, 2018	0	
Zambia	2	2004, 2014	0	
Rwanda	3	2005, 2012, 2018	0	
Benin	2	2002, 2011	0	
Sierra Leone	3	2007, 2012, 2018	0	

Liberia	1	2013	0	
Congo Republic	2	2001, 2009	0	
Lesotho	2	2000, 2013	0	
Namibia	3	2002, 2011, 2015	2	2014, 2016
The Gambia	2	2003, 2013	0	

Figure 5: Total submission of NCs and BURs from sub-Saharan African countries
(Source: Authors)

Content and scope of NCs and BURs
The NCs and BURs of three countries, namely South Africa, Nigeria, and Ghana, are analysed and compared to each other and to the INDC (discussed in Section 4.2). These are the largest economies in sub-Saharan Africa, and Ghana has demonstrated a high level of output in terms of reporting (see Table 5).

South Africa:
To date, South Africa has submitted three NCs (2003, 2011, 2018), and two BURs (2014, 2017). Table 6 provides an overview of the level of detail of the climate finance architecture and approach of South Africa for the different reporting outputs (INDC, NC, BURs). The analysis reveals which outputs are used to report which type of climate finance elements and whether these various outputs are compatible with each other.

In general, South Africa´s transparency reports (NDC, NC, BUR) provide little detail on their climate finance approach. Most information can be found in the Biennial Update Reports, however, this is limited to discussing finance needs and investment activity to date. The NC mentions the aim to develop a climate-finance strategy for adaptation but the status of this is unclear, and it is not mentioned in the INDC although the first steps were taken in 2011. There is no reference to investment plans and approaches nor to investment portfolios in any of the documents. The NC stresses there are still gaps that exist around financial resources, capacity and research, specifically for capacity building at provincial and local government level. The various output documents do not seem to be aligned, with the description of mitigation and adaptation measures, the support received, and the domestic financial contributions discussed in more detail in the BURs and NC, while the investment needs are reported in more detail in the INDC.

South Africa's NC (2018) mentions that in 2011, the National Climate Change Response Policy (NCCRP) called for the development of a climate finance strategy and architecture for adaptation financing, as well as a climate finance co-ordination mechanism, and that the Development Bank of Southern Africa (DBSA) conducted investigations on behalf of the government in this regard and developed a prototype. It is not made clear how this strategy and prototype has been further used or developed. However, the BUR-1 states that South Africa has commenced work on the design and implementation of a Climate Finance Co-ordination Mechanism to track the country's efforts in reducing GHG emissions and the impact of the disbursed funds.

The country set up a Green Fund in 2012 aiming to catalyse the transition towards a green economy through grants, loans and equity. It further mentions that while the country has made progress, there are still gaps that exist around financial resources, capacity and research.

The BURs typically contain more detailed descriptions of the various activities and the progress on policies and measures. They also include more detail on financial domestic contributions and support received, as well as a record of initiatives lead by the private sector.

A summary of South Africa's financial investment for addressing climate change response actions is provided in its INDC (UNFCCC, 2019a), along with indicative scales of finance and investment required for both adaptation and mitigation, based on analyses of specific sectors and initiatives. According to the INDC, finance is required to enable and support the deployment of low-carbon and adaptation technologies as well as building the capacity to govern, regulate, install and operate these technologies.

Ghana:

Ghana has submitted three NCs (2001, 2011, 2015), and two BURs (2015, 2018). The 2015 NC speaks of two Sectoral Investment Plans, namely the Forest Investment Plan 2012 (FIP), and the Medium Term Agriculture Investment Plan (METASIP). The FIP is a programme that aims to reduce emissions from the forestry sector by addressing deforestation and forest degradation drivers with finance (US$50 million) from the World Bank, AfDB and International Finance Corporation (IFC). Specifically, the plan seeks to engage the private sector in REDD+ by developing industrial and fuel wood plantations.

METASIP is a sector investment plan to implement the medium term (2011-2015) programmes of the agricultural sector development policies and an objective for agriculture sector GDP growth of at least 6% annually. It also has a government expenditure allocation of at least 10% of the national budget within the plan period. The plan focuses on public sector expenditure and excludes the cost of private sector response to the investment opportunities created by government initiatives. However, the plan provides a vision of private sector engagement and can be used to estimate potential private sector investment. The NC introduces the plan without explaining this focus.

South Africa	NDC (2015)	NC (2018)	BUR-2 (2017)	BUR-1 (2014)
National priorities and circumstances	Yes	Yes	Yes	Yes
National GHG inventory	No	Yes, in great detail	Yes, in great detail	Yes
Mitigation and adaptation measures	Yes, superficial, no detail	Yes, high level description of activities	Yes, detailed descriptions of the activities	Yes, detailed descriptions of the activities
Domestic financial contributions	Yes, superficial	Yes	Yes, in great detail	Yes, in great detail
Support received	No	No	Yes, in great detail	Yes, in great detail
Non-monetised support received	No	No	Yes, in great detail	Yes, in great detail
Financial needs assessments	Yes, at activity level	Yes, but sector level only (MACC). Refers to NDC for detail	Refers to NDC (only lists activities and type of support needed)	Yes, at activity level
Required total investment needs	Yes	No	No	Not specified but can be derived
Investment needs per activity	Yes	No	No, refers to NDC	Yes
Non-monetised support needs (capacity building)	No	Yes, in detail, includes need for capacity building of local governments to attract financial resources for adaptation	Yes, lists activities in table	Yes, lists activities in table
Technology needs assessment	No	Yes, in detail	Yes	Yes
Overview of financial resources	No	Yes	Yes	Yes
Investment plan or strategy	No	Mentions aim to develop a climate-finance strategy and architecture, as well as a climate-finance co-ordination mechanism	No, but lists type of support needed per activity (grant, loan, etc.)	No, but lists type of support needed per activity (grant, loan, etc.)
Private sector strategy for climate finance or mitigation activities	No	Mentions aim to develop a climate finance strategy but no specifics for private sector	No strategy, Indicates activities	No strategy, section on private sector mitigation activities
Investment portfolios	No	No	No	No

Discussion of climate finance architecture (mechanisms, instruments, credit, etc.)	Limited	Limited	Limited	
Capacity gaps in financial sector	No	No	No	No

Table 5: Comparison of South African reporting outputs under the Convention with respect to climate finance

The 2018 BUR does not elaborate on these investment plans, it only provides an update on finance needs and support received. The BUR provides an overview of international support from donors, but not on domestic public climate funding. The government plans to start reporting on this in the next BUR. The BUR contains a section on constraints and gaps, which includes high level points on financial limitations. This does not include financial constraints related to the implementation of climate action. However, the 2015 NC provides a more detailed overview of financial barriers to prioritised mitigation actions.

The 2015 INDC does not mention the FIP, and only lists the METASIP in an annex, without explanation.

Nigeria:
Nigeria has submitted two NCs (2003 and 2014), and one BUR (2018). In general, Nigeria´s transparency reports (NDC, NC, BUR) provide little detail on their climate finance approach. The NC contains a very brief high-level section on financing mitigation activities. There is no specific discussion about private sector engagement. However, several CDM projects are described along with the recognition of further potential in this market. Apart from CDM projects, the reports state that mitigation is in its infancy.

Nigeria lacks systematic documentation in most areas including mitigation actions and their effects, and the support needed. The BUR does provide an overview of support received for the 2012-2016 period. To plan and outline mitigation and adaptation measures and assess costs and investment needs, will be a first step and the country plans to work on this to include it in their next BUR. Currently, there is no reference to investment plans and approaches, nor to investment portfolios in any of the documents.

The 2018 BUR contains a section on constraints and gaps, which is more elaborate than for the South African and Ghanaian reports, and focuses on GHG inventory challenges, MRV, technology transfer, and a high-level discussion on mitigation challenges although this is not on activity level. Providing information on constraints and gaps in climate finance issues would be recommended in future reporting.

Financial and technical support for reporting and capacity building
In order to assist developing countries in fulfilling the reporting requirements, the Convention has made provisions to provide financial and technical support for the preparation of their Biennial Transparency Reports. Financial support can be obtained through the GEF, and technical support through the Consultative Group of Experts (CGE). A survey conducted by the United Nations Development Programme (UNDP) revealed that the major needs identified by respondents were capacity development and technical support for mobilising resources for NDC implementation (UNDP, 2016).

A separate survey conducted in 2017 among national and sector level experts from 52 developing and emerging economies revealed that a majority of respondents consider that international support is inadequate and not tailored to countries´ needs in spite of the large number of financial and technical support initiatives (ECN, 2017). In light of the perceived capacity and knowledge gaps among sub-Saharan African countries in relation to financing the NDCs, it is recommended that the CGE include climate finance experts, and that financial support includes the training of government officials within the ministries through country-tailored programmes.

The participatory dialogue and assessment sessions
Beyond reporting on sub-Saharan African countries´ approaches and efforts to secure climate finance, it is vital to put these challenges at centre stage in the participatory dialogue and assessment sessions. To have an increased impact, the UNFCCC reporting processes should feed the participatory discussions of the Convention. Dialogue will enhance learning and stimulate further climate action through knowledge exchange between developing countries on challenges and best practice and failures. Involving the private sector in these discussions would increase buy-in and understanding between public and private interests.

The GST will be a facilitative dialogue among Parties from 2023 and every five years thereafter, with the aim to reflect on the collective efforts of Parties in relation to progress towards the long-term goals of the PA, and to inform Parties in preparing, updating, and enhancing their next round of NDCs. In 2018, the Talanoa Dialogue followed a similar process and was held during various sessions throughout the year.

Several other initiatives under the UNFCCC/PA umbrella, or held in parallel, focus on assessment of progress and barriers through participatory dialogue, including the Standing Committee on Finance, the biennial High-level Ministerial Dialogue, the NDC Partnership, and the World Climate Summit. These platforms are particularly suited to discuss progress and challenges related to sub-Saharan African countries' approaches to financing their NDCs.

4.4 Policy framework

4.4.1 National and regional development plans and strategies

Sub-Saharan African countries need to balance out economic development, growth aspirations, poverty-alleviation, the pressing infrastructure gap with rising debt levels and finance deficiencies, global economic slowdown, and increased action and risks related to climate change and the SDGs. These countries aim to build climate-resilient infrastructure including roads and bridges, energy and water supply, and information and communications technology (ICT) and telecommunications.

The African continent's overarching development strategy is the African Union's Agenda 2063. Underneath this umbrella, several key action plans have been developed to bridge the strategy to implementation. To mobilise financial resources in the South African Development Community (SADC) countries, the operationalisation of the SADC Regional Development Fund (RDF) has been planned which functions as an infrastructure financing mechanism to support the region's ambitious industrialisation plans (Global Economic Governance (GEG) Africa, 2018a). The fund will be comprised of contributions from the Member States and other regional and non-regional sources, including the private sector and civil society, as well as multilateral and bilateral international public finance. In August 2016, SADC member states signed an agreement to mobilise seed-capital amounting to US$1 billion (GEG Africa, 2018b).

To achieve both the SDGs and the objectives of the PA, it will be crucial that both the strategy and the plans effectively integrate mitigation and adaptation action into infrastructure development. This should follow an integrated investment strategy and using the RDF, through continuing reviews and iterations of the plans if need be. Considering the urgency of development needs and the complexity of implementation across various sectors of the economies of SADC countries, this will in all likelihood prove to be a challenge. The fund´s communications explicitly discuss economic and social development but no mention is made of environmental or climate objectives. Since the financial modality of the RDF has not yet been decided, the opportunity exists to incorporate climate action objectives into the mandate of the fund.

Importantly, the RDF will be partially owned by the private sector (GEG Africa, 2018a) as direct contributors. The fund also draws more from member state contributions than international cooperation and, since it does not rely on grants, it is structured to become financially sustainable. It will most likely take a more flexible approach in terms of bureaucratic and rigid procedures than donor programmes, and while this may speed up impact it could also compromise sustainability and climate objectives.

Moving forward, the RDF should gradually increase its private sector share, initially making use of concessional loans. Moreover, the investment strategy of the RDF could support early project stage financing, as this is generally one of the main financial hurdles in climate projects.

4.5 NDC investment plans: catalysing private investment

The PA (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain successive NDCs that it intends to achieve (UNFCCC, 2015). Article 9 of the PA stipulates that developed country Parties shall provide financial resources to assist developing country Parties with both mitigation and adaptation in continuation of their existing obligations under the Convention. In addition, it states that developed country Parties should continue to take the lead in mobilising climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds through a variety of actions, including supporting country-driven strategies, and taking into account the needs and priorities of developing country Parties. The PA thus puts the onus on developed countries to mobilise and provide financial resources. However, a parallel process is required of developing country Parties to provide transparency and consider finance options for their NDCs, i.e. through the communication of their financing needs in a detailed and consistent manner and by developing and communicating a National Investment Plan and the associated intended supporting policy framework. This could be presented per sector [viii] and would consist of indications for both public and private sector funding based on the extent of collaboration and expected responsiveness of the private sector.

A basic National Investment Plan would involve budgeting of planned adaptation and mitigation measures at national or economy-wide scale, identification of barriers for each activity, the development of the appropriate supporting policies and financial instruments, the identification of potential finance sources for each activity, and proposed and prioritised ways to access these. This should lead to a portfolio of bankable mitigation and adaptation projects. A country could choose to take a sector-based approach to investment, for example [ix].

Developing country NDCs and associated documentation such as NCs and BURs[x] therefore need to incorporate considerably more detail on these climate finance elements, as these documents are at the heart of the PA and form the foundation for the pathway towards low-carbon, climate-resilient development. The elements presented in these high-level documents could have the potential to unlock trillions of dollars for climate-smart investments in emerging markets over the coming decade.

The documents, if framed and drafted strategically with a financing strategy and a clear vision, could enhance investor confidence and open new markets in particular sectors that are supported by a stable policy framework. These documents have the potential to present climate-related challenges as opportunities to the private sector and signal the role of these entities in achieving NDC targets. The NDCs could serve as a prospectus, not just for international public support but also for domestic and international private sector finance sources. This is especially prudent in light of the funding gap mentioned in Section 4.2 [xi] , where it is clear that developing countries will need to compete for international public and private funding, as well as for potential sources of finance through the market mechanisms and internationally transferred mitigation outcomes (ITMOs) provisions under Article 6 of the PA. Leadership, commitment, and vision is needed to build trust with donors and inspire targeted investment from the private sector by sending a clear message to the marketplace. The National Investment Plans should lead to a detailed NDC portfolio with specific bankable projects and activities to be funded.

4.6 Sectoral approaches to financing climate action

The COP21 RIPPLES consortium makes the case that a sector-based approach is essential to unlock the barriers to reach the objectives of the PA and should therefore be adopted for revision of NDCs (COP21 RIPPLES Consortium, 2018). Literature progressively points out that the economic, technical and political transformation challenges are rather sector-specific and require targeted approaches and policies (COP21 RIPPLES Consortium, 2017).

Since climate change is a cross-sectoral issue and measures for a particular sector will have an effect on, or be dependent on, other sectors, multi-sectoral governance at the national and the international level is needed (COP21 RIPPLES Consortium, 2017). At the national level, this approach could drive and coordinate mitigation and adaptation action within and across sectors, while at international level the approach could shape the next rounds of NDCs and increasing ambition levels.

A sector-based approach to implementing and financing the NDCs would require government commitment, vision and clarity, and could lead to enhanced investment flows and transformative finance through increased investor confidence. This is especially true if the approach includes sector investment plans and sectoral mitigation and adaptation project portfolios. National cross-sectoral governance would secure policy coherence, harness synergies, and provide the coordination to make sure aggregate sectoral efforts deliver NDC targets. A sector-by-sector assessment would also avoid being locked in to carbon intensive investments as opposed to a more priority-driven approach, and provide the tools needed to reach the long-term goals of the PA. An approach such as this, would facilitate coherence and integration with sub-Saharan African countries' development objectives.

A survey conducted by the UNDP revealed that more than a third of developing countries have developed sectoral mitigation plans (UNDP, 2016). If well developed, sector-based approaches provide a medium- to long-term vision for sectors of the economy, the development of sector investment plans could shift to investments more compatible with the PA and present viable opportunities for the private sector. For instance if a country invests in renewable energy, it should simultaneously divest coal and phase out fossil fuel subsidies. Our research reveals that current sectoral mitigation plans across sub-Saharan African countries are generally not coherent or PA compatible.

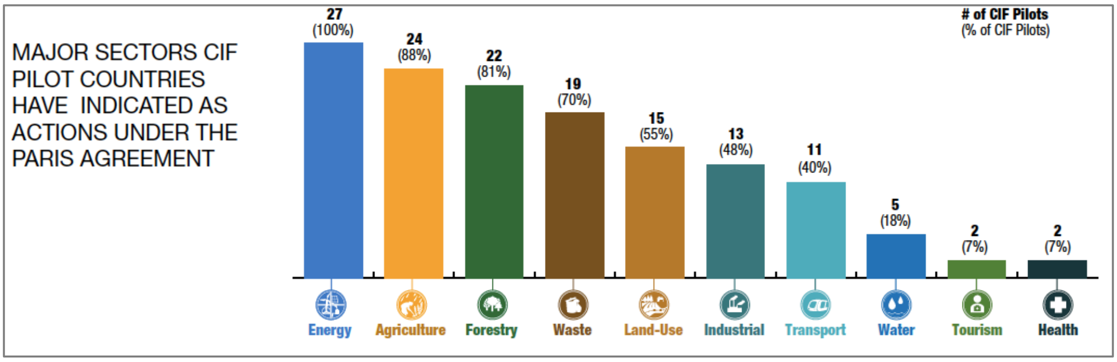

Figure 6: Overview of a subset of African countries' priority sectors
(Source: AfDB, 2015)

Figure 6 provides an overview of the main sectors of focus in the NDCs of African countries that participate in the CIF (24 sub-Saharan African countries out of 27 African CIF countries in total). The most relevant sectors that require climate finance are energy, agriculture, forestry and waste.

4.6.1 Sectoral investment plans

Workshops held in Kampala, Uganda, and Cape Town, South Africa as part of the PRINDCISSA project identified challenges faced by many African countries in terms of mobilising climate finance within sectors that are not well developed. For instance, projects in the energy sector have a greater likelihood of being financed by the private sector than projects in sectors such as solid waste or sustainable landscape management (PRINDCISSA, 2018a). In addition to sectoral mitigation and adaptation policies, developing targeted investment plans for the less developed sectors could help address these challenges.

As Section 4.5 revealed, some sub-Saharan African countries are already taking a sectoral investment approach for certain sectors, most commonly energy and agriculture, for either adaptation or mitigation outcomes or both. The CIF are supporting sub-Saharan African countries to develop investment plans in the energy, transport and forestry sectors (AfDB, 2015). These efforts could be expanded to cover all sectors of the economy in those countries, led by the sectoral Ministries in an integrated manner and in consultation with stakeholders including the private sector.

Other sub-Saharan African countries could be stimulated to follow the same approach through updated NDC guidelines, international support, and peer-learning. Sectoral investment plans would communicate a long-term policy signal, provide the instruments and programmes to stimulate private sector financing of the NDCs and could be continuously updated and improved. These plans would form the pillars of a national investment plan, embody a framework for mitigation and adaptation investment, and serve as the bridge between policy and implementation.

For example, Mali developed an energy sector investment plan in 2011 that aimed at leveraging private sector funds using public funds. Cameroon developed a National Agricultural Investment Plan in 2014 for the period 2014-2020, which is mentioned as a source in the NDC. Ghana developed the Forest Investment Plan in 2012 (FIP), and the Medium Term Agriculture Investment Plan (METASIP) for the period 2011-2015. These plans would not have taken the PA into account but could now be updated in light of NDC implementation.

Since publishing their NDC, Kenya developed an electricity sector investment plan in 2018 that presents investment opportunities in the energy sector over the next five years. Similarly, Tanzania launched an energy sector investment prospectus after their NDC submission in 2016, which presents investment opportunities the Government of Tanzania aims to develop to achieve its SE4ALL objectives.

In June 2015, Cameroon validated a National Adaptation Plan for Climate Change (PNACC) which is mentioned in the NDC, and a National Investment Plan for Adaptation on Climate Change (NIPACC), which is not mentioned in the NDC. The NIPACC served as a basis to develop a budget for adaptation and for identification of (broader) potential finance sources within Cameroon's INDC in 2016. It has been presented as the operational framework of the PNACC, a national and external fund investment planning document, and as a governance tool enabling the visibility and coordination of actions (Global Water Partnership, 2018).

The plan did, however, only consider the investment needs for the five-year period from 2016-2020. The Government of Cameroon identified the public investment budget, bilateral and multilateral cooperation funding, and the domestic and international private sector as potential funding sources. Currently, a study on financing mechanisms of this nature is being discussed by stakeholders in the country (Global Water Partnership, 2018).

In summary and as suggested in the literature (COP21 RIPPLES Consortium, 2018), a sector-based approach to financing the NDCs overseen by multi-sectoral governance may be an effective way to overcome economic, technical and political barriers in sub-Saharan African countries and lead to enhanced and transformative public and private investment flows.

4.6.2 Including the financial sector in sectoral approaches

A crucial component of financing climate projects is the provision of debt and its conditions. This poses another significant challenge for the region´s climate agenda as financial markets in sub-Saharan Africa are still underdeveloped and the ratio of credit to GDP is only 18 percent compared to 37 percent in South Asia and 47 percent in Latin America (World Bank, 2018). The financial sector is critical as it enables other elements of the economy to function. The sector is also crucial for the implementation of the NDCs with market rate debt being the largest financial instrument to channel climate finance during 2015/2016 (CPI, 2017). For clean energy projects, the average debt to equity ratio generally surpasses 50:50, and can be as high as 70:30 (CPI, 2017; WEF, 2013; author´s experience).

Liberalising the financial sector by removing official management of interest rates to let the market decide, and by easing conditions for banking has strengthened the sector in many SADC countries and allowed new financial institutions to emerge and new products to develop (SADC, 2019). However, this has not solved the credit impairment challenge in general.

As highlighted in stakeholder workshops held in Kampala and Cape Town in 2018, local commercial banks in most sub-Saharan African countries still require interest rates of over 20% for the loans they provide, which presents a significant barrier to climate-related projects. Stakeholders identified the need to create credit lines between international climate finance and local commercial banks to offer loans to climate-related projects at affordable interest rates. The weak financial system in sub-Saharan African countries, with the exception of South Africa, also manifests itself in other ways.

Due to capacity deficits in the sector, local commercial banks may not spend multilateral funds at their disposal, and these institutions do not have the mandate nor the incentive to raise awareness about financial instruments developed for climate action. This lack of awareness of financing instruments lead to stranded financial resources (PRINDCISSA, 2018a).

The PA goals require a radical transformation of the economy by 2050. This requires vast increases of climate finance flows, in a region where investment has traditionally been low and where financial markets are still underdeveloped. Current and planned efforts to engage and build capacity within the local financial sector may not prove sufficient to deal with the climate-related challenges.

Efforts to transform the economy are usually focused on the productive sectors. In addition, efforts should be directed at a systemic transformation of the financial sectors, as argued in the literature (The COP21 RIPPLES consortium, 2018), with the end goal of transforming the global financial system. This transformation would ensure financial sectors incorporate climate change risks into all their decision making. It would lead to investors and financial institutions no longer funding conventional energy projects, asset managers no longer managing such undertakings, and insurers no longer insuring them. Project finance for green technologies would be mainstreamed. This would be achieved through a new governance system supported by policies and sector standards.

In Cameroon, the National Investment Plan for Adaptation on Climate Change recognises the government's weak capacity to mobilise private sector finance and proposes to strengthen the capacities of financial analysts in the banking sector for project finance. This would be an important initial step. In theory, finance would work as an enabler for transformations in the different sectors of the economy. However, to be effective, governance and capacity structures of the financial sector need to be addressed (The COP21 RIPPLES consortium, 2018). This approach would support the effective transformation of the productive sectors in the medium to long term. This is also implicitly demanded by Article 2c of the PA that requires finance flows to be consistent with a pathway towards low GHG emissions and climate-resilient development.

4.7 International carbon markets

Article 6 of the Paris Agreement

Article 6 includes provisions for international cooperation through market mechanisms. International rules governing Article 6 are currently the subject of intense negotiations with countries failing to reach an agreement at COP24, pushing negotiations forward to COP25 in 2019. The provisions of Article 6 are to create a new mechanism to promote mitigation and sustainable development and allow Parties to transfer emission reductions through so-called ITMOs, thereby potentially creating a global carbon market. In terms of units or credits, the conditions are important to ensure they can be accounted for and tracked in accordance with the PA.

Such transfers should support sustainable development and ensure environmental integrity through transparency, robust accounting and the avoidance of double counting. Similar rules provided significant challenges under the PA´s predecessor the Kyoto Protocol through the Clean Development Mechanism (CDM).

Past successes and challenges

In the past, market mechanisms have successfully raised private sector finance through the CDM and emission trading schemes. However, these mechanisms have proven fragile with both types of markets virtually collapsing due to lack of demand and resulting plummeting carbon prices. A potential global carbon market only functions properly if there are sufficient buyers and sellers. International demand will therefore be crucial.

On the African continent, CDM has been relatively underrepresented due to high transaction costs, suppressed demand, and the exclusion of forestry and agriculture from the mechanism. In recent years reforms to the system by the UNFCCC including introducing Programmes of Activities (PoA), which allows registration of multiple projects instead of accrediting each project individually, have begun to enable wider African access. However, due to consistently low carbon prices, this is still mostly driven and funded by public entities and not the private sector who largely withdrew in the years after 2010.

Buyers and sellers

Under the Kyoto Protocol developing countries did not have GHG emissions targets and could simply act as sellers while developed countries mostly acted as buyers. Under the PA, this distinction has faded as most countries take on some form of target. Of the 27 analysed sub-Saharan African country NDCs, 81.5% have committed to GHG reduction targets, either partially or fully conditional upon international finance. This implies that developing countries can in theory be both buyers and sellers. As discussed in Section 4.3 most sub-Saharan African countries indicate their intention to sell carbon credits to finance the measures and supplementary measures outlined in their NDCs. However, since most of these countries have set mitigation targets and considering the new mechanism is required to reduce global GHG emissions, in theory sub-Saharan African countries would not be able to count the emissions reductions they sell to other Parties towards their NDC targets. This is one of the topics that needs to be clarified and is currently being negotiated.

A report published by the German Emissions Trading Authority points out that 92 out of the 190 INDCs submitted intend to use the international market mechanisms under Article 6. However, most of these countries are on the sellers' side and are low-income countries who have limited experience with existing market mechanisms (Healy, 2017). The largest global emitters would therefore need to collaborate to create a functioning market and engage the private sector.

Future outlook

The outcome of the negotiations and the extent of participation globally will thus have a significant impact on future carbon markets in sub-Saharan Africa, and the contribution of associated private sector finance. Following the outcome of the negotiations, sub-Saharan African countries will need to indicate in their upcoming NDCs how they plan to engage with carbon markets, for the private sector to assess opportunities. Another factor that will influence private sector participation is the fate of current CDM projects. If current projects are not transitioned into the PA this may lead to stranded assets and loss of investor confidence in the system.

The evolution of domestic sector policies is likely to lead to shifts in the use and scope of market-based mechanisms as countries increase domestic action over time to achieve the long-term goals of the PA. This is seen in South Africa where a competitive bidding programme, the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), has replaced CDM in the energy sector (PRINDCISSA, 2018b) while, in a few prioritised sectors, companies are only permitted to offset their obligations under the carbon tax regulations through locally-based CDM projects (National Treasury of South Africa, 2018)[xii].

5. Discussion

Increased climate finance flows, especially from the private sector, are a key requisite in order to increase ambition over time and reach the long-term goals of the PA. The implementation of the PA is not only threatened by a significant finance shortfall, but also by severe knowledge and capacity constraints with respect to climate finance in the financial sector in sub-Saharan African countries.

Ample opportunities exist to enhance private sector finance flows in sub-Saharan Africa, and extensive effort is already being undertaken through domestic policies and international programmes and mechanisms. Yet, current efforts are incremental, small-scale and interminable. Since the scale of climate finance needed to implement the current NDCs is vast, and will only increase over time, a holistic approach should be taken. This would involve both domestic and international efforts at different levels.

At national level, investor appetite and confidence must be enhanced through a vision and country-tailored policy design, including appropriate financial instruments embedded in a long-term vision. This would form the basis for the necessary development of climate finance strategies and investment plans per sector [xiii]. All of these efforts must be informed by stakeholder consultations and dialogue between the public and private sectors. At the international level, a starting point for a holistic approach might be efforts made by national governments through the UNFCCC processes.

Finance is a major topic in the negotiations, and initiatives such as the Finance Mechanism; the Standing Committee on Finance, with its Forum and dialogues, its biennial assessments and overviews of climate finance flows; the multilateral funds including the Green Climate Fund with its Private Sector Facility, and the guidelines on reporting on climate finance for Parties, are all steps in the right direction, but this may prove to be insufficient if developing countries do not follow a structured approach.

Climate finance must have a more prominent role in the Conventions communication requirements and dialogue. At present it is mostly steered towards reporting on financial needs and support, and how funds have been spent. Developed countries are required to report on support provided, and developing countries on financial needs and support received. Currently there is very little discourse on climate finance strategies, investment plans and portfolios, capacity building needs and efforts on climate finance for the public and the financial sector in the reporting of the UNFCCC processes (i.e. the NDCs, the national communications, and the BURs).

There are no requirements to include such elements in NDCs, and BTRs beyond countries´ finance needs and support received. It is therefore recommended that the new format of documentation (NDCs and/or BTRs) should include more detail on investment strategies and plans, specifically including a focus on private sector engagement. This will provide a vision for transformative finance, develop the climate finance architecture in sub-Saharan African countries, stimulate peer-learning through the Transparency Framework, and increase investor confidence.

Sub-Saharan African countries will need to further improve the enabling environment to attract climate finance, especially in light of the current finance gap, but also because of the historic and current perception of the investment climate in those countries. Developed countries have the obligation to provide finance, but may choose which countries they fund, and the same goes for the international private sector. To attract finance from donors and the private sector, the NDCs and BTRs could serve as an investment prospectus that demonstrates country leadership and commitment, and thereby improves investor confidence. Reporting should describe or refer to not only the country´s policy framework but also to the national and sectoral investment plans.

The Transparency Framework´s reporting and dialogue can stimulate further climate action and enhance public and private sector investment flows. Since climate finance is a cross-cutting issue, the reporting outputs under the Convention may serve as a central point of access for stakeholders, including (sectoral) ministries, subnational governments, and the private sector. These issues should also be a key topic in the GST, SCF and biennial assessments. The reporting and dialogue sessions could stimulate peer-learning through knowledge exchange between developing countries on best practice and failures. To support this process, current guidelines under the Transparency Framework would need to be updated to explicitly include developing countries' climate finance approaches and the role of the private sector within those plans. The financial and technical support available through the Convention should finance capacity building and training of government officials within the ministries of sub-Saharan African countries on climate finance approaches and reporting.

In their reporting, developing countries should make reference to i) their overall climate finance strategy including domestic and international private sector finance; ii) plans to evolve their climate finance architecture facilitating, attracting and channelling funds; iii) the role of the domestic financial sector within the strategy; and iv) describe the country´s (sectoral) investment plans and capacity building initiatives. Greater detail could be presented in the BTRs, while the NDCs could provide comprehensive headlines. These reports would then serve the discussions in the periodic participatory dialogue sessions and the GST, which will inform the drafting of the next NDCs.

Updating the guidelines in the Transparency Framework is advised to include specific recommendations on how to report on these climate finance issues; not only the progress of climate finance support flows should be recorded, but also the progress on the evolution of countries' climate finance architecture. Guidelines should also address consistency between the various reporting outputs, including the NDC, NC and BTR. The reports should be coherent and refer to each other, for instance with extensive detail in the BTR, and headlines and referral in the NDC.

Article 2.1.c of the PA calls for making finance flows consistent with a pathway towards low GHG emissions and climate-resilient development. Since climate finance is a central crosscutting issue through all sectors and subsectors of the economy, and productive sectors of the economy will need to be radically and effectively transformed by 2050, this long-term objective could be interpreted as a need to transform the financial sector itself in terms of governance and regulation. Currently the financial sector does not have the capacity, knowledge, and mandate to transform the economy. Current incremental efforts of capacity building and the use of standards and sustainability indices will not suffice to reach the objectives of a carbon neutral society by mid century. Transforming the financial sector would include setting goals for the speed of divestment to avoid carbon-lock in, rapidly phasing out fossil fuel subsidies, and mainstreaming green finance and debt. The decision-making process for every stock, loan, bond or investment opportunity would need to be dependent on its assessed climate change performance and impacts.

In addition, developing countries will need a clear mitigation and adaptation policy framework and incentive structure for the private sector. It would arguably serve all countries to develop specific strategies for engaging the financial sector in the implementation of the PA. Depending on country specifics, such strategies could include capacity building activities and an incentive framework for the local financial sector to mainstream climate finance and bring interest rates down. Developing NDC or sectoral investment plans would require collaboration and coordination between ministries, which is often lacking, especially between the environmental ministries who generally drive the countries' climate plans and the financial ministries who are responsible for channelling and administering climate finance.

In order to increase impact, the UNFCCC reporting processes should feed the participatory discussions of the Convention, namely the GST dialogue sessions and the SCF Forum. These processes provide the opportunity to assess collective progress towards achieving the ultimate aims and long-term goals of the agreement by taking stock of climate finance efforts, flows and gaps, and the investment and development paths of sub-Saharan African countries. They provide an opportunity to further improve and enhance both public and private sector finance flows and strategies through peer-learning and knowledge exchange on best practice and failures between developing countries. The outcomes will inform each subsequent round of NDCs and the evolution of countries' policy frameworks. These sessions will need to maximise private sector participation. This is especially important as ambition will increase over time, which requires adequate legislation, financial instruments and incentives to foster innovation, the availability of technology and buy-in from the private sector.

Most sub-Saharan African countries are prioritising certain sectors for NDC implementation [xiv]. However, eventually all sectors will need to be transformed. Sector-based approaches to implementation and finance are therefore indispensable, as is multi-sectoral governance to deal with the cross-sectoral issues that climate change and the SDGs pose. Sub-Saharan African countries will need to develop investment plans and strategies per prioritised sector, which can be subsets of, and should be compatible with, national development plans. These investment plans will need to be mainstreamed across the entire economy in line with their long-term low GHG emission development strategies.

As the transition to low-carbon economies is increasingly critical, it is crucial to raise funds at an accelerated pace and allocate these funds to mitigation and adaptation interventions that form part of a holistic long-term strategy and implementation plan. Sub-Saharan African countries will develop at a fast pace and in light of the Paris goals, it is important to incorporate and justify climate action and avoid carbon lock-in. To track progress towards the goals of the PA, and to stimulate peer-learning and enhance investor confidence, reporting on these efforts should be mainstreamed and harmonised across countries

6. Conclusions

Climate finance is a challenge that needs to be addressed and better coordinated if it is to be mainstreamed into the economies of sub-Saharan African countries. This article has argued that sub-Saharan African countries must use the PA Transparency Framework reporting and dialogue provisions to communicate their climate finance architecture and investment planning to enhance private sector climate finance. The research shows that these countries are mostly dependent on external financial support. Due to the scale of financial needs of these countries, attracting private sector finance, both domestic and international, will be crucial to achieve the long-term goals of the PA and the SDGs of these countries. To increase investor appetite and confidence, efforts must be made on all levels. At the highest level, the starting point would be to develop and communicate a vision and climate financing strategy, and create a plan per sector of the economy. This should open new markets and opportunities for the private sector, and lead to a detailed NDC investment portfolio with specific bankable projects and activities to be funded.

Communicating these plans through the UNFCCC channels would have multiple benefits. It would keep track of countries´ efforts in terms of attracting climate finance, signal which countries may be lagging behind and need support, stimulate peer-learning among countries, and enhance investor confidence by sending a message to the marketplace. To support this process, current guidelines under the Transparency Framework would need to be updated to explicitly include developing countries' climate finance approaches and the role of the private sector within those plans.

Specifically, key policy insights include:

1. Financing of sub-Saharan African countries´ NDCs, current guidelines under the PA Transparency Framework need to be updated to explicitly include these countries' climate finance approaches and the role of the private sector.

2. Resultant reports should feed the participatory discussions of the Convention, namely the GST and the SCF to inform Parties on updating and enhancing their next round of NDCs.

3. The financial and technical support available through the Convention should have an increasing focus on reporting on sub-Saharan African countries´ climate finance architecture and include training of government officials within the ministries.

4. A sector-based approach to financing the NDCs overseen by multi-sectoral governance could lead to transformative public and private investment flows in sub-Saharan African countries.

5. The financial sector should be included as a distinct prioritised sector to support the radical and effective transformation of the productive sectors in sub-Saharan African countries as required by the PA

7. Acknowledgements

This research was funded by the Swedish Energy Agency.

8. References and citations

African Development Bank (AfDB). 2015. *Transitioning from INDCs to NDCs in Africa* [online]. Available from: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/AfDB-CIF-Transitioning_fromINDCs_to_NDC-report-November2016.pdf (Accessed: October 2018)

Climate Watch Data. 2014. *Historical GHG emissions* [online]. Available from: https://www.climatewatchdata.org/ghg-emissions (Accessed November 2018).

COP21 RIPPLES Consortium. 2017. *Results and Implications for Pathways and Policies for Low Emissions European Societies* [online]. Available from: https://www.cop21ripples.eu/resources/ (Accessed: January 2019)

COP21 RIPPLES Consortium. 2018. *A sectoral perspective to embark on transformative pathways*. COP21 RIPPLES, Policy Brief.

Climate Policy Initiative (CPI). 2017. *The global landscape of climate finance 2017*. Barbara Buchner, Padraig Oliver, Xueying Wang, Cameron Carswell, Chavi Meattle and Federico Mazza. October, 2017. https://climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2017/

Energy Research Centre of the Netherlands (ECN) & New Climate Institute (NCI). 2017. *NDC Update Report: The long and steep climb towards a 1.5 °C world* [online]. Available from: http://ambitiontoaction.net/wp-content/uploads/2017/11/NDC-Update-Report-November-2017.pdf (Accessed: November 2018)

Global Economic Governance (GEG) Africa, 2018a. *SADC Regional Development Fund - Operationalisation imminent?* [online. Available from: https://saiia.org.za/research/sadc-regional-development-fund-operationalisation-imminent/ (Accessed: November 2018)

Global Economic Governance (GEG) Africa, 2018b. *Kickstarting the SADC Regional Development Fund* [online]. Available from http://www.gegafrica.org/item/750-kickstarting-the-sadc-regional-development-fund (Accessed: November 2018).

Healy, S. 2017. *Quick Facts on Article 6 - Market Mechanisms*. Berlin, Germany: German Emissions Trading Authority (DEHSt).

International Monetary Fund (IMF). 2018. *Regional Economic Outlook: Sub-Saharan Africa – Domestic revenue mobilisation and private investment* [online]. Available from: https://www.imf.org/en/News/Articles/2018/05/11/na051118-sub-saharan-africa-firming-up-the-economic-recovery (Accessed: December 2018)

Napier, M. 2018. *Giving credit to Africa's financial markets and why we need to step up reform* [online]. Available from: https://www.brookings.edu/blog/africa-in-focus/2018/08/01/giving-credit-to-africas-financial-markets-and-why-we-need-to-step-up-reform/ (Accessed: January 2019).

National Treasury of South Africa. 2018. Draft Carbon Tax Bill: Draft Regulations made in terms of clause 19(c) of the Draft Carbon Tax Bill, November 2018.

PRINDCISSA. 2018a: Workshops held in Kampala and Cape Town in 2018. SouthSouthNorth, Stockholm Environmental Institute, Perspectives Climate Research.

PRINDCISSA. 2018b: *Case Study: Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) in South Africa*. Valentin Friedmann, Stephan Hoch, Axel Michaelowa, Max Horstink, Jessy Appavoo, Anne-Kathrin Weber. 27 July 2018.

Southern African Development Cmmunity (SADC). 2019. *Financial Reform* [online]. Available from: https://www.sadc.int/themes/economic-development/finance/ (Accessed January 2019).

United Nationals Development Programme (UNDP). 2016. *Developing Country Support Needs for the Implementation of Nationally Determined Contributions (NDCs)*. April 2016. Results from a Survey conducted by the United Nations Development Programme.

United Nations Framework Convention on Climate Change (UNFCCC). 2015. *Paris Agreement*. FCCC/CP/2015/10/Add.1. Paris, France: UNFCCC. Available from: http://unfccc.int/paris_agreement/items/9485.php

United Nations Framework Convention on Climate Change (UNFCCC). 2018. *Report on the 2018 Forum of the Standing Committee on Finance - Climate finance architecture: enhancing collaboration, seizing opportunities*. Bonn, Germany: UNFCCC

United Nations Framework Convention on Climate Change (UNFCCC). 2019a. *NDC Registry* [online]. Available from: https://www4.unfccc.int/sites/NDCStaging/Pages/All.aspx (Accessed November 2018).

United Nations Framework Convention on Climate Change (UNFCCC). 2019b. *National Communication submissions from Non-Annex I Parties* [online]. Available from: https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-update-reports-non-annex-i-parties/national-communication-submissions-from-non-annex-i-parties (Accessed December 2018).

United Nations Framework Convention on Climate Change (UNFCCC). 2019c. *Biennial Update Report submissions from Non-Annex I Parties* [online]. Available from: https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-convention/biennial-update-reports-0 (Accessed: December 2018).

United Nations Framework Convention on Climate Change (UNFCCC). 2019d. *Standing Committee on Finance* [online]. Available from: https://unfccc.int/process/bodies/constituted-bodies/standing-committee-on-finance-scf#eq-4 (Accessed November 2018).

World Economic Forum (WEF). 2013. *The Green Investment Report: The ways and means to unlock private finance for green growth*. Geneva, Switzerland: World Economic Forum.

World Bank. 2015. *Private sector - an integral part of climate action post-Paris* [online]. Available from: http://www.worldbank.org/en/news/feature/2015/12/30/private-sector-an-integral-part-of-climate-action-post-paris (Accessed March 2019).

---

[i] https://www.brookings.edu/blog/africa-in-focus/2018/08/01/giving-credit-to-africas-financial-markets-and-why-we-need-to-step-up-reform/ based on World Bank's Global Financial Development Database

[ii] The Climate Investment Funds (CIF) represent the first attempt to channel multilateral climate finance on a scale to developing countries, and are implemented through the multilateral development banks (MDBs) starting in 2008.

[iii] See Table 1 for an explanation of the assessment criteria.

[iv] since full data has not been provided by all countries.

[v] i.e. US$100 billion/year from 2020.

[vi] See assessment criteria in Table 1

[vii] See section 4.5.1 on sectoral investment plans

[viii] See also Section 4.6
[ix] See Section 4.6
[x] Note BURs will transition into BTRs under the PA, see Section 4.3
[xi] Refer to point 5 (observations) directly following Table 3 in Section 4.2.
[xii] The Carbon Tax Bill was signed into law on 23 May 2019. Final regulations in terms of clause 19(c) of the Draft Carbon Tax Bill regarding offsetting provisions should be finalised later this year.
[xiii] See Section 4.6 sectoral approaches
[xiv] See Section 4.6