

Enhancing the private
sector's readiness to
deliver climate change
outcomes in
**SOUTHERN
AFRICA**



REGIONAL WORKING PAPER

DECEMBER 2019



The Southern Africa
Climate Finance Partnership

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KEYWORDS

Agriculture, Africa, Adaptation, Climate Change, Climate Finance, Development, Energy Efficiency, Investment, Private sector, Renewable Energy

ABBREVIATIONS

AABE:	African Agri-Business Engine	LDC:	Least Developed Country
AFDB:	African Development Bank	MDB:	Multilateral Development Bank
ARC:	African Risk Capacity	MRV:	Monitoring, Reporting and Verification
BAU:	Business as Usual	NAP:	National Adaptation Plan
CCS:	Carbon Capture and Storage	NDC:	Nationally Determined Contributions
CFF:	Climate Finance Facility	NRZ:	National Railways of Zimbabwe
CSA:	Climate Smart Agriculture	NSDP:	National Strategic Development Plan
DBN:	Development Bank of Namibia	OECD:	Organisation for Economic Co-operation and Development
EACC:	Economics of Adaptation to Climate Change	PPP:	Public–private partnership
EEP S&EA:	Energy and Environment Partnership covering Southern and East Africa	PSF:	Private Sector Facility
ETS:	Emission Trading Scheme	PV:	Photovoltaic
FAPA:	Fund for African Private Sector Assistance	RE:	Renewable Energy
FFEM:	French Facility for Global Environment	REDD+:	Reducing emissions from deforestation and forest degradation
FAO:	Food and Agriculture Organization	SADC:	Southern African Development Community
FVC:	Food value chains	SACFP:	Southern Africa Climate Finance Partnership
GCF:	Green Climate Fund	SME:	Small and medium-sized enterprises
GEEREF:	Global Energy Efficiency and Renewable Energy Fund	UNEP:	United Nations Environmental Programme
GHG:	Greenhouse Gas	UNFCCC:	United Nations Framework Convention on Climate Change
ICT:	Information and communications technology	ZEDTC:	Zimbabwe Electricity Transmission and Distribution Company
IFC:	International Finance Corporation	ZPC:	Zimbabwe Power Company
INDC:	Intended Nationally Determined Contributions		
KFW:	Kreditanstalt für Wiederaufbau		

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FOREWORD

Over the last four years The Southern Africa Climate Finance Partnership (SACFP) has taken initial steps to build a community of public and private sector climate finance practitioners in Southern Africa, looking at ways to enhance the flows and use of climate finance in the region. This working paper explores the role of the private sector in delivering climate change outcomes in the region. More specifically, it focuses on four countries: Botswana, Lesotho, Namibia and Zimbabwe. This working paper builds on previous SACFP research investigating the specific role of the private sector in delivering climate change outcomes for South Africa.

Responding to the level of complexity of the topic this document is presented as a working paper. In exploring the emerging role of the private sector in response to climate change in the region, we recognise that we are charting new waters that are broad, deep and largely murky. The working paper presents an initial wading into the water, and by no means seeks to tell the whole story. Instead, it seeks to begin a discussion and provide a basis for much needed further exploration.

Private sector actors in the region face several key challenges highlighted in the paper. In particular, there appears to be a general lack of awareness within the private sector as to both the risks and opportunities climate change presents for their businesses. As climate models continue to achieve greater levels of granularity, it appears that private sector actors continue to lack the impetus or capacity to access data pertaining to predicted climate impacts and interpret this information in ways that inform their plans and strategies.

Whilst the private sector generally recognises its interests in safeguarding owned infrastructure, there is less awareness of the urgent need to look “beyond the fence” and to understand the wider impacts of climate change. Examples of such impacts include risks to supply chains, stranded assets, and future trade pressures as a result of the need to compete in an increasingly carbon-constrained global marketplace. Furthermore, the private sector remains mostly unaware of, or if aware then largely unresponsive to, their critical role in improving our collective response to climate change by offering goods and services that are cognisant of planetary ecological limitations and the associated social impacts. Likewise, the private sector has not fully grasped how to view the future through a climate lens in order to identify the opportunities that abound from strategic investments.

This paper reveals how the provision of climate finance, such as provided by the Green Climate Fund (GCF), can play a catalytic role in shifting the way private sector resources are deployed. Whilst there is no roadmap towards enhancing private sector responsiveness, strategically deployed climate finance can provide markers along the way, to expose opportunities and attract private sector buy-in. To this end, governments continue to play a vital role and themselves need to drive the implementation of policy in a manner that harmonises with the availability of climate finance to signal and unlock new opportunities for enhanced cooperation.

What this paper reveals is that there is a need for deeper cooperation between government and the private sector through integrated and concerted efforts. What this looks like, and how to go about it continues to remain largely enigmatic. Indeed, it is a learning journey for all involved as showcased by way forward points captured in the GCF's recent report "*Driving the transformation to a climate-resilient financial system*". However, mapping out this new terrain requires a whole of society approach and we hope that this working paper may in some way spark further efforts towards this end as it signals the first in a number of interventions and engagement that will need to happen across the region to deepen collaboration and foster innovation.

DR. SHEHNAAZ MOOSA
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GREENCAPE





EXECUTIVE SUMMARY

The purpose of this research is to explore the private sector's involvement in addressing climate change in four Southern Africa Climate Finance Partnership (SACFP) focus countries (Botswana, Lesotho, Namibia, and Zimbabwe)¹, and identify the barriers that are holding back further engagement of private sector actors in climate-related investment – with particular focus on how the private sector can better engage with international climate finance architecture such as the Green Climate Fund's (GCF) Private Sector Facility (PSF).

The research highlights vital information pertaining to both the barriers as well as opportunities towards enhancing the private sector's involvement in delivering climate action by exploring each study country's investment landscape. It is anticipated that the findings of this Working Paper will contribute to enhancing the understanding of Southern African countries' various strengths, entry-points and opportunities for development towards more rigorous involvement in achieving climate change outcomes through enhanced private sector involvement.

The research findings show that there are significant climate investment needs in these four countries. Across the four countries of focus in this study, Nationally Determined Contributions (NDCs) and equivalent documents estimate cumulative investment needs by 2030 are in the region of USD135bn, although it is not possible to quantify all activities/investment needs. These substantial needs echo those recorded in the regional and global literature. It is important to stress that much of the investment can be achieved by redirecting capital flows away from brown investments to their green alternatives. This means that there does not need to be a substantial increase in total net investment in each country, although the redirection of these flows will require concerted efforts by both domestic and international stakeholders.

There is significant potential to scale up the role of the private sector in the delivery of this investment. Much of the investment needs in all four countries focus on the energy, transport and agricultural sectors. These are sectors where international evidence identifies strong scope to engage the private sector and where doing so can help unlock additional financing. It will also allow the – appropriately regulated – entrepreneurial abilities of the private sector to be used to help address the climate challenge.

All parts of the private sector can, in principle, support this role, including corporates, households and farmers, investors and lenders. However, the engagement of the private sector requires both a domestic enabling environment that is supportive of private sector investment and a community of private sector stakeholders who are able to capitalise on a favourable enabling environment. To assess these, the paper makes use of a specially developed diagnostic tool. This draws on the international literature to analyse the different domestic enablers of importance and to provide a richer assessment of the aspects of private sector capacity. For the domestic enablers, it focuses on four key areas of importance – renewable energy, energy efficiency, climate smart agriculture and private sector adaptation; it also considers the overall enabling environment for private sector investment. In each of these areas, it identifies the most important domestic enablers and, for each,

¹ The discussion of the four countries is in alphabetical order throughout.

develops a scoring method that primarily draws on the assessment of expert stakeholders in each country as to how well the country is performing. This is supplemented with international data where available. The study complements this quantitative analysis by reporting the outcome of qualitative discussions with a wide range of public and private sector stakeholders in each country. This provides further perspective on the areas of strength and possibilities for further improvement in the domestic enabling environment, as well as to provide further insights on the capacity of the private sector,

The application of the diagnostic tool illustrates that there have been important achievements in engaging the private sector in all four countries already. A non-exhaustive list includes:

- In Botswana, the government has been active in developing tenders for new solar PV capacity, in applying energy efficiency guidelines to new buildings and in providing training on climate smart agriculture capacity.
- Lesotho has identified its preferred bidder for its first large-scale solar project, has put in place a national climate change policy and committee to articulate national priorities and provide a platform for engagement with the private sector and, they have identified a number of intended reforms for the energy sector.
- Namibia has made strong progress in engaging the private sector in climate change with strong policy commitments to addressing climate change, including a relatively active programme of engagement with climate finance providers, a robust legal framework and planning regime that supports private sector investment in renewable power, and a national energy efficiency policy. The Development Bank of Namibia (DBN) has also been working with finance providers in adapting their business models to take account of the specifics of climate investment.
- Zimbabwe also has strong policy commitments to addressing climate change and for support to the renewable energy sector, both of which are crucial for providing the confidence for the private sector to undertake investment. It is also now incorporating climate change considerations into the due diligence procedures in the agriculture sector which will make it easier for farmers to take action to adapt to climate change. This will be further supported if a climate finance facility currently being explored with development partner support comes to fruition.

But there are important challenges that all four countries may need to address to further enhance the role of the private sector. Some of the most important opportunities for further development of the enabling environment to overcome these barriers in each country include:

- Botswana would benefit from finalising its draft climate change policy and ensuring that this provides clear signals on the expected role of the private sector, exploring the better targeting of electricity subsidies, and stronger dissemination of climate data to different stakeholders.
- Lesotho could benefit from action plans to ensure the implementation of the country's climate change policy, taking forward the reforms identified in its latest Energy Policy and articulating a Climate Smart Agriculture (CSA) policy.
- In Namibia, there are opportunities to enhance and clarify the role of the private sector in addressing climate change, and there would be value in expediting the drafting and subsequent delivery of its National Adaptation Plan, including identifying the role of the private sector.
- In Zimbabwe, there are opportunities to increase public awareness around the value of renewable energy, to investigate the policy support needed to increase energy efficiency, and to reinforce efforts to implement the existing National Climate Change Response Strategy through clarifying the expected role of the private sector.

The report describes these and other issues, and sets out possible next steps to address them.

However, in addition to specific challenges in each country, the study highlights a number of themes that are common challenges to engaging the private sector across all four countries. Three stand out in particular.

Firstly, all four countries have made the most progress in creating enabling environments that support private sector investment in renewable energy, but **progress on energy efficiency, CSA and adaptation has tended to be less advanced**. This is important given the multiple benefits that can be derived from private sector investment in energy efficiency and given that adaptation, especially in the agriculture sector, is likely to be the priority for these and other Sub-Saharan African countries. **There is a need for all four governments, supported by development partners and other organisations, to take a more comprehensive approach to engaging the private sector in climate change across all key climate relevant sectors of the economy.**

Secondly, **to overcome capacity challenges within the private sector there is a need to build (aspects of) the capacity of the private sector in all four countries**. While technocratic changes such as new policies, incentives and regulations are likely to be crucial in encouraging greater private sector involvement, without this complementary support, they are unlikely to be successful. These needs are perhaps most acute in relation to CSA and adaptation where farmers often report that they have little understanding of the needs and opportunities to engage in climate investment. However, it also applies more widely to the wider ecosystem of climate change expertise that can support private sector climate investment such as climate scientists, bankers and financial transaction advisory skills, as well as engineers and research scientists. Development partners and climate finance providers need to make sure that ‘top down’ support to change the overarching policy landscape is matched by ‘bottom up’ support that can capacitate the private sector to be able to respond to an improved enabling environment.

Finally, access to finance remains a key challenge, **making enhanced engagement with international climate finance providers like the Private Sector Facility of the GCF a priority**. In all four countries there is evidence suggesting that the private sector is not undertaking climate investments because of the difficulty in accessing finance for those investments. This difficulty in accessing finance is most frequently and acutely observed in relation to climate smart agriculture investment; but was also noted as a substantial broader challenge in Botswana and Lesotho, while the macroeconomic conditions more broadly are a significant challenge in Zimbabwe. As a result, all countries might consider looking to scale up their efforts to engage on a continuous basis with the GCF and other climate finance providers, and, in particular, to facilitate the private sector in understanding how these providers – through dedicated facilities such as the Private Sector Facility – in order to help overcome some of these critical challenges.



1 INTRODUCTION

The private sector has an indispensable role to play in meeting the climate challenge. It has long been recognised that the scale of the climate investments needed are far too large for the public sector alone to deliver. Moreover, climate impacts will bring drastic changes in the physical environment, which will necessitate a response from across society, including the private sector. All parts of the private sector will need to be involved in this response, from corporates to farmers and household, as well as investors and lenders.

But addressing climate change should not be seen simply as a challenge that needs to be overcome. For the private sector, climate change also provides business opportunities and profitable new markets. The entrepreneurship, innovation and efficiency that the private sector demonstrates in many aspects of our economies can, if harnessed correctly, both help reduce emissions, enhance climate resilience and provide new engines for economic growth.

However, there are a number of difficulties that the private sector faces in engaging in climate change investments including those that relate to policy and regulation, difficulties accessing finance, barriers in adopting unfamiliar technologies, and problems arising from a lack of knowledge and education. These serve to hold back the powerful role that the private sector might otherwise play.

Both the domestic and international public sector can play an important role in overcoming these barriers. The domestic public sector can help to create an enabling environment in which the private sector has the knowledge and understanding of what climate change-related investments are required, and the confidence that those investments, if delivered efficiently so as to meet market demand, will earn a reasonable risk-adjusted return. The international public sector – especially through institutions such as the GCF – can both provide catalytic financing directly to projects and programmes, as well as support domestic institutions in developing a favourable enabling environment for private sector climate investment.

The purpose of this report is to explore the opportunities for the private sector to become more involved in addressing climate change within Botswana, Lesotho, Namibia and Zimbabwe, and how the private sector's role can be further enhanced. It aims to identify where the greatest opportunities for more private sector climate investment may be in each country, and uses a diagnostic tool to help identify the barriers to realising these opportunities and how they may be overcome, including the role for both domestic and international institutions.

The remainder of the report is structured as follows

- Section 2 discusses the extent of climate-related investment needs and examines, sector by sector, the role that the private sector can play in delivering these needs,
- Section 3 discusses the enablers that support the private sector in undertaking this investment taking, as with section 2, a sector-by-sector approach. It distinguishes between the enablers associated with the provision of international climate finance – such as the GCF and its PSF – from enablers that are related to the domestic context
- Section 4 describes the development of a diagnostic tool developed to assess the extent to which the domestic context is supporting private sector climate investments
- Section 5 presents the application of that diagnostic tool to Botswana, Lesotho, Namibia and Zimbabwe
- Section 6 provides some key conclusions and identifies next steps for a range of actors.

This section considers the role that the private sector can play in addressing climate change. It begins by identifying the overall climate investment that might be needed, both globally and specifically within Southern Africa. It then identifies the sectors where the opportunities for private sector involvement might be greatest, taking into account both economic and political factors.

2.1. GLOBAL AND REGIONAL INVESTMENT NEEDS

2.1.1. Mitigation

Estimates suggest that gross annual investment of USD2.3 to USD3.8 trillion by 2030 may be required to move the global energy system onto a trajectory consistent with keeping temperatures below two degrees² driven by substantially higher investment in renewables, nuclear, Carbon Capture and Storage (CCS) and energy efficiency. However, the incremental investment needs are substantially lower, in the region of USD0.7bn, as investments in technologies such as renewables, CCS and energy efficiency *replace* investments in electricity plants without CCS and fossil fuel extraction³. Indeed, most of the global incremental investment needs in the energy sector are associated with improvement in energy efficiency across building, transport and industrial sectors, with very little difference in the investment needed to supply energy in a low-emissions world. Contrary to the energy sector, there is less information although some studies suggest that the incremental investment needs for halving global deforestation are between 21 and 35bn USD per year⁴.

There are fewer studies that provide a regional disaggregation and hence allow for the specific identification of investment needs in Africa. However, McCollum et al (2013) suggests that gross annual investment needs in the energy sector in Africa to meet a 2-degree target might be around USD150bn per annum and that incremental needs may be around USD 50bn. This incremental need is twice as high as the same study estimates needed in Latin America and the Caribbean and two and a half times higher than estimates needed in Europe.

Furthermore, (gross) investment needs estimates are available from examining the NDCs that African countries have submitted. These estimates are different from those based on modelling assessments such as those reported above both because the level of ambition may be different and because a country-led assessment of investment needs may result in different priorities emerging compared to those derived from a modelling assessment.

Taking into account the difference in the derivation of these estimates, a study by the African Development Bank and Vivid Economics⁵ identifies cumulative mitigation investment needs in Africa of USD690bn by 2030, implying an average of USD69bn per year over the 10 years between 2020 and 2030. This is based on 43 countries identifying investment needs, accounting for 71 per cent of African emissions in 2012⁶.

² IEA & IRENA (2017); McCollum et al. (2013); World Economic Forum (2013)

³ Ibid

⁴ Kindermann et al. (2008)

⁵ AfDB & Vivid Economics (2016)

⁶ While only 25 countries provide investment needs by sector, these countries nonetheless still estimate cumulative investment needs in the energy sector of USD159bn or USD16bn per year.

2.1.2. Adaptation

Globally, there remains considerable uncertainty regarding current and future adaptation costs. The most comprehensive estimate, provided by UNEP in 2016, and looking just at developing countries, suggests that the costs of adaptation could range from USD140bn to USD300bn by 2030, and between USD280bn and USD500bn by 2050⁷. The wide range for these estimates derives from, among other things, differences in coverage, methodology, and assumptions on emissions and future temperatures.

Looking specifically at Africa, Climate Analytics suggests that adaptation to the climate impacts that are already evident may require additional spend of between USD7–15bn per year by 2020. This may rise to USD35bn per year by 2050 in the event that temperatures are on track to meet a 2-degree limit or USD50bn in the event that the world remains on track for 3.5–4 degrees of warming⁸. These figures are broadly comparable to those identified in an African Development Bank (AfDB) report which estimated adaptation costs of USD20–USD30bn per annum in the 2020s to 2030s⁹ and the USD22bn per annum in the period to 2030 identified by the AfDB/Vivid Economics analysis of African NDCs¹⁰. In Sub-Saharan Africa, the highest adaptation costs are projected to be needed in relation to water supply, coastal zone protection, infrastructure, and in the agriculture sectors.

2.1.3. Summary and Implications

Table 1 below summarises the information on investment needs for both mitigation and adaptation globally and across Africa.

TABLE 1: Evidence on climate investment needs

USD BN PER YEAR IN 2030	MITIGATION		ADAPTATION	TOTAL (GROSS MITIGATION + ADAPTATION)
	Gross	Incremental		
Global	2300 – 3800	~ 700	140 – 300	2440 – 3100
Africa	70 – 15011	5012	35 – 5013	105 – 200

Two key conclusions emerge from this table:

- First, that the scale of the investment challenge is substantial and it will not be possible to achieve using public funding alone. Compared to the up to USD200bn per year needed in gross climate change investments in Africa in 2030, the best estimates suggest that international public sources provided only around USD12bn of climate finance in 2016¹⁴. While there are no easily obtainable estimates of the public resources being allocated by domestic governments to climate change issues in Africa, such flows are likely to remain modest. The implication is that there is an urgent need to engage the private sector in meeting Africa's climate investment challenge¹⁵.
- Second, that the profile of investment need in Africa is markedly different from other regions in the world, with a much more even distribution between mitigation and adaptation. This has important implications as, at present, there is much less understanding regarding the most effective ways to involve the private sector in adaptation activities.

⁷ UNEP (2016)

⁸ Climate Analytics (2016)

⁹ African Development Bank & Vivid Economics (2011)

¹⁰ AfDB & Vivid Economics (2016)

¹¹ Lower end based on NDCs of 43 countries, higher end based on 2°C target and whole Continent, but energy only.

¹² Energy sector only

¹³ Estimate only available for 2050.

¹⁴ UNFCCC Standing Committee on Finance (2019)

¹⁵ It should be noted that this is not the only argument to support private sector engagement in climate change. There are also often important advantages in terms of innovation, entrepreneurship and efficiency that can be brought by the private sector.

The section below considers the specific opportunities for private sector climate investment, taking account of the particular importance of adaptation in the African context.

2.2. WHERE ARE THE GREATEST OPPORTUNITIES FOR PRIVATE SECTOR ENGAGEMENT?

2.2.1. Mitigation

The opportunities for engaging the private sector in mitigation activities is now well established. There are three key sectors where estimates of the shares of public versus private finance are available: renewable energy, energy efficiency and transport. As Figure 1 shows, globally, private sector investment is now substantially larger than public sector investment in both the renewable energy and energy efficiency sectors. The proportion of transport investment financed by the private sector is smaller reflecting that it often brings substantial economic benefits that are sometime difficult to fully monetise, implying a greater need for public resources.

- The growth of private sector renewable energy markets has been driven by the growing liberalisation of electricity markets over the last 20 years. Initially, private sector investment generation was supported by a range of public policy subsidies but cost declines mean that many of these technologies are cost competitive with little or no reliance on subsidy. Renewable technologies have also provided a lower cost way to help meet universal energy access goals for those not easily connected to centralised networks, with over 100 companies globally focusing on standalone solar lanterns and solar home systems¹⁶.
- In Africa, both on-grid and off-grid renewables provide important opportunities for the private sector: annual on-grid renewables investment in Africa (and the Middle East) exceeded USD10bn in 2017¹⁷, while off-grid renewables operators like Fenix in Malawi and PowerCorner in Tanzania are already showing that, through creative business models, it is feasible to carve out lucrative markets in what some might have previously consider to be a challenging investment environment. These businesses provide mini-grids to off-grid communities as part of lease-to-buy arrangements with the users where they receive payments via mobile money¹⁸.
- In relation to energy efficiency, the high proportion of private sector financing reflects that many of the sectors that are significant consumers of energy are also dominated by the private sector, e.g. industry and housing and commercial premises, and transport vehicles. In Africa there have been great strides made in overcoming the financial barriers that historically limited private sector investment in the area. Initiatives like Power Africa have created a more enabling environment for investments in energy efficiency through their provision of technical assistance, start-up capital, results-based financing and guarantees¹⁹. In just one dimension of the energy efficiency opportunity, green buildings, the IFC estimates a USD17bn opportunity within Sub Saharan Africa (USD4bn in commercial buildings, USD13bn in residential buildings) for the period to 2025, much of which will be delivered by the private sector²⁰.
- While transport infrastructure is currently predominantly financed by the public sector, this may change in the future, especially as needs increase. Globally, investment in transport infrastructure is expected to grow at an average annual rate of 5 percent, from USD557bn per year in 2014 to USD900bn per year by 2025. Notably Sub-Saharan Africa is expected to have the fastest average annual growth rate at over 11 percent per year.²¹

16 IFC (2016)

17 UN Environment and Bloomberg New Energy Finance (2018)

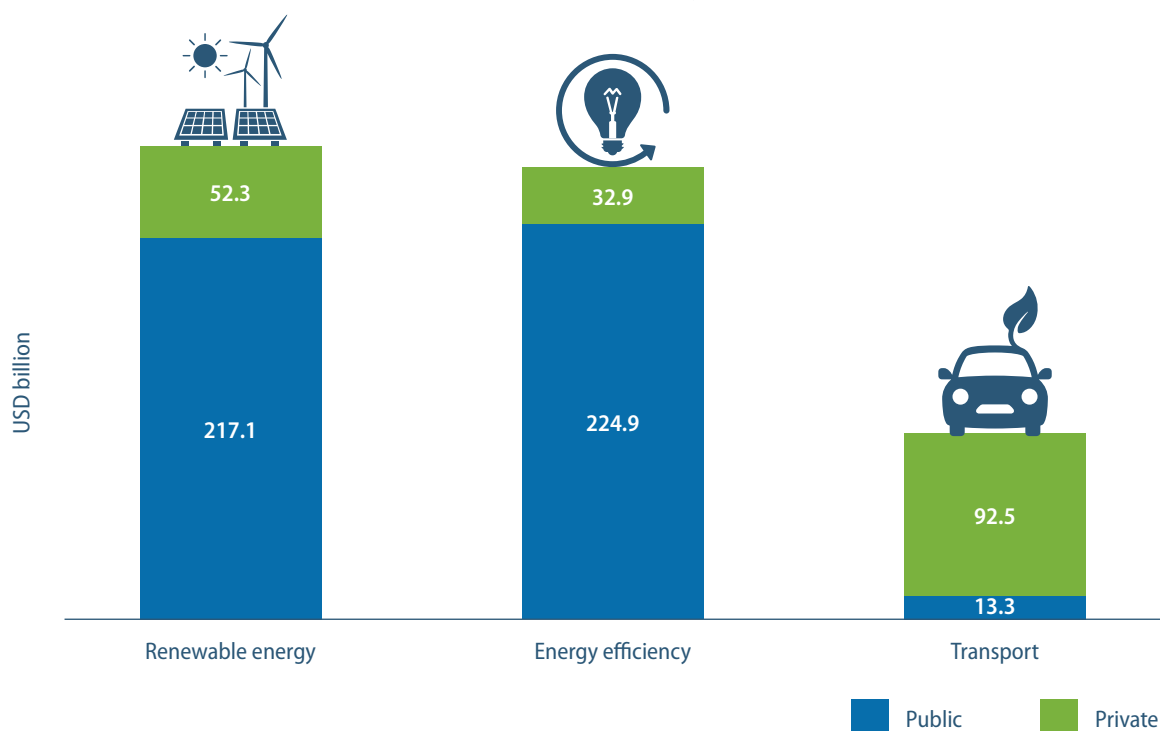
18 Fenix. (2019) and PowerCorner (2019)

19 Power Africa (2019)

20 IFC (2019)

21 PWC (2015)

FIGURE 1: Annual global public and private investment in key mitigation sectors



Source: UNFCCC Standing Committee on Finance (2019)

While these are the mitigation opportunities where there is likely to be the greatest opportunity for engaging the private sector, other opportunities also exist, although quantitative evidence on the scale of the opportunity is less accessible:

- **Agriculture.** Agriculture offers around 7.5% of emission reduction potential needed to move on a trajectory towards limiting to below 2 degrees of warming by 2030²². In total, the agriculture sector represents a USD5 trillion industry, overwhelmingly represented by the private sector, and across Sub-Saharan Africa it is the largest source of income and jobs. As analysis by the IFC shows²³, that there are substantial opportunities to encourage private sector investment to support emission reductions in the sector, often through new business models. Some of the most promising opportunities concern the following areas²⁴:
 - i. Enhancing productivity in livestock and pastoral agriculture.
 - ii. Helping farmers to grow more food with fewer inputs through innovative practices such as precision agriculture and improved manure management.
 - iii. Efficient irrigation.
 - iv. Optimizing the amount of fertilizer used.
 - v. Investments to reduce post-harvest food losses, improve food security, and boost incomes by investing in improved warehouses and silos, cold storage facilities, better logistics and distribution, and consumer education program.
 - vi. Improving the productivity and environmental performance of aquaculture
 - vii. Reducing enteric fermentation through development and deployment of new technologies

²² Griscom et al (2017), Grassland and agriculture pathways offer one-fifth of the total NCS mitigation needed to hold warming below 2 °C, with NCS providing 37% of the mitigation potential needed.

²³ IFC (2016)

²⁴ Ibid. and WRI (2018)

- **Waste.** The global services market for municipal solid waste was estimated at USD160bn in 2013 and could be worth USD300bn by 2020, with most growth coming from emerging markets. Sub-Saharan Africa is currently responsible for significantly less waste generation than other regions of the world but worryingly forecasts suggest that it could be responsible for more waste generation than any other region apart from the OECD and East Asia Pacific by the middle of the century. While concerning, this also provides an opportunity for the private sector; a Green Cape report in South Africa estimates that over USD1bn of resources could be unlocked if certain waste streams in the country could be fully recycled²⁵. Other opportunities for private sector investment in the sector that reduce emissions include direct investment or PPPs in waste management facilities with lower emissions profiles (for example waste to energy plants) and sustainable packaging. The IFC anticipates that there will be a USD0.5bn per year investment opportunity in waste facilities in Sub-Saharan Africa in the period to 2030, much of which could be met by the private sector.
- **Forestry and land use.** According to The Nature Conservancy, Africa has some of the world's highest rates of deforestation²⁶. Sustainable forest management, especially through plantations, as well as afforestation/reforestation, provides a substantial opportunity to reverse this trend, potentially more than 10 GtCO₂e globally²⁷. In other regions of the world, private sector investment has been leveraged to realise this opportunity. For example, there was more than USD1.4bn of plantation investment in Latin America in 2011. However, in Africa, in the same year, private sector investment in the sector was tiny at just USD20m²⁸. These differences reflect the high costs and social risks of private sector plantation investment in Sub-Saharan Africa. In light of these challenges, new business models focusing on smaller plantations and engaging more smallholders is beginning to emerge, but this remains embryonic.

2.2.2. Adaptation

Identifying the opportunities for private sector engagement in relation to adaptation is inherently more challenging than for mitigation as climate impacts will influence all actors in an economy, making a sectoral analysis more challenging. It has also been traditionally assumed that adaptation will be predominantly provided through public finance partly because the economic characteristics of some adaptation investments means that it can be difficult for them to generate a commercial return (e.g. strengthening sea defences) and partly due to climate justice arguments that have led many to argue that adaptation finance should primarily be provided by the public sector of developed country governments. Nonetheless, based on a range of literature²⁹, we identify five key areas where, to a greater or lesser extent, there are likely to be opportunities for the private sector to engage in, and finance, adaptation (potentially with the support of public finance from developed country governments):

- Water
- Other infrastructure provision
- Agriculture
- Manufacturing, retail and other services
- Provision of adaptation goods and services

²⁵ Green Climate Fund. (2018)

²⁶ The Nature Conservancy (2018)

²⁷ Griscom et al (2017) op. cit

²⁸ Castrén et al., (2014)

²⁹ IFC (2016); Biagini, B. and Miller, A. (2013); Pauw (2014); Druce, L. et al (2016) and CIF/Vivid Economics (2016)

The water sector is one of the most important sectors in efforts to improve resilience to climate change: a 2016 World Bank report suggests that the impacts of climate change will be channelled primarily through the water cycle and that without further action, water scarcity could cost some regions up to 6 percent of their GDP by 2050³⁰. This increase in scarcity is already being played out across cities in Sub-Saharan Africa with only 56% of the urban population having access to piped water, down from 67% in 2003³¹. Correspondingly, the World Bank's Economics of Adaptation to Climate Change (EACC) report³² estimates that around USD24–USD26bn may need to be spent each year on making the water and wastewater sector in developing countries more resilient to climate change (of which around USD6.5–7.7bn is projected to be needed in Sub-Saharan Africa, see figure 2)³³. This includes investments into optimizing pumping, pressure, and distribution systems, renovation or replacement of supply pipes, new infrastructure for water recycling solutions and improvements in waste water management systems (that can often help reduce emissions as well). This comes in addition to baseline infrastructure investment needs that may be just under USD1 trillion per year³⁴. Different countries will adopt different approaches to financing this infrastructure, but there is likely to be an important role for the private sector: the World Bank reports that in 2017, there was almost USD2bn of private sector investment in the water infrastructure in developing countries, of which just more than USD60 million was in in Sub-Saharan Africa.

A range of other infrastructure sectors will also require significant investment to improve climate resilience. The same World Bank report estimates adaptation needs in developing countries in relation to infrastructure of USD14–USD24bn per year (of which around USD1.1–6.5bn might be in Sub-Saharan Africa) including activities such as making energy networks and roads and railways more resilient to extreme weather events, with a further investment need of USD27bn – USD30bn per year on coastal protection including ports (~USD3.4bn in SSA). Again, a variety of different public and private financing solutions will be pursued by countries to meet these needs – with the precise approach depending on a range of country specific factors – but it is likely that private capital will play an important role. Notably, a 2016 report found that of the different sectors in which MDBs had supported private sector adaptation, the 'Energy, Transport & Other Built Environment Infrastructure' was the second most important sector, both in terms of number of projects (10) and amount of financing (more than USD75m)³⁵. Coastal infrastructure, by contrast, tends to be financed publicly, although a significant number of ports are privately owned and operated.

As discussed in relation to mitigation opportunities, the agriculture sector is dominated by the private sector, especially smallholder farmers. Current "worst-case" estimates suggest that, without the technology breakthroughs that increased investment would encourage, there could be losses in Sub-Saharan maize yields of up to 32% which would lead to a crippling shortfall in the supply of the region's most important crop³⁶. Investment needs include the adoption of modern micro-irrigation technologies like drip irrigation to reduce the amount of water needed per unit of food produced, as well as in research and adoption of drought-, salt-, and heat-tolerant seeds. Total adaptation investment needs in the sector have been estimated at around USD5.5–USD5.8bn, of which USD1.4–USD1.6bn might be in Sub-Saharan Africa. While this is a lower absolute

30 World Bank Group (2016)

31 GIZ (2019)

32 World Bank Group (2010)

33 Other more recent studies than the EACC suggest aggregate adaptation costs higher than this study, but do not provide a sectoral breakdown. This suggests that the EACC study may be an underestimate of the adaptation needs. All prices in 2005USD

34 IFC (2016)

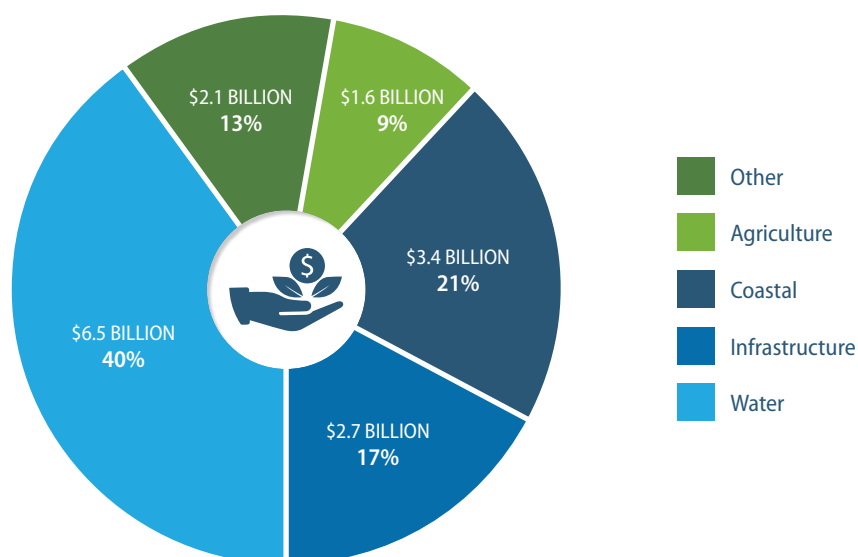
35 CIF/Vivid Economics (2016) op. cit

36 Coumou et al., (2016)

need than for some other sectors, it constitutes a significant capital outlay in the context of the high degrees of informality in the sector. Agricultural adaptation is also disproportionately more important in Sub-Saharan Africa compared to the world as a whole, accounting for 9–10% of the total adaptation costs estimated by the World Bank, rather than the 6% developing country average – see figure 2. An indication of the particular importance of the private sector for agricultural adaptation is that it is the sector that has received the most financing from MDBs in support of private sector adaptation (14 projects and over USD135m, compared to 10 projects and USD75m in the next largest sector for private sector adaptation finance, water).

The above three sectors (water, coastal and other infrastructure and agriculture) are typically identified as the most sensitive sectors to climate impacts, where investment needs are greatest, and where adaptation investments are critical for improving society-wide climate resilience. This is reflected in Figure 2 which shows that these sectors³⁷ account for around 87% of estimated annual adaptation investment needs in Sub-Saharan Africa by 2030

FIGURE 2: SSA Adaptation Investment Needs by Sector by 2030 (in USD 2005 prices)



However, a much wider variety of private sector can expect to see their revenues, costs and assets affected by climate change. For example:

- The tourism sector could face disruption from actual and perceived increased risk from reduced water availability as well as from hurricanes and tropical storm disruptions and sea-level rise on coastal locations.
- The food and beverage manufacturing industry must contend both with the effects of the climate change on agricultural production, as well as food processing impacts due to temperature change and water availability which could in turn lead to food safety issues, as well as possible transportation challenges affecting supply chains and distribution channels.
- The mining industry will have to contend with changes in water availability, flooding and tailing pond ruptures.

³⁷ The figure separately provides information on coastal versus other forms of infrastructure investment needs.

- A range of manufacturing and service industries rely heavily on water to provide their services which may be threatened by climate change impacts. For example, during the water crisis in Southern Africa of 2016–18, in Gaborone, a lack of available water for various services and processes such as, food preparation, butchery, irrigation, laundry, sanitation, hairdressers and car washing businesses, meant that restaurants, hotels, food preparation and processing businesses and other service industries struggled to operate³⁸. Similar problems afflicted many other cities in Southern Africa during that period, including Windhoek and Cape Town.
- Water shortages can also threaten electricity supplies in countries reliant on hydro-electric power: when water shortages led to load-shedding in Ghana, analysis of SMEs in a suburb of Accra (Madina), found that 45% of the SMEs reported that employment in their business had decreased since the beginning of the load shedding³⁹.

Across all of these sectors, therefore, there are a range of adaptation investment options that private sector firms could/would have to consider in response to these threats, either in anticipation of the impacts materialising or in response. These might include investments in water recycling and storage strategies (e.g. through the purchase of water tanks) or investment in water reuse facilities that make use of alternative energy sources, manual equipment or electricity efficiency and conservation strategies. While this aspect of private sector adaptation is often overlooked compared to adaptation in large scale climate resilient infrastructure, or agriculture, as discussed above, it represents a crucial component of the private sector's adaptation investment response to climate change.

Finally, while adaptation is often perceived as comprising an additional burden or cost on the private sector, it also necessarily creates a range of investment opportunities for the private sector so that they can provide adaptation goods and services across the economy. Some examples include responding to growth in the demand for:

- advanced weather forecasting systems, climate change information and consulting services. For example, tech start-up Kukua in Tanzania has managed to increase farmers' incomes by between 10 and 82% in Tanzania by providing them with local weather forecasts combined with corresponding agronomic advice via SMS⁴⁰.
- advanced water and waste water management technologies, such as purification, desalination, water filtration and reuse or nutrient harvesting. Private-public partnerships in South Africa have, for example, led to the rolling out of innovative irrigation management systems that saved 55 million m³ of water in 2017⁴¹.
- technologies and design solutions that cool buildings (either new or retrofits) such as automated temperature controls and passive cooling. Initiatives like The Cool Surfaces Project in South Africa demonstrate to the private sector that there is now a growing demand for cost-effective cooling technologies which can act to reduce heat stress, as well as potentially helping to reduce emissions⁴².
- insurance providers to allow the transfer of climate risks. At the country level, supported by various private sector companies, the African Risk Capacity (ARC) provided seven Sub-Saharan nations with climate disaster insurance in 2015 using a parametric insurance system⁴³.

The growth of businesses providing these sorts of goods and services represents one of the most important ways that the private sector can help support society-wide adaptation.

38 Gannon et al., (2018)

39 Evitta (2016)

40 FAO (2017)

41 Cadaval (2017)

42 SANEDI (2019)

43 Hinchberge (2015)

2.2.3. Summary and Implications

The table below summarises the extent of the private sector opportunities in both mitigation and adaptation across a range of sectors/groups of activity. It summarises the discussion above, scoring each of the sectors in terms of the extent to which the global evidence suggests that they provide opportunities for private sector involvement. It confirms that there are a wide range of opportunities for private sector investment in both mitigation and adaptation, although the precise extent of that opportunity will vary by country depending on the structure of organising the financing and operation of key infrastructure.

TABLE 2: Private sector opportunities in mitigation and adaptation across sectors/groups of activity

GREEN representing significant opportunities,
AMBER representing moderate opportunities and
RED representing limited opportunities.

MITIGATION	ENERGY SUPPLY	ENERGY EFFICIENCY	TRANSPORT INFRASTRUCTURE	AGRICULTURE	WASTE	FORESTRY AND LAND-USE
	Far more renewable energy investment by private sector than public sector, globally.	Far more EE investment by private sector than public sector, globally.	Public sector investment dominates globally, but opportunities in specific countries.	Industry dominated by private sector with opportunities for private sector in enhancing productivity, improved efficiency, and reducing post-harvest losses.	Smaller investment need than other sectors but some opportunities depending on structure of waste sector in specific countries.	Compared to other sectors, has received less private sector investment. This has been particularly the case in SSA.
ADAPTATION	WATER	OTHER INFRASTRUCTURE PROVISION	AGRICULTURE	MANUFACTURING, RETAIL AND OTHER SERVICES	CROSS SECTORAL SUPPLY OF ADAPTATION GOODS AND SERVICES	
	Substantial investment needs, extent of private sector opportunity will depend on industry structure in specific countries.	Substantial investment needs, extent of private sector opportunity will depend on industry structure in specific countries.	Globally, the sector as a whole is dominated by the private sector (including farmers), implying that the private sector will play a crucial role in in delivering adaptation investment.	Dominated by the private sector and hence private sector will lead in delivering adaptation investment.	Important opportunity to harness the innovation and entrepreneurship of the private sector to support climate resilience.	



This section considers the enablers for private sector investment in different sectors of the economy considering both the international climate finance that is available to support the private sector, as well as the domestic institutions, policies, regulations and broader enabling environment that supports private sector climate investment.

3.1. INTERNATIONAL ENABLERS TO ENHANCE PRIVATE SECTOR INVOLVEMENT

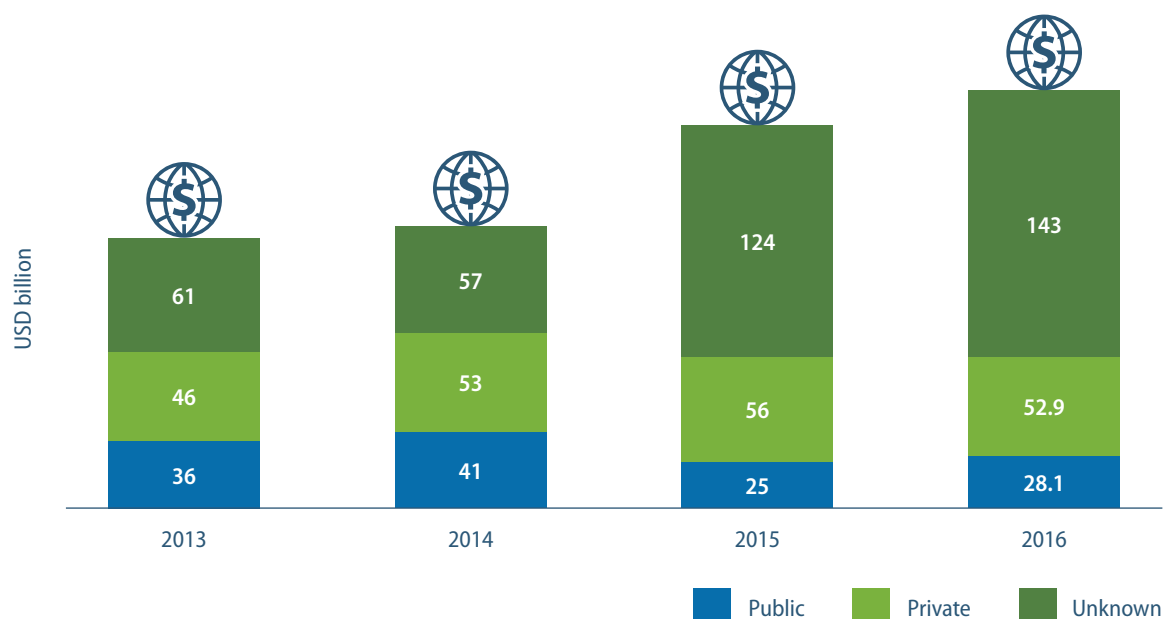
One of the key ways in which the private sector can be enabled to undertake climate investment (both mitigation and adaptation) is through the support of finance from international development organisations i.e. through accessing international climate finance. These resources, often made available on concessional terms, can help:

- Reduce the costs, and hence boost the returns available, from undertaking climate investment e.g. through grants, subsidies or concessional loans
- Absorb risks that the private sector would otherwise be reluctant to face in relation to climate investments e.g. through guarantees or other risk mitigation instruments
- Expand the scale of finance available to undertake climate investment e.g. by providing, such as credit lines, that are allocated to particular climate opportunities
- Provide technical expertise to enhance private sector understanding of the importance and opportunities available from climate investment

Often the implicit or explicit objective of providing climate finance directly to the private sector is to generate ‘demonstration effects’, increasing the confidence among the private sector regarding the long-term commercial viability of such projects. This will then allow subsequent investments to be undertaken with less or no climate finance. The intention is that the public climate finance can have a catalytic effect on the market, allowing public funding to be withdrawn and replaced by domestic finance from various sources, including companies, commercial banks, and institutional investors.

Figure 3 shows, at a global level, the proportion of climate finance made available from public institutions allocated directly to the private sector (including small amounts to private sector NGOs and Public Private Partnerships), alongside the amount provided to the public sector and that for which the status of the recipient is unknown over the period 2013–2016. It shows that, in the last few years, there has been around USD25–USD40bn per year of climate finance allocated directly to the private sector to support climate investment, constituting around 30–45% of the flows for which the status of the recipient is known. Unfortunately, the current limits of climate finance tracking means that for a significant proportion of total flows, the status of the recipient is not known; and indeed this proportion is growing over time.

FIGURE 3: Proportion of global climate finance made available from public institutions⁴⁴



At present, there seems to be little discernible trend in the amount of finance going to the private sector, although this needs to be seen in the context of the significant proportion for which the status of the recipient is unknown⁴⁵. Moreover, these public climate finance flows allocated directly to the private sector are expected to grow further in the future, especially as the Green Climate Fund's Private Sector Facility matures. The subsections below discuss the GCF's Private Sector Facility and other international public climate finance enablers of private sector climate action in more detail.

3.1.1. GCF Private Sector Facility

The GCF's Private Sector Facility (PSF) is one of the notable options with the potential to mobilise private sector investment in climate change outcomes at scale. The PSF was set up by the GCF with the objective of mobilising institutional investors namely pension funds, insurance companies, corporations, local and regional financial intermediaries, and the capital markets to co-invest and leverage GCF resources to finance private sector projects relating to climate change mitigation and adaptation activities. The PSF invests in projects of all sizes including Micro (<USD 10M), Small (USD 10–50M), Medium (USD 50–250M) and Large (>USD 250M) projects. Through various flexible financing instruments such as debt, equity, guarantees, and grants facility the PSF invests in eight strategic result areas which include clean energy, energy efficiency, climate-related innovation, resilient infrastructure, products and services for vulnerable communities, agriculture, forestry, food, water security, and ecosystems preservation.

The PSF promotes scaling up private sector investments in climate action in developing countries through its various key features which include:

- De-risking the delivery of private capital and scaling up private sector investment;
- Using long term concessionary flexible financing instruments including debt, equity, guarantees, and grants;
- Supporting capacity building amongst different groups and local institutions including assessing the potential climate benefits of project ideas;

⁴⁴ Climate Policy Initiative (2016 and 2018)

⁴⁵ It should be stressed that these figures just relate to the status of the recipient receiving public climate finance. As identified in section 2, the overall amounts of climate finance coming directly from the private sector, without any public sector involvement, are considerably higher.

- Focusing on Least Developed Countries, Small Island Developing States, and African states where funding is limited;
- Helping develop public-private partnerships for infrastructure resilience projects;
- Bundling small projects into portfolios, providing scale and making them attractive to institutional investors.

The PSF works through two modalities. The first broadly mirrors the approach taken in relation to projects focused in the public sector: an accredited entity makes an application, with the support of relevant NDAs, for a project that will allocate financing to the private sector. The DBSA's Climate Finance Facility (CFF), which received a USD55M loan through the PSF in 2019, is a prominent example. The CFF provides long-term subordinated debt and credit enhancement to infrastructure projects and businesses working on climate change mitigation or adaptation in Eswatini, Lesotho, Namibia and South Africa. Taking advantage of leverage, the fund's portfolio of USD5M to USD10M investments is expected to lead to the avoidance of ~30 million tonnes of CO₂e and to benefit over 400,000 people⁴⁶. Other relevant examples in SSA include projects by Acumen, who are opening up new channels of funding for climate resilient agriculture projects in East and West Africa; AgDevCo, who are leveraging funds for irrigation and market access for vulnerable rural communities; and Komaza, who are supporting microforestry in Kenya.

In addition to its regular process of project approvals, the PSF has issued two calls for proposals for private sector projects with a total funding of up to USD700 million, as summarised in Table 3 below. A total of 350 proposals with an estimated request for funding of USD43bn were submitted resulting in the fund being oversubscribed 36 times. Currently 30 concepts with a combined funding requirement of USD2.8bn have been shortlisted⁴⁷. Among the shortlisted proposals is the DBSA's innovative blending financing mechanism to catalyse renewable energy investments in the SADC which involves establishing a government co-owned creditworthy intermediary off-taker and power services provider within the Southern African Power Pool that can reduce investment costs by aggregating and mitigating demand and supply risks⁴⁸.

GREENCAPE



⁴⁶ Convergence (2019)

⁴⁷ GCF (2019a)

⁴⁸ Climate Action in Financial Institutions (2017)

TABLE 3: PSF Request for Proposal Programmes

PROGRAMME	INVESTMENT GOALS	FUNDING TO DATE
Micro-, small- and medium-sized enterprise pilot programme: 2016 (USD200 million)	To provide access to finance for MSMEs catalyzing innovation and improvements for climate resilience, low emissions growth, and green economies with a special focus on vulnerable states.	■ USD20M for the Business Loan Programme for greenhouse gas (GHG) Emissions Reduction in Mongolia. ■ USD20M for the Low-Emission Climate Resilient Agriculture Risk Sharing Facility for MSMEs in Guatemala and Mexico.
Mobilizing Funds at Scale: 2017 (USD500 million)	■ To catalyze private capital for mitigation and adaptation projects and climate-related services in developing countries, requiring early stage equity, concessional lending, grants and guarantees, creating positive demonstration effects. ■ To support climate project sponsors at the local level, regardless of their size, in removing markets barriers to allow a flow of private financing. ■ To spur new private-led services and innovation focusing on the eight GCF strategic result areas.	■ 350 proposals with a total funding request of USD43bn were submitted under this call. ■ 30 concept notes with a funding of USD2.8bn were shortlisted.

The examples outlined above demonstrate the PSF's track record of mobilising private sector climate finance at scale for both adaptation and mitigation projects. By leveraging a suite of financial instruments such as insurance-type mechanisms, grants, concessional loans, equity, blended financing, guarantees and climate finance facilities (DBSA) the PSF has been able to engage with both institutional investors and corporates. Additionally, the latest report from the GCF Secretariat⁴⁹ outlines six specific areas of business line offerings said to improve its service offering to the private sector. These include:

- an early-stage incubation facility supporting start-ups
- local currency lending facilities
- a co-investment platform aimed at institutional investors
- a direct investment modality
- an adaptation endowment fund
- a stronger focus on upstream engagement

Noting all of the above is subject to GCF Board review and approval.

3.1.2. Other international enabling institutions

While the GCF tends to attract the most interest, there are a wide range of other climate funds and facilities that have a specific focus on supporting private sector investment. Table 4 below documents a selection of these, drawing its sample from those funds identified by the NDC Partnership's Climate Finance Explorer⁵⁰ as being able to directly provide funds to support private sector climate investment within the countries of interest for this study. The table also provides illustrative examples of the types of private sector projects that each Fund has supported to date in various locations across Sub-Saharan Africa⁵¹. It is not intended to be an exhaustive list of all potentially relevant examples.

49 GCF (2019b)

50 NDC Partnership (2019)

51 As there are often not examples of these Funds operating in Botswana, Lesotho, Namibia or Zimbabwe.

TABLE 4: A range of climate finance funds and facilities can support private sector climate investments in Sub-Saharan Africa

FUND	WHAT IT DOES?	EXAMPLE
Biocarbon Fund	Working with both public and private sectors to promote reducing greenhouse gas emissions from the land sector, deforestation and forest degradation in developing countries (REDD+), and from sustainable agriculture, as well as smarter land-use planning, policies and practices.	Working with private sector in Zambia to improve landscape management and increase environmental and economic benefits for rural communities.
Interact Climate Change Facility	Finances renewable energy and energy efficiency projects in the private sector in developing countries and emerging economies via senior loans, mezzanine debt and guarantees.	Projects in Cote d'Ivoire promoting energy efficiency in existing power generation and in Kenya on wind power.
Global Climate Partnership Fund	Supplies financing to local financial institutions which provide sub-loans for energy projects that benefit small and medium-sized businesses and private households in particular as well as energy efficiency and renewable energy projects directly.	Investee Off Grid Electric provides financing that makes solar systems affordable for the poorest households.
EEP S&EA	Provides grants to renewable energy and energy efficiency projects in all sectors.	Support to financing of Gigawatt Global Rwanda Ltd., the first Sub-Saharan solar park outside of South Africa in Rwanda.
IFC-Canada Climate Change Program	Canadian donor funding blended with IFC's own resources to finance climate change investments that face market barriers, aiming to demonstrate the viability of similar projects that can later be financed on fully commercial terms. A portion of the program funds is also used to fund advisory services work to build local capacity, fill information gaps in the market, and enable countries to adopt regulatory and business environments that encourage the private sector climate investment.	Partnership with Sasfin in South Africa to increase lending to projects that will improve the energy efficiency, sustainability and competitiveness of small businesses.
GEEREF	Fund-of-funds which leverages public funds to catalyse private sector investment in clean energy projects. invest in private equity funds that specialise in the provision of equity to small clean energy projects in developing countries.	Provided capital to Inspired Evolution's Evolution I and II funds, the former made early stage and later stage development, expansion or mature equity and equity-related investments, primarily for control or significant minority positions in market-leading growth businesses. The second iteration looks to the continue the success of its predecessor though with an increased focus on early stage investment and the provision of project finance.
Sustainable Energy Fund for Africa	Supports small- and medium-scale Renewable Energy (RE) and Energy Efficiency (EE) projects in Africa via cost-sharing grants, technical assistance, advisory support and equity.	USD1 million grant to in Angola to encourage private investment in renewable energy.
Access to Energy Fund	Dutch government initiative providing risk bearing funding such as equity, subordinated loans, local currency loans and grants to support private sector projects aimed at providing long-term access to energy services. Exclusively focused on Sub-Saharan Africa and affordable, clean and renewable off-grid energy solutions make up 75% of the portfolio.	Provided financing to Gigawatt Global Rwanda Ltd., the first Sub-Saharan solar park outside of South Africa.
French Facility for Global Environment (FFEM)	Mandate to promote the protection of the global environment in developing countries. They promote this protection via grants in the areas of climate, biodiversity, international waters, land degradation, chemical pollutants and stratospheric ozone layer.	Working with banks to increase their capacity to appraise and therefore finance conservation projects in the Congo Basin.

3.2. DOMESTIC ENABLERS TO ENHANCE PRIVATE SECTOR INVOLVEMENT

While international climate finance can play a crucial, catalytic role in engaging the private sector in climate change activities, the sustained involvement of the private sector in such investment relies on a domestic enabling environment that is supportive to private sector investment. These enabling conditions typically relate to factors such as finance, technology, skills, institutional capacity, and governance, although other factors such as culture and social norms are also relevant. The sub-sections below outline key enablers for private sector climate investment across five categories:

- Overall enablers that facilitate private sector climate investment for both mitigation and adaptation across the economy
- Enablers that support private sector climate investment in renewable energy
- Enablers that facilitate private sector investment in energy efficiency
- Enablers that make it easier for the private sector to invest in climate smart agriculture
- Enablers that enhance private sector investment in adaptation

The four focus areas, in addition to the overall enablers, represent some of the key sectors where, as identified in section 2, there are substantial opportunities for engaging the private sector. This does not imply that there are no further opportunities in other sectors, such as, for example, waste or transport, but rather allows the study to focus on a selection of areas where evidence is particularly strong. Further work could extend the analysis to other sectors where there are opportunities for private sector engagement.

3.2.1. Generic enablers to facilitate private sector involvement in low-emissions & climate resilient activities

Policy reform and commitments towards climate change

Countries have adopted more than 1,200 climate change laws⁵². Policies and legal frameworks, especially those that explicitly incorporate commitments over a long time period (consistent with investment timescales), enhance confidence among investors that governments will remain committed to addressing climate change, especially when they create robust and credible governance mechanisms. They also provide the means of implementing incentives to support investments and penalties for actions that increase emissions or reduce resilience and the means of embedding climate change considerations into all economic sectors of the economy. Kenya's Climate Change Act of 2016 and Energy Act of 2019 have shown the power of strong legislation with them now being amongst the frontrunners in using the private sector to support low-emissions (and climate resilient) development in SSA⁵³.

Active and ongoing programmes of engagement with international climate finance actors to support the private sector with climate ambitions

International climate finance actors, such as the GCF, can be an important source of concessional capital in catalysing climate investment. As discussed above, this dedicated climate finance can reduce costs, mitigate risks, expand the quantum of finance available, and provide technical expertise (that, for instance, can help increase deal flow). However, accessing these resources can be time-consuming and challenging. Countries with institutions or frameworks that allow for active, on-going engagement with these actors, and that fully engage the private sector within these institutions/frameworks, will be able to navigate this architecture, to the benefit of the domestic private sector, more successfully.

⁵² Nachmany et al., (2017)

⁵³ Gicheru (2019)

Good general investment climate

Coherent governance and regulatory structures, clear enforcement rules, well-established property rights and a strong rule of law are just as important for private sector climate investment as for other forms of private investment. The 2019 Doing Business report⁵⁴ shows Sub-Saharan Africa as the region with the highest number of reforms each year since 2012 with important reforms relating to, for example, falling tax preparation times, easier business registration. At the same time, between 2012 and 2019, Foreign Direct Investment rose by 29%⁵⁵. SSA's standard bearer in this space has been Rwanda in recent years, their wholesale reforms, especially those expanding access to credit, have propelled them into the top 30 countries for doing business worldwide⁵⁶.

Good access to finance

Many climate change investments are more capital intensive than the GHG emission-intensive/less resilient alternative. For example, renewable power plants require more capital, but have lower operating costs, than fossil fuel powered plants. Many options to enhance resilience increase the capital costs of the asset. This means that, within the overall investment climate, access to finance is of particular importance for private sector climate investments. As noted by the GCF, many developing countries capital markets are nascent, credit and equity markets are shallow, and liquidity is thin. Efforts to deepen capital markets through, for example, appropriate and transparent capital market infrastructure, clear banking regulations, clear foreign investment and repatriation laws, adequate institutional arrangements, and efficient treasury support can play an important role in improving access to finance. In some cases, these characteristics may not be present within a country, but those resident within a country may be able to easily access finance from capital markets in nearby countries. South Africa is a case in point, having most developed capital market in the region, with its neighbours, especially Lesotho and Namibia, able to take advantage of their proximity to access capital more easily⁵⁷.

Strong systems for MRV actions (of emissions and use of climate finance)

Monitoring, reporting and verification (MRV) of climate actions promote transparency of climate action which will in turn help ensure continuity and reduce political risks. These systems are particularly critical when revenues are linked to GHG emission savings or renewable generation. MRV systems should also be able to monitor the deployment and use of international climate finance in projects thereby assisting public-private cooperation through better understanding and learning of outcomes achieved and mutual understanding of result-based frameworks.

3.2.2. Enablers to facilitate private sector involvement in low-emission energy supply and use⁵⁸

Renewable Energy

1. Legal framework

In 2016, more than 160 GW of solar, wind, hydropower, geothermal, and biomass capacity was built around the world⁵⁹ while thirty-seven Sub-Saharan African countries have indicated renewable energy targeted actions in their NDCs. To deliver this investment, a clear legal framework is essential, governing issues such as the legality of private ownership of generation assets, payment arrangements and access to the grid.

54 World Bank (2019a)

55 UNCTAD (2019)

56 World Bank (2019b)

57 PWC (2019)

58 These enablers are taken from the World Bank's Regulatory Indicators for Sustainable Energy (RISE) index.

59 World Energy Council (2016)

2. Planning for renewable energy expansion

The long asset lives and high capital intensity of renewable generation assets demands that there is an effective planning regime for renewable generators. This planning might include overall quantitative targets for renewable energy (or renewable power), along with associated investment needs; grid integration studies to ensure that arrangements are in place to accommodate the intermittency of some renewable generation; and renewable energy resource maps so that investors understand the potential revenues from different sites.

3. Incentives and regulatory support for RE

Despite the impressive cost reductions achieved by many renewable energy technologies (especially solar) in recent years, there remain many cases where incentive payments make a critical difference to the economic viability of the investment. As well as financial payments, incentives can take the form of tax incentives and/or guaranteed or prioritised access to the grid, enhancing the confidence of investors that there will be a market for the power they generate. Feed-in tariffs like those in Kenya have proved successful in increasing take up of small-scale RE technologies⁶⁰.

4. Network connection and access

Grid network and access codes provide technical clarity on the rules through which renewable generators can access the grid as well as how the costs of grid connection will be allocated across different parties. As such, clear codes are an important way of reducing the uncertainty faced by investors and, depending on the arrangements set out, improving the economic viability of renewable generation. The RISE report grid codes remain one of the slowest areas of progress in many countries while more than two thirds of countries globally have grid codes that clearly specify connection procedures in 2017, only about half of countries have renewable energy-related standards in their grid code⁶¹.

5. Limited counterparty risks

The confidence that renewable energy generators have in receiving payment for the electricity they generate is one of the most important risk factors when making renewable energy investments. This is principally determined by the availability of long-term offtake agreements for electricity, the financial health of the off-taker, the transparency surrounding the finances of the off-taker and the presence (or absence) of payment risk mechanisms (i.e. guarantees).

6. Carbon pricing

Carbon pricing increases the costs of generating carbon intensive forms of generation thus boosting the competitiveness of renewable generation. This increase in competitiveness can boost the revenues and profits of renewable generation in the short term, in markets where renewable generators compete for despatch. In the longer-term, it also makes renewable generation investment more attractive to investor. Carbon pricing might be delivered either through a carbon tax, as has recently been introduced in South Africa, or an emission trading system; in either case it is important that there is a robust process for MRV of emissions, to ensure that compliance obligations are robustly calculated.

⁶⁰ Meyer-Renschhausen (2013)

⁶¹ See footnote 11

Energy Efficiency

1. National energy efficiency planning

Energy efficiency strategies, and associated action plans, can help articulate energy efficiency targets and hence consolidate government commitments, clarify responsibilities across actors, provide the bedrock for incentive mechanisms and establish monitoring and reporting regimes. All of these elements are crucial for private sector firms considering energy efficiency investments, or firms supply goods and services associated with energy efficiency investments. Nigeria's effective inclusion of the private sector in the design process of their comprehensive 2016 National Energy Efficiency Action Plan is an example of how such plans can be developed⁶².

2. Energy efficiency entities

A body with central responsibility for implementing an energy efficiency strategy can help ensure that energy efficiency issues and investment opportunities gain salience among the private sector. They can provide information and expertise to help private sector firms identify efficiency opportunities, build awareness of the benefits of undertaking energy efficiency, set and monitor standards, and assess progress towards energy efficiency goals so that policymakers can nimbly respond to market challenges. Kenya's Renewable Energy Directorate, which is also charged with all aspects of the country's energy efficiency policy, is an example of how having a centralised entity can make sure that efficiency is prominent in the national agenda⁶³.

3. Information provided to consumers about electricity usages

The provision of information to consumers on how much electricity they are consuming, and the price they are paying, are often crucial aspects in encouraging customers to change their behaviour and undertake energy efficiency investments. Information is likely to be more powerful when it is provided frequently, when price information is split from consumption levels, when information on consumption over time is provided and when consumption compared to other users is provided. In recent years, the provision of real-time information, using smart meters, and often connected to mobile devices, has developed in some countries, helping to further enhance the salience of energy consumption among customers.

4. Energy efficiency incentives from electricity rate structures

Electricity rate structures can play an important role in incentivising energy efficiency. Rising block tariffs – whereby higher levels of consumption are associated with higher electricity prices – will provide a stronger incentive for reducing energy consumption than structures where prices remain flat, or even decrease, as consumption changes. Municipalities across South Africa have shown that block tariffs can be effective in reducing consumption among high consumers while avoiding adverse impacts on access for low income/low consumption customers⁶⁴. Similarly, time of use charging structures can encourage shifting of demand by consumers that can improve the efficiency of supply of electricity.

5. Incentives and mandates

Mandates to meet a certain level of energy performance, financial incentives including tax rebates, audits, and tracking reports, as well as publicity for strong performers, can all serve to make it more attractive for private sector parties to undertake private sector investment. Different combinations of these mechanisms may be developed for:

- Industrial and commercial energy users
- For the public sector (where the private sector can then help meet the demand for energy efficiency technology); and
- Utilities

⁶² Nigerian National Council on Power (NACOP) (2016)

⁶³ Kenyan Ministry of Energy (2019)

⁶⁴ National Energy Regulator of South Africa (NERSA) (2012)

6. Financing mechanisms

Many energy efficiency investments are characterised by relatively large upfront fixed investments with returns – in the form of lower energy bills – only realised in the medium to longer term. This can act as a significant barrier to private sector companies that are capital constrained, and/or to energy efficiency technology developers. In response, many mechanisms have set up financing mechanisms to facilitate energy efficiency investments. These may reduce the interest costs associated with loans to cover the upfront costs of energy efficiency investments either through using concessional resources or by, for example, tying repayment of energy efficiency loans to tax payments made to municipal authorities. Alternatively, energy service agreements can be provided by private and/ or semi-private companies to design, install, and possibly finance energy efficiency projects; where financing is provided this can reduce or eliminate the need for the immediate beneficiary of the investment to make any upfront payment.

7. Minimum Energy Performance Standards (MEPS)

MEPS like those seen in South Africa, set minimum thresholds for energy performance for high-energy consuming products such as refrigerators, heating, ventilation and air conditioning, lighting, electric motors, other industrial equipment, and light duty vehicles⁶⁵. These standards create demand for private sector suppliers of energy efficiency equipment. They tend to be more effective when standards are mandatory, when there are requirements for reporting, when they are backed by robust standards and when the standards are updated over time to take account of technological improvements.

Energy labelling

Energy performance labels increase consumer awareness of energy consumption and facilitate consumer choice between options that are more or less energy efficient. They therefore help boost consumer demand for energy efficiency options that can then be supplied by private sector companies. Energy labels tend to be most common for the sorts of appliances that are also subject to MEPS. They are more effective when mandatory, and when there are periodic updates to reflect technological advances.

Building energy codes

Building codes and standards can be an effective way to increase a building's energy efficiency, both for new and retrofit buildings. Codes might set minimum thresholds, as well as mandate that information about the energy performance of buildings is made available for potential users/purchasers of those buildings, which can then be supported by mechanisms that highlight strong performance such as Singapore's Green Market Certification Scheme and the Green Market Award. Building codes might also set targets for the threshold of a jurisdiction's building stock that needs to be meet a certain standard. Collectively, these measures help to build the demand for energy efficiency products and services in the construction sector, that can then be delivered by private sector suppliers. Nigeria is currently the only SSA country which has a building energy code that is mandatory, at least in certain cases⁶⁶.

⁶⁵ Gotz et al., (2016)

⁶⁶ IEA (2018)

1. Transport sector energy efficiency

Private sector transportation, both by businesses and for personal use, is a large consumer of energy. There are various ways that public policy can stimulate efforts by the private sector to improve the efficiency of this energy use including developing databases that allow data such as distance travelled per vehicle, modal shares and vehicle miles per capita (as it is only possible to manage improvements in these indicators when they are being monitored); the development of mandates and incentives to improve the efficiency of transport for personal use such as public transit subsidies, congestion charges or electric vehicle programmes; and similar mandates or incentives for commercial transport use such as heavy duty vehicle fuel economy standards.

2. Carbon pricing

Carbon pricing can boost demand for energy efficiency products and services by raising the price of energy so that it reflects the full external costs associated with its production. As discussed above, carbon prices can be delivered either by an Emission Trading Scheme (ETS) or through carbon taxes and, in either case, needs to be accompanied by robust MRV.

3.2.3. Enablers to facilitate private sector engagement in climate smart agriculture

Climate smart agriculture policy and regulation

The Paris Agreement explicitly links food production and food security to its objectives, emphasising the importance of climate-smart agriculture. Many of the changes needed to move agricultural practices towards climate smart principles will be delivered by private sector farmers, but require policy and regulatory support from governments. In the first instance, governments can recognise the importance of climate smart agriculture and develop overarching policy frameworks and governance structures to support its implementation. Good examples of emerging CSA policies in Sub-Saharan Africa include Uganda's National Agriculture Policy and Malawi's Agricultural and Food Security Policy⁶⁷.

Access to sufficient and adequate finance for CSA

Smallholder farmers and SME agribusinesses, especially women, often find it hard to access finance. This reflects perceptions of low profitability, low margins for financiers, and high actual and perceived risks⁶⁸. This lack of capital can hold back the introduction of CSA solutions. Therefore, there is an important role for governments in facilitating financial flows to the agriculture sector to support CSA objectives for instance by the facilitating the development of mobile financial services to reduce transaction costs, encouraging financial aggregation models, establishing rural credit-rating agencies, and promoting guarantees, insurance, and value-chain finance. Strengthening the links between FIs and farmers increases capacity for both parties.

Effective coordination between agencies and across sectors

Climate-smart agriculture requires coordination between agencies across different sectors and close partnerships between farmers' groups, other private sector entities and government agencies to leverage the resources, expertise, and capacities of different stakeholders. For example, the FAO uses the Sustainable Food Value Chain framework approach as a market-oriented and systems-based approach for measuring, analysing and improving the performance of food value chains (FVCs) in ways that help ensure their economic, social and environmental sustainability by ensuring agencies work together to inform effective FVC analysis⁶⁹.

67 Ugandan Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) (2011), Malawian Ministry of Agriculture and Food Security (2006)

68 Sadler et al., (2016)

69 FAO (2019)

Incorporation of climate change considerations into due diligence of policies and investments

The climate sensitivity of the agriculture sector means that it is critical to ensure that a structured and systematic approach is used to undertake due diligence and flag potential climate risks when undertaking investments or introducing new policies. Effective adaptation interventions might include building inclusive value-chains which bring relevant stakeholders together, improving chain of custody and relevant outcomes⁷⁰.

Effective technical assistance incorporating climate change considerations into extension service provision

Extension workers, and those that support them, can exploit approaches to modelling of climate, crop yields, and global trade to provide advice to help estimate and mitigate climate impacts on incomes and food security. Accurate climate-smart agricultural and weather information services through ICT infrastructure can also allow smallholders and SMEs to make informed short-term decisions so as to better manage their exposure to climate risks. Finally, most banks do not have required expertise to understand agricultural lending, hence providing agricultural training to existing lending staff in banking institutions can be highly cost-effective as they are already familiar with the lending environment from an agricultural perspective.

3.2.4. Enablers to facilitate adaptation by the private sector⁷¹

Policies and Institutions

Institutional and governance arrangements

Private sector adaptation can be enhanced by the presence of institutional and governance arrangements that recognise the importance of climate adaptation, and help raise its salience among the private sector. These arrangements can facilitate exchange of best practice, support the production and dissemination of data/information, and provide capacity-building and support services to understand issues and implement actions. This may be achieved by climate change (or climate adaptation) coordinating bodies at the national and regional levels, supported by multi-stakeholder public-private partnerships. Such bodies may be particularly effective when they have strong links into existing private sector associations such as business associations or chambers of commerce.

Regulatory frameworks and policies

Overarching climate change adaptation policies can help increase awareness, establish priorities and provide a specific remit for the private sector. With overarching policies in place, specific policies to support adaptation in specific sectors are easier to introduce such as building codes that take account of climate risks, local zoning rules that influence development patterns or agriculture development policies. In turn all of these policies can help encourage the private sector to undertake adaptation and drive demand for adaptation goods and services that can be supplied by the private sector.

Infrastructure, markets and ICT

Infrastructure and markets

It is easier for the private sector to undertake adaptation measures when they have access to basic infrastructure services such as electricity and water, as well as when transport links place them within easy reach of markets for both their inputs and outputs. Furthermore, ensuring that the design, operation and decommissioning of this infrastructure takes account of climate impacts can increase the demand for adaptation goods and services related to this infrastructure in the short term which can be supplied by, for example, specialised engineering firms and their ancillary service providers.

⁷⁰ CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) (2019)

⁷¹ Stenek et al., (2013) and Crick et al., (2018)

Information Communication Technology

ICT can play an important role in supplying, and enhance the usability of climate and adaptation information, so as to facilitate SMEs and the broader private sector understanding of the need for adaptation and specific response measures. ICT is often identified as being particularly important in allowing farmers to make climate-informed decisions. There is also often an important role for private sector firms in supplying and disseminating this information, with firms competing to make sure that the data is easily usable by potential customers.

Financial environment

Economic and financial incentives

Economic incentives can play an important role in encouraging the uptake of resilience solutions by the private sector. For example, in 2015, the Zambian Energy Regulation Board removed duty and fees on solar power products to encourage private sector power generation as a response to drought-induced hydro-electric load shedding. Adaptation solutions can also often be capital intensive meaning that incentives to lower the financing costs of these options can be valuable. The creation of funds supporting adaptation investments create a potential platform to support climate change adaptation investments. Microfinancing instruments provide access to basic financial services to the most vulnerable affected by climate change while insurance and financial risk management products can transfer climate-related risks and, if designed well, incentivize risk reduction actions – for example, the R4 Rural Resilience Initiative, active in Ethiopia, Senegal, Malawi, Zambia and Kenya, allows farmers to access crop insurance by undertaking risk reduction activities⁷². As the involvement of the World Food Programme (WfP) in this initiative shows, there are opportunities to engage international support to establish or scale up these financing arrangements.

Data, information and capacity

Knowledge, capacity development and training⁷³

One of the biggest barriers to private sector adaptation, especially among SMEs, is a lack of understanding regarding the importance of climate adaptation measures, or of the specific solutions that may be most valuable for them. This can be addressed by the provision of climate change adaptation training courses targeted at the private sector (especially related to climate risk assessments and adaptation decision making), research institutions that conduct and publicise research of relevance to the private sector, forums and conferences on climate change and training and technology development centres.

Data and information

Private sector adaptation also relies on the provision and usability of appropriately timely data and information. This includes climate and hydrological observations, seasonal weather forecasts, climate change projects and data and information on direct and indirect climate impacts. The availability of this information can both directly support private sector adaptation, and also facilitate the development of financing solutions (such as insurance products) that further support private sector adaptation. Initiatives like KUKUA, who now provide real-time weather information in Tanzania, Ghana, Ivory Coast, Nigerian and Rwanda illustrate the opportunities in this space⁷⁴.

⁷² World Food Programme (2018)

⁷³ See footnote 17

⁷⁴ FAO (2017)

This paper has developed a diagnostic tool which provides a framework for assessing three issues: the climate investment needs of a country, especially as identified by its NDC, and with a particular focus on those needs that can be most easily met by the private sector; the strength of the enabling environment for private sector climate investment, based on the enablers developed in Section 3.2; and the internal capacity of the country's private sector. This tool has been applied consistently across Botswana, Lesotho, Namibia and Zimbabwe.

In relation to the investment needs, the country's NDC provides sectoral objectives and, on occasion, the investment that may be required to meet these objectives. This information is combined with the international evidence on the ease of engaging the private sector in different sectors (as discussed in section 2) and the perspectives of both the government and private sector on where private sector might focus most strongly. This allows the identification of those sectors which are likely to provide the most attractive combination of viability and impact.

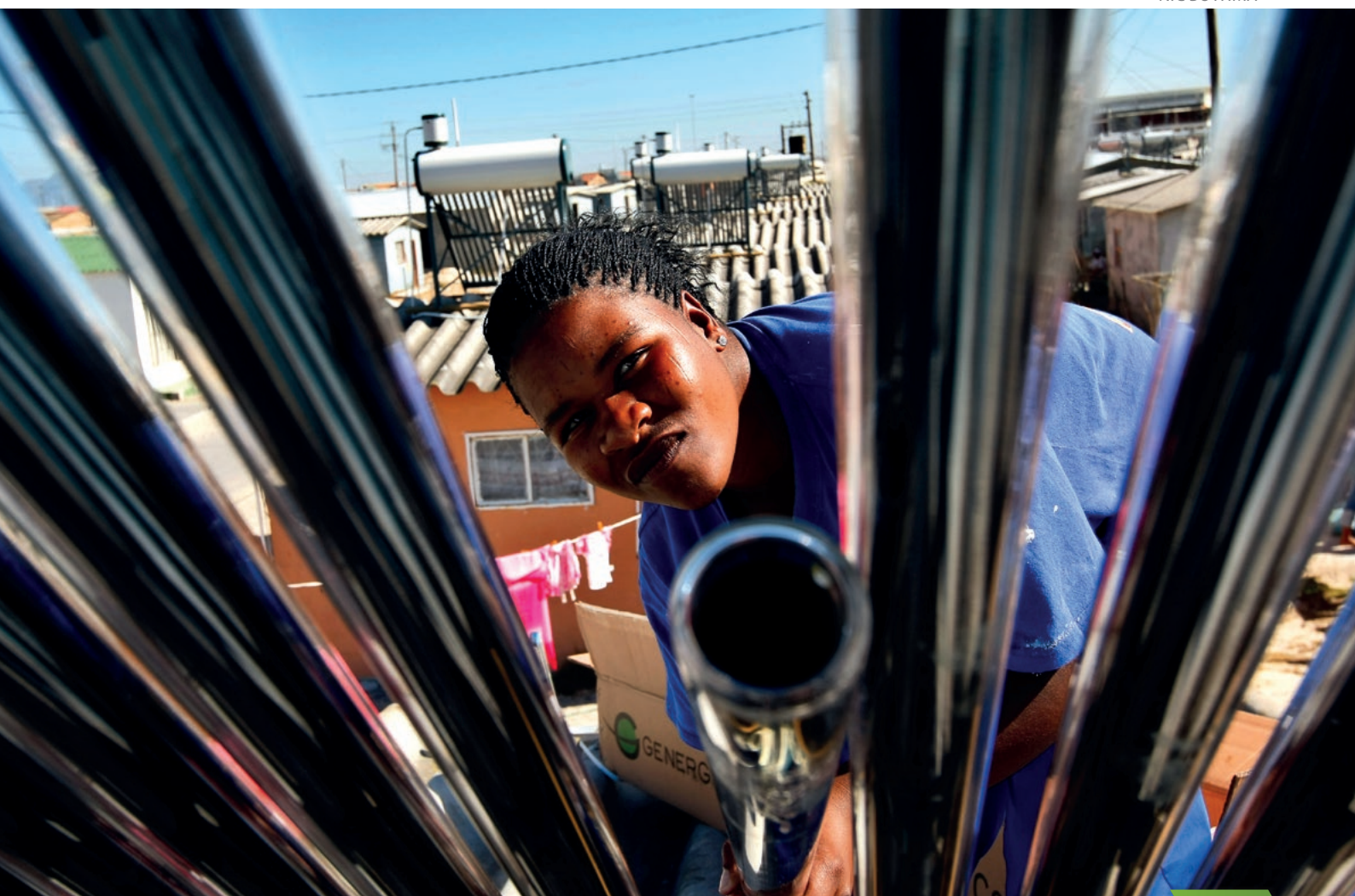
The second component of the tool is the scoring of a country's progress on the enablers listed in Section 3.2. The scoring process takes advantage of opinions arising from stakeholder interviews and publicly available international ratings and provides a scoring for each aspect of renewable energy, energy efficiency, climate smart agriculture, adaptation, as well as the overall enabling environment. In terms of stakeholder interviews, a minimum of 11 respondents (Botswana) and a maximum of 16 respondents (Lesotho) were undertaken. Each stakeholder was asked to provide an assessment of whether each enabler identified in section 2.2.2 was 'low quality', 'medium quality' or 'high quality'. These were then averaged with various adjustments made to account for responses from stakeholders that did not fall into these categories. A further adjustment was made to account for information on the enabler that was, on occasion, available from international sources, although this international data only accounted for a maximum of 25% of the total score the country received for that enabler, to ensure the pre-eminence of the assessment provided by local stakeholders given their expert contextual knowledge. The final scores were then normalised into a score of 0–4. Annex 2 provides specific details of the methodology used.

It is also important to stress that the scoring provided by local stakeholders was complemented with a qualitative discussion surrounding the enabling environment in each country, taking account of the different enabling factors and according to the interests and knowledge of each stakeholder. This allowed for a rich contextualised discussion of the strengths and weaknesses of the enabling environment.

Finally, the tool considers the internal capacity of the private sector across a range of dimensions including use of international standards, corporate governance, managerial and labour capacity/skill and knowledge of the challenges associated with climate change. The tool makes use of international ratings and stakeholder interviews to identify gaps in capacity and, in turn, highlight areas in which technical assistance would be most valuable. The process used to collate this information is described in more detail in Annex 2.

In summary, the diagnostic tool provides information on three key factors affecting the ease of attracting private sector investment – country investment priorities, enabling conditions related to policy and the internal capacity of the private sector – and assesses key aspects identified by international literature on each of these. It does so by using an approach that combines scoring from local stakeholders, qualitative input from local stakeholders and international data where available. By amalgamating a wide range of different evidence, we consider that this represents an innovative tool that can begin to provide important insights into the existing strengths of the enabling environment for private sector investment in each country, as well as where further development may be possible.

NIC BOTHMA



This section presents the results of the application of the diagnostic tool described above to four countries: Botswana, Lesotho, Namibia and Zimbabwe. It summarises the key findings from using the tool with more detailed spreadsheets capturing the application of the tool provided separately.

The analysis provides the results for each country in four subsections.

- First, we provide a brief outline of the country context.
- The second subsection provides a summary of the key climate-related investment needs in each country, where possible providing examples of how the private sector is already supporting climate objectives.
- The third subsection then reviews the domestic enabling environment for climate related investment in each country, looking first at the overall enabling environment, then providing specific assessments for renewable power, energy efficiency, climate smart agriculture and private sector adaptation. As discussed above, these represent four climate-related themes where the need and opportunity for private sector investment is known to be substantial, with focus on these sectors allowing for a deeper discussion. In each case, the analysis provides a summary list of aspects of the enabling environment where the country is performing well and areas where there is an opportunity for further development, and a more detailed scoring against each enabler. These scores are provided in the form of Harvey Balls, allowing a scoring between 0 and 4, according to the methodology summarised in section 4 and with the precise methodological approach set out in Annex 2. Importantly, the scores are complemented with a qualitative commentary surrounding the enabling environment, drawing on the interviews held in each country. Where appropriate, this qualitative commentary also identifies some of the key institutions that are or could further support private sector climate investment in each country.
- The final section provides a summary of the results of the assessment of the internal capacity of the private sector from the diagnostic tool (as also further explained in Annex 2).

5.1. BOTSWANA

5.1.1. Country Overview

Botswana is a landlocked Southern African country with a land area of 581 730 km² and a population of just over 2.3 million in 2018⁷⁵. It had a GDP of USD18.6bn in 2018 largely derived from mining (diamonds, gold and coal) transport, tourism and other services⁷⁶. Due to its arid to semi-arid climate, Botswana has little surface water, a situation that is expected to be exacerbated by climate change. Botswana is classified as a lower middle-income country (which can influence the conditions on which it can access some sources of international climate finance) and is a Non-Annex I party by the UNFCCC.

⁷⁵ Cross Border Road Transport Agency (2018)

⁷⁶ World Bank (2018)

Botswana is a founding signatory of the UNFCCC and ratified the convention in 1994⁷⁷. The country has submitted its Initial and Second National Communications, Intended Nationally Determined Contribution and Nationally Determined Contribution (NDC) to the UNFCCC as per decisions 1/CP.19 and 1/CP.20. Botswana states that, despite contributing to only a small percentage of Africa's greenhouse gases, it intends to reduce its emissions by 15% in 2030 (base year 2010)⁷⁸.

5.1.2. Private sector investment opportunities

To reach the emission target of its NDC, Botswana identifies that it needs to undertake USD18.4bn of investment by 2030. The investment is expected to focus on infrastructure developments in the energy and transport sectors, although the country will also continue to implement adaptation measures with mitigation as a co-benefit for the livestock sector to reduce CH₄ emissions mainly from enteric fermentation. In developing its renewable power generation, the country can exploit its substantial solar potential of 2300 kWh/m². In terms of transport, Botswana plans to connect itself to the Southern African Development Community's (SADC) railway network which provides a win-win opportunity for development and mitigation by increasing the potential for trade while reducing road emissions.

The NDC does not specify the level of investment required for adaptation measures however it does identify prioritised adaptation actions in the water, infrastructure, agriculture and health sectors. Specifically, the country intends to:

- i. Reduce water loss during transmission by investing in telemetric monitoring systems
- ii. Enhance conjunctive groundwater-surface water use
- iii. Construct more pipelines and connect existing ones to transmit water to demand centres
- iv. Improve genetic characteristics of native livestock breeds
- v. Improve livestock diet with supplementary feeding
- vi. Switch to more resilient crops
- vii. Improve public education on adaptation
- viii. Develop a malaria strategy
- ix. Control diarrhoeal diseases

The NDC also states that adaptation will have to be mainstreamed into national development planning and its effects will spill over into non-priority sectors where private sector investments will also need to be made climate resilient. Botswana currently has a number of development opportunities in the mining and heavy manufacturing sectors and so the challenge will be to make sure that any prospective plans are in line with mitigation and adaptation targets.

⁷⁷ Botswana Initial National Communication (2001)

⁷⁸ CTCN (2015) Botswana INDC

5.1.3. Enabling environment assessment and associated institutions

OVERALL ENABLING ENVIRONMENT			
 AREAS OF STRENGTH		 OPPORTUNITIES FOR FURTHER DEVELOPMENT	
Both stakeholders and international ratings recognise that there is a strong overall investment climate.		Opportunity for stronger articulation of the overall government commitment to addressing climate change. Opportunity to further identify the expected role of the private sector. Opportunity to develop institutions and processes that will allow for regular engagement with international climate finance providers.	
ENABLERS			
Policy commitments to climate change	Policy statements on the role of private sector in addressing cc	Active, ongoing engagement programmes with international climate finance	Overall investment climate
1	1	1	3
DISCUSSION			
The overall investment climate in Botswana is supportive to private sector investment, including in climate change mitigation and adaptation opportunities. Moreover, there is substantial policy activity that has a climate change link, for example in relation to addressing the challenges associated with drought conditions. However, the links between these existing government activities and climate change is not always made, with, instead, stakeholders tending to describe any discussion of climate investment as only being made in 'general' terms. While this is consistent with the need for climate action to be mainstreamed into development planning, by failing to fully recognise the links with climate change, opportunities to engage and provide confidence to domestic and international investors, including international climate finance providers, may be being missed. There is also little explicit focus on the role that the private sector might play in delivering climate investment. In relation to the private sector, only a few companies having knowledge of the opportunities that may be available and those that do the long, complicated and often expensive process of applying for climate finance.			

RENEWABLE ENERGY					
 AREAS OF STRENGTH			 OPPORTUNITIES FOR FURTHER DEVELOPMENT		
The government is making promising progress towards providing a robust legal framework and a planning apparatus for the expansion of renewable energy production.			Encourage and support a voluntary carbon market as a steppingstone towards carbon pricing. Introduce and enforce minimum quality standards for imported PV products.		
ENABLERS					
Legal framework	Planning for renewable energy capacity	Incentives and regulatory support for renewable energy	Network connection and use policies	Counterparty risks	Carbon pricing
2	2	1	2	1	0
DISCUSSION					
The legal and planning aspects of the renewable energy framework are seen by stakeholders as adequate. There has recently been 2 new tenders opened for 50MW solar PV power plants, which is seen as indicative of greater attention to government planning of the sector. These are expected to allow network connection and use policies to mature further. However, incentives and regulatory support are rated as low as there are no incentives to support the adoption of renewable energy, with large coal reserves and the subsidised electricity price making it less financially enticing to develop renewable energy projects. High counterparty risks are similarly concerning and there is a particular challenge of low quality, inappropriate or even faulty off-grid renewable energy technologies being sold to consumers. Finally, there has been no progress made towards the implementation of carbon pricing policy; a first step might be the active encouragement of a voluntary market.					

ENERGY EFFICIENCY					
 AREAS OF STRENGTH			 OPPORTUNITIES FOR FURTHER DEVELOPMENT		
■ Significant efforts are being made to apply energy efficiency guidelines to new buildings.			■ A national energy efficiency plan should be a priority so as to support progress across all dimensions of what has been a neglected area. ■ Imposing higher import taxes on inefficient vehicles would help shift Botswana consumers towards cleaner alternatives. ■ Electricity subsidies should be better targeted.		
ENABLERS					
National energy efficiency planning	Energy efficiency entities	EE incentives from tariffs	Incentives/ mandates for Industrial and Commercial	Incentives/ mandates for public sector	Incentives/ mandates for utilities
1	0	2	0	1	1
Financing mechanisms	MEPS	Energy labelling	Building energy codes	Transport sector	Carbon pricing
0	1	1	1	0	0
DISCUSSION					
There is some existing activity to support energy efficiency in the country. For example, the UNFCCC’s Climate Technology Centre and Network (CTCN) is working with The Botswana Institute for Technology Research and Innovation (BITRI) to explore the use of efficient refrigeration and other materials. Nonetheless, there is significant scope to enhance the enabling environment for energy efficiency. There are no energy efficiency entities and national planning in this area is negligible. The misalignment of incentives in this area is particularly troubling. Stakeholders are unanimously vocal about the challenge posed by the government’s generous electricity subsidies which allow prices to be set below costs and so discourage energy efficiency practices across all energy consuming groups. However, both the NDA and DoE spoke of plans to procure energy efficient streetlights which is indicative of growing awareness of the importance of energy efficiency. The transport sector is also ripe for reform with most cars on Botswana roads being imported as used cars from Asia with no restriction on the fuel efficiencies that imported vehicles must meet. The formalisation of a national fuel efficiency policy, including the possibility of fiscal measures on the most inefficient vehicles could help address these challenges. It is reported that MEPS, energy labels and building energy codes are, for the most part, still under development and not yet in the market, although imported appliances often have information about energy consumption. Promising progress is being made with regards to residential building energy codes which are now theoretically enforceable on all new buildings. However, the degree to which these are enforced in practice is unclear. As was highlighted in the previous section, the encouragement of a voluntary carbon market could help the government take their first steps towards carbon pricing.					

CLIMATE SMART AGRICULTURE				
 AREAS OF STRENGTH		 OPPORTUNITIES FOR FURTHER DEVELOPMENT		
■ Training programs are going some way to providing technical assistance in incorporating climate change considerations into agriculture extension service provision.		■ More efforts need to be made to engage international climate finance providers to facilitate access to finance. ■ A policy and regulation framework would have positive knock on effects for coordination and the incorporation of climate change into the sector's activities.		
ENABLERS				
Climate smart agriculture policy and regulation	Access to finance for CSA	Effective coordination across bodies	Incorporation of climate change into due diligence and investments	Incorporation of climate change into extension services
0	1	1	1	1
DISCUSSION				
There has been important progress in relation to climate smart agriculture in Botswana in the last decades, as policymakers and farmers respond to the increasingly frequent droughts and climate variability. This has led to some adoption of climate smart agriculture technologies and practices. Nonetheless, stakeholders note that further improvements would further support these efforts. For instance, stakeholders express concern about the poor coordination across different bodies. For instance, seasonal weather forecasts are not issued timeously, limiting input suppliers and farmers' capacity to plan. While there is a climate change policy under development which discusses adaptation in the agriculture section, there is at present no climate smart agriculture framework. The absence of a framework means that climate change considerations are only rarely implemented into due diligence and investments. At present, despite the work of some development partners, lack of access to finance acts as a substantial barrier to the adoption of CSA practices, with financial institutions relatively unaware of the benefits of CSA. Effective engagement of international climate finance providers to facilitate access to finance for climate smart agriculture and equipping financial institutions to evaluate climate smart proposals could go a long way to alleviating this constraint. For instance, it might help financial institutions lower their cost of funds so they can provide longer-term credit lines to farmers or support the necessary agriculture financial infrastructure (credit bureaus, land registries, collateral registry for movable assets, etc.). A number of stakeholders report a reasonable level of success in incorporating climate change into extension services. However, the same stakeholders also report that, this training is often not put into practice and further evidence-based research and field-demonstration approaches could help in this regard. Investing in developing the evidence base for CSA application in Botswana, and in developing and procuring low cost mechanical equipment for farmers could improve adoption as well as facilitate the move towards developing new policies, as opposed to using similar technologies more frequently.				

PRIVATE SECTOR ADAPTATION						
 AREAS OF STRENGTH			 OPPORTUNITIES FOR FURTHER DEVELOPMENT			
■ Access to fibre optic cables has led to an impressive provision of ICT services.			■ An overarching policy and regulatory framework is required to ensure that the private sector makes timely progress on adaptation. ■ Subsidies and other financial incentives could encourage private sector action on adaptation.			
ENABLERS						
Institutional and governance arrangements	Regulatory policies and frameworks	Infra-structure	ICT	Economic and financial incentives	Knowledge, capacity development and training	Data and information
1	1	2	2	0	2	2
DISCUSSION						
The enabling environment for private sector adaptation would benefit from further development. At present, there is a lack of an overarching institutional and governance arrangement for adaptation, which, in turn means that there are few regulatory policies and frameworks for private sector action. The direct effects of lack of legislation can be seen in the lack of incentives for companies to pre-emptively incorporate adaptation into their activities. There is now however a realisation that these policies and frameworks are needed, and they are under development. Both traditional and ICT infrastructure is relatively well developed in Botswana, which should make it easier for the private sector to undertake adaptation. However, there is potentially a need to upgrade some of the electricity infrastructure to ensure functionality and reduce losses, while ICT infrastructure is not yet being fully exploited to provide relevant climate information and services. Steps are being made to improve knowledge and capacity development in the long run, especially through the inclusion of climate change adaptation into the national curriculum. That said, stakeholders are largely in agreement that more needs to be done in the short term in terms of training and education. Data collection in Botswana is adequate, however, it is sometimes hampered by old technology, and, as noted above, even when relevant data is collected, it is poorly disseminated.						

5.1.4. Internal private sector barriers

The overall perception of stakeholders is that there are few, if any, internal barriers to private sector engagement on climate change and that the real obstacles are external. Corporate governance and the use of international accounting standards are clear areas of strength with both stakeholders and international ratings in agreement that Botswana's private sector is outperforming its regional competitors on these metrics. Where there is less agreement is with regards to the skill level of the workforce and the capacity of management. While many stakeholders generally feel that both their workers and managers are equipped to perform at a high level, the Global Competitiveness Index suggests that the country's workforce is not as competitive as those of its peers. The assessment of the Global Competitiveness Index is also reflected in the perspective of some stakeholders that, specifically in relation to solar PV technology, the private sector is not adequately equipped to deliver pre-installation assessments, recommend appropriate solar technology (capacity), installation and offer post-installation support.

Stakeholders are also largely confident about the private sector's understanding of how climate change adaptation and mitigation efforts will affect their operations, although in relation to mitigation this may partly reflect the limited policies in place to date. However, there does seem to be some knowledge gaps with regards to adaptation technologies and, to a lesser extent, climate investment relevant tools. This suggests that additional technical assistance could still enhance capacity.

5.2. LESOTHO

5.2.1. Country Overview

Lesotho is a small country in Southern Africa measuring just over 30 000km², with a national population of about 2.3 million. Its GDP in 2017 was USD2,639bn with the largest contributions from the financial (17.7%), manufacturing (12.8%), public administration (12.3%), wholesale and hospitality (9.1%), agriculture (8.6%) and mining (7.9%)⁷⁹ sectors. It is classified as a least developed country (LDC) on the basis of its income, human assets and economic vulnerability⁸⁰ and also suffers from significant inequality. Lesotho is a mountainous country, which is prone to droughts and other extreme weather events such as heavy snowfall and rainfall, strong winds and hail, which have been, and will continue to be, exacerbated by climate change. The most economically vulnerable within society are expected to be disproportionately affected.

Lesotho signed the UNFCCC at the Earth Summit in Rio de Janeiro in 1992 and ratified the Convention in 1995. Since then the country has assessed its adaptation and mitigation requirements and has developed several policies and programmes, including the Draft Lesotho Renewable Energy Policy (2013) and the Lesotho Energy Policy (2015), aligned to its commitments to the UNFCCC. The country's climate change policy states that the country's vision is to build resilience to climate change and low emission pathways which include a prosperous and sustainable economy and environment⁸¹. In pursuit of these activities, it envisages maintaining the wellbeing of the Basotho and the participation of all stakeholders across social, environmental and economic dimensions.

⁷⁹ Africa Development Bank Lesotho (2012)

⁸⁰ UNCTAD (2017)

⁸¹ LMS (2017)

5.2.2. Private sector investment opportunities

Notwithstanding its low emissions – reflecting the large reliance on hydropower for its electricity – Lesotho's NDC commits the country to unconditionally reduce its GHG emissions by 10% by 2030 compared to a BAU scenario, with scope for an additional 25% reduction conditional on external support; to increase clean energy production to attain self-sufficiency; and to expand access to electricity, alternative energy products and efficient technologies. As regards the emissions target, national climate documents however, identify agriculture (63%), energy (31%), and waste management (6%) as its most significant sources of emissions⁸², (The recent (2018) GHG Inventories prepared for third national communication indicate 47% Energy and AFOLU and 6% Waste for 2005 and 50% Energy, 45% AFOLU and 5% Waste in 2010) suggesting that these may offer the greatest scope for emission reductions. The international evidence suggests (see section 2) that these can all offer opportunities for private sector investment, while the case of One Power illustrates the opportunities within the energy sector, where a number of other private sector entities are also active in the off-grid space.

BOX 1 OPPORTUNITIES WITHIN THE ENERGY SECTOR IN LESOTHO

In Lesotho, OnePower, an independent power producer (IPP) formed in 2015 focuses on attracting investment for renewable energy projects that support energy access. In 2017, OnePower was selected as the preferred bidder for Lesotho's large-scale solar project, a 20MW PV plant in Mafeteng district, a first for the country. The project has received international and regional support from the AFRICA-EU Renewable Energy Cooperation Programme (RECP), NORFUND, Norway's development finance institution, the sustainable energy fund for AFRICA (SEFA) and AFDB's Africa climate technology centre (ACTC). On May 28th, 2019 OnePower, in collaboration with the government, signed off on a USD600,000 grant agreement with the US trade and development agency (USTDA) for project preparation studies for the project.

In another first of its kind pilot project for Lesotho: the ha MAKEBE mini-grid pilot also developed by OnePower sells electricity making use of M-PESA, smart meter technology and solar PV trackers. Whilst this is major success in the country's history, it has been hindered by regulatory barriers, as identified below.

With regards adaptation, the NDC identifies a range of activities including:

- In the water sector, innovative water storage and conservation techniques such as rainwater harvesting and efficient irrigation techniques
- Developing flood resistant infrastructure and revising building codes to account for climate threats
- Supporting a range of activities in the agriculture sector including innovations in crop storage and food processing, upscaling the dissemination of climate resilient agronomic practices, diversifying livestock, adopting better soil management practices, and supporting research into resilient tree species.
- Developing early warning systems

Stakeholders also cited provision of better infrastructure and communications with regard to the affordability of smart technology for farmers, digitizing information for ease of use on the ground and 'mobile money'. All of these can or will necessitate private sector investment. The country has a vibrant manufacturing sector which produces textiles, clothing and leather⁸³, and which accounts for a large amount of female employment. Lesotho produces wool, mohair, and livestock while the National Strategic Development Plan II (NSDP II) for 2018/19 to 2023/24, Lesotho identifies, among others, manufacturing, tourism and creative industries, and technology as important strategic sectors. Private sector actors in all of these sectors will need to be aware of and respond to the climate threats that the country will face, such as, low harvest yields, drought, limited carrying capacity of pastoral lands.

82 *ibid*

83 SACFP (2017)

In an attempt to draw more awareness to possible investment opportunities, SouthSouthNorth (SSN) as the implementors of the SACFP hosted various workshops in a number of SADC countries (Namibia, Botswana, Zimbabwe) to raise the level of awareness and understanding of the GCF PSF amongst stakeholders, including one held in Lesotho in early 2019⁸⁴.

5.2.3. Enabling environment assessment and associated institutions

OVERALL ENABLING ENVIRONMENT			
 AREAS OF STRENGTH		 OPPORTUNITIES FOR FURTHER DEVELOPMENT	
A national climate change policy and committee have been put in place which provides a framework upon which future progress can be made.		Access to finance could be improved though the engagement of international climate finance initiatives. Plans and policy need to be better disseminated to ensure implementation and compliance.	
ENABLERS			
Policy commitments to climate change	Policy statements on the role of private sector in addressing cc	Active, ongoing engagement programmes with international climate finance	Overall investment climate
2	1	1	1
DISCUSSION			
The overall enabling environment for private sector climate investment in Lesotho is on a positive trajectory although further development would encourage more extensive private sector involvement in adaptation and mitigation efforts. While there are is a national climate change policy in place, there is a need to create more awareness around implementation, as well for the development of action plans with clear signals of intent from the government that it wishes to translate aspirational visions into practical actions with associated clarity on institutional ownership. An improved area in the country pertains to the initiation of a legal framework, which will facilitate implementation of climate change activities. There is an opportunity to increase the degree of meaningful engagement with the private sector on climate change issues. The entity through which this takes place is the National Climate Change Committee (NCCC). The Committee forms a platform for the government ministries, NGOs, private sector, and training and research institutions and Development Partners to interact and exchange information, views, and ideas, and connect efforts to address climate change issues in Lesotho. While a well-intentioned initiative, stakeholders only get to participate in this forum by special invitation and many of those who are invited do not attend meetings. The overall investment climate remains challenging. A particular problem is accessing finance, despite the possibility of tapping South Africa's capital market. This is particularly true for climate-related activities as there are no dedicated financing mechanisms in place to support climate smart technologies, especially in relation to agriculture and adaptation. The country could explore better use of its local institutions (DFIs or otherwise) to channel or package up GCF projects. Given the country's size, strategic use of international and regional GCF Accredited entities will likely also lead to strong potential in the short to medium term. It is noteworthy that there is a lack of a national direct access entity to assist in the delivery of GCF projects in a way that supports national ownership.			

84 SACFP (2019)

RENEWABLE ENERGY					
 AREAS OF STRENGTH			 OPPORTUNITIES FOR FURTHER DEVELOPMENT		
■ The Lesotho Energy Policy 2015–2025 identified a number of reforms that may have an impact in the coming years. ■ The National Climate Change strategy acknowledges the value of developing renewable energy sources.			■ A policy framework would help to encourage and incentivise progress. ■ The policy framework could explore a set of developing potential incentives, including possible fiscal incentives.		
ENABLERS					
Legal framework	Planning for renewable energy capacity	Incentives and regulatory support for renewable energy	Network connection and use policies	Counterparty risks	Carbon pricing
0	1	0	0	0	0
DISCUSSION					
The Mafeteng Solar Project appears to be the only example of a private sector renewable energy project in Lesotho and as such, it is unanimously recognised that the enabling environment for these technologies need to be further enhanced. Stakeholders report there is little to no legal framework or planning of RE which may help explain why the private sector lack awareness of the RE opportunities that may be available to them. Renewable energy investments are also held back by high upfront costs. While the Lesotho Energy Policy 2015–2025 identified a number of reforms that may help address this challenge, it is understood that these are still being developed and any potential changes have yet to filter down to individual investors. There appears to be a particular gap in relation to the regulation of mini-grids. Finally, there has been no progress made towards the implementation of carbon pricing policy. A first step might be the active encouragement of a voluntary carbon market.					

ENERGY EFFICIENCY					
 AREAS OF STRENGTH			 OPPORTUNITIES FOR FURTHER DEVELOPMENT		
The National Climate Change strategy acknowledges the value of promoting energy efficiency.			A national framework needs to be developed to act as a first step towards progress on energy efficiency. This could then allow the development of a series of regulatory measures and tools to promote energy efficiency.		
ENABLERS					
National energy efficiency planning	Energy efficiency entities	EE incentives from tariffs	Incentives/ mandates for I&C	Incentives/ mandates for public sector	Incentives/ mandates for utilities
1	1	0	0	0	0
Financing mechanisms	MEPS	Energy labelling	Building energy codes	Transport sector	Carbon pricing
0	0	0	0	0	0
DISCUSSION					
Developing the enabling environment for energy efficiency to support private sector investment appears to be an even greater need than for renewable energy. At present, stakeholders suggest there are important deficiencies that need to be addressed across the board. Key concepts, such as minimum energy performance standards, building energy codes and energy labelling are currently receiving little to no attention in Lesotho. As highlighted above, the encouragement of a voluntary carbon market could help the government take their first steps towards carbon pricing.					

CLIMATE SMART AGRICULTURE				
 AREAS OF STRENGTH		 OPPORTUNITIES FOR FURTHER DEVELOPMENT		
The National Climate Change Policy acknowledges the importance of climate smart agriculture.		Technical assistance for application procedures could improve access to finance. Climate smart agriculture would be enhanced by becoming part of mainstream agriculture policy. There would be value in additional clarity as to which government agency/department is responsible for the development of climate smart agriculture.		
ENABLERS				
Climate smart agriculture policy and regulation	Access to finance for CSA	Effective coordination across bodies	Incorporation of climate change into due diligence and investments	Incorporation of climate change into extension services
1	0	1	0	0
DISCUSSION				
Stakeholders recognise the need to update policies in the agricultural sector to take better account of climate change and raise awareness of climate smart agriculture (CSA). Conservation agriculture has been practiced in Lesotho for just under 4 decades. While other policies such as the National Adaptation Programme of Action (NAPA), Section 36 of Lesotho’s Constitution, State of the Environment Report and Lesotho’s agriculture and food security policy among others make provision for CSA terminology, practices and actions, CSA is not an explicitly stated as part of government’s existing policies. There is a National Agriculture Investment Plan (NAIP), but no explicit policy document relating to CSA, and although the NCCP does refer to it, it is still generally an unfamiliar concept to many stakeholders⁸⁵. Access to finance represents a particular challenge for the introduction of CSA practices, with the typical channel for overcoming such barriers, microfinance institutions, not fully operational within the sector. Many stakeholders consider that government intervention will be needed to overcome these problems. A number of stakeholders recognise the potential for funding from the GCF as a potential avenue to help overcome these barriers, for example through supporting banks or microfinance institutions lowering the cost at which they provide loans for climate smart agriculture, but, at present, most consider that the organisational structure to access these resources and deliver them to the local level is not present. Coordination between agencies is another cause for concern which has been repeatedly cited as poor to non-existent. The lack of a clear mandate has led to a state of confusion where no one knows who is responsible and, more importantly, accountable for progress on CSA.				

85 FANRPAN (2014)

PRIVATE SECTOR ADAPTATION						
 AREAS OF STRENGTH			 OPPORTUNITIES FOR FURTHER DEVELOPMENT			
■ The Lesotho Meteorological Services capture important information.			■ Greater institutional support and frameworks to guide private sector efforts. ■ Enhance private sector capacity to engage with adaptation efforts. ■ The dissemination of information by the LMS can be enhanced.			
ENABLERS						
1	1	0	0	0	1	0
Institutional and governance arrangements	Regulatory policies and frameworks	Infra-structure	ICT	Economic and financial incentives	Knowledge, capacity development and training	Data and information
DISCUSSION						
Private sector adaptation in the country is currently held back by the absence of a comprehensive plan, as well as limited coordination and interaction within and between government departments and the private sector. In particular, while the Lesotho Meteorological Services (LMS) undertakes important work in relation to, for example, coordination of climate change issues, policy formulation and reporting to the UNFCCC, it lacks the resources and mandate to share information and expertise more widely. Capacity is also identified as a limiting factor with specialist knowledge concentrated in agencies like LMS while most stakeholders need training and capacity development.						

5.2.4. Internal private sector barriers

The overall feeling of stakeholders is that the private sector faces a number of internal barriers to foster greater climate change investment. Corporate governance and the use of international accounting standards are relatively weak with both stakeholders and international ratings in agreement that there is significant scope for improvement on these fronts. Stakeholders also identify a lack of skilled labour and capable managers, suggesting that these shortfalls are creating operational barriers which limits the scope of projects which businesses are able to undertake.

The shortages of human capital identified by stakeholders also shows itself in the private sector's limited understanding of how climate change adaptation and mitigation efforts will affect their operations. There are significant knowledge gaps with regards to adaptation technologies and climate investment relevant tools. These deficiencies suggest that significant technical assistance is likely to be valuable.

5.3. NAMIBIA

5.3.1. Country Overview

Namibia borders South Africa, Botswana, and Angola with a stretch of coastline along the South Atlantic Ocean, covering a land area of 825,418km², of largely desert environment, and has a 1,500km coastline. Namibia is an arid, water deficient country with high solar radiation, low humidity, and high temperature resulting in high average annual evaporation rates.

Socio-economically, Namibia is classified as an upper middle-income country, although it suffers from stark income inequalities that left 1 in 7 Namibians living on less than USD1.90 a day in 2015⁸⁶. Namibia's GDP is reliant on three main activities – mining, agriculture and fishing – while the country is also a high exporter of non-fuel minerals worldwide.

5.3.2. Private sector investment opportunities

In its NDC, Namibia identifies an 89% reduction of its GHG emissions compared to a BAU scenario by 2030. This is associated with a USD10.4bn investment opportunity. Much of the reduction in emissions is expected to be driven by a significant increase in the share of renewables in the electricity mix, from 33% to 70% by 2030⁸⁷, although the NDC also identifies a range of other commitments including the following:

- The implementation of an energy efficiency programme to reduce electricity consumption by 10%
- Commissioning a mass transport system in Windhoek to reduce number of cars by ~40%, implementing a carpooling system and improving the efficiency of freight transport by shifting towards bulk transport
- Increasing the number of livestock heads in feedlots
- Compost feedlot manure and the expansion of conservation agriculture practices
- Implementing waste to energy projects
- Reducing the country's deforestation rate by 75% in 2030, reforesting 20,000 ha annually. and expanding the use of agroforestry systems.
- Reducing 20% of the clinker in the cement production process

As the international experience in section 2.2 outline, many of these investment opportunities – especially in the energy, cement, agriculture and, potentially, transport sectors – are likely to rely on private sector investment. Box 2 discusses how the private sector is increasingly organising itself in order to help realise some of these opportunities.

BOX 2 FACILITATING PRIVATE SECTOR INVESTMENT IN THE BIOMASS SECTOR

The Namibia Biomass Industry Group (N-BiG) is a non-profit industry association that was founded in 2016, with the support of GIZ, to help Namibia address the challenge of bush encroachment at a landscape level scale. It is involved in various services and activities such as business development support, market development, policy development, capacity building, data collection, networking, and facilitation of applied research and development. Private sector representation is vital for robust policy developments and revision are of upmost importance. Industry associations are often the best way to align and coordinate these policy inputs from private sector, to ensure a more concerted and focused input process. N-BiG also actively promotes a self-regulating private sector. This is accomplished by the promotion of recognised industry standards such as Forest Stewardship Council certification, as well as through the promotion of skills development, and technology transfer, which inevitably increases the formalisation of the biomass industry, improving overall working conditions, and the skills base within the country. In doing so, the association helps build trust between the public and private sector.

⁸⁶ World Bank (2019c)

⁸⁷ NDC (2019)

For adaptation, even more investment is expected to be required to meet NDC commitments, in the region of USD22.6bn by 2030. This investment is required across a number of areas:

- In the water sector, expanding the use of efficient irrigation systems, artificial recharge of aquifers, recycling wastewater and improving rural water supply
- Setting up early warning systems
- Promoting climate smart agriculture and shifting towards more resilient crop varieties and livestock species

There are opportunities to engage the private sector in these activities and investments, especially in the water and agricultural sector.

To support its adaptation efforts, Namibia is in the process of drafting its National Adaptation Plan (NAP).

5.3.3. Enabling environment assessment and associated institutions

OVERALL ENABLING ENVIRONMENT			
 AREAS OF STRENGTH		 OPPORTUNITIES FOR FURTHER DEVELOPMENT	
■ Strong policy commitments to addressing climate change. ■ Active engagement with international climate finance providers. ■ Enabling environment and access to finance stronger than in rest of region.		■ Provide clearer steer on the particular activities where private sector involvement is expected. ■ Improve monitoring and evaluation of climate-related actions. ■ Improve access to finance for climate-related investments, especially for those who lack collateral.	
ENABLERS			
Policy commitments to climate change	Policy statements on the role of private sector in addressing cc	Active, ongoing engagement programmes with international climate finance	Overall investment climate
3	2	2	2
DISCUSSION			
The overarching policy commitment from the Namibian government towards addressing climate change is strongly recognised: 100% of stakeholders scored Namibia as ‘high’ in this regard. However, there is less certainty around whether the policy commitment is reflected by a strong political will to take action. Some stakeholders argue that since 2017 the government has been relatively less active with regard to public campaigns on climate change and national stakeholder meetings. This is related to a consistently observed problem in translating these political commitments into action that can be taken by the private sector. Most stakeholders are not convinced that the government is making clear statements to engage the private sector. This leads to a problem that climate change is <i>‘not brought to the country circumstance to apply to daily lives ... people do not know where they can get involved – there is a ... huge gap between where people sit in the system and where they can get involved in. There are no visible platforms.’</i> Most stakeholders consider that programmes of engagement with international climate finance providers is either average or strong. However, despite a number of discrete projects, there is less success in funding “paradigm shift” potential projects. Stakeholders also note a gap in terms of monitoring (and reporting) the collective impacts of these climate finance programmes. Views on the overall investment climate are mixed. The most noted concern relates to difficulties in accessing finance for climate-related projects, especially for farmers who have limited resources and, especially because of land tenure rules, lack collateral. This is compounded by a lack of awareness of climate financing options. The Bank of Namibia has been working with Banks to try and restructure their lending models to take account of this with some success. However, while national stakeholders express concern about these issues, the international evidence suggests that the country is considerably better than the average in Sub-Saharan Africa and, in the case of access to finance, better than the global average.			

RENEWABLE ENERGY					
 AREAS OF STRENGTH			 OPPORTUNITIES FOR FURTHER DEVELOPMENT		
■ Robust legal framework for renewable energy. ■ Plans for renewable energy expansion integrated into National Resource Plan.			■ Explore whether additional financial incentives for certain types of renewable power may be needed. ■ Ensure smooth operation of policies that support renewable power deployment. ■ Explore role for carbon pricing.		
ENABLERS					
Legal framework	Planning for renewable energy capacity	Incentives and regulatory support for renewable energy	Network connection and use policies	Counterparty risks	Carbon pricing
3	3	2	2	1	0
DISCUSSION					
All stakeholders recognise that there is a robust overall legal framework for renewable energy, and with well-specified associated plans for renewable energy expansion through the Integrated National Resource Plan; although some stakeholders express concerns around whether these plans are sufficiently enforced. There is also a greater concern around whether sufficient attention is being given to mini-grid and off grid renewable energy solutions, a problem that is compounded by the lack of access to finance that potential users of these technologies face. The public sector considers that the incentives for renewable energy and network connection and use policies are sufficient, but the private sector is more sceptical expressing concern that the scale of financial support is not commensurate with the stated policy ambition for the sector. Despite NamPower being one of the strongest utilities in SAPP from a financial perspective, private sector stakeholders express concern regarding the difficulty in concluding contracts with it; with all such stakeholders scoring this enabling factor as low. This means that policies that might support flexible renewable power deployment, like wheeling, while available in principle are limited in practice. There are no current plans to introduce carbon pricing.					

ENERGY EFFICIENCY					
 AREAS OF STRENGTH			 OPPORTUNITIES FOR FURTHER DEVELOPMENT		
National energy efficiency policy established. Organisations such as Green Building Council in place and support energy efficient building.			Explore scope for further regulations and incentives for energy efficiency across all energy uses. Conduct studies to explore how transport efficiency of milk industry can be improved.		
ENABLERS					
National energy efficiency planning	Energy efficiency entities	EE incentives from tariffs	Incentives/ mandates for I&C	Incentives/ mandates for public sector	Incentives/ mandates for utilities
3	2	1	1	1	1
Financing mechanisms	MEPS	Energy labelling	Building energy codes	Transport sector	Carbon pricing
2	1	2	1	1	0
DISCUSSION					
The overall national energy efficiency planning policy is considered by all stakeholders to be appropriate and well-established, although some note that it is less well established than for renewable energy. However, this does not appear to be well matched by specific incentives and/or regulations to encourage energy efficiency. For example, all private sector entities suggest that there is scope to enhance the enabling environment for energy efficiency by providing incentives, such as tax reductions, or placing mandates among energy users to improve their energy efficiency; supporting the development of financing mechanisms to encourage energy efficiency (this might take the form, for example, of energy audits with concessional funding for implementation of measures for industrial and commercial users or the development of ESCO-type models for commercial buildings); introducing minimum energy performance standards on buildings and appliances (although a number of stakeholders recognise that there has nonetheless been some progress on building energy efficiency through, for example, the development of the Green Building Council). Stakeholders also identify particular opportunities to improve the transport efficiency of the milk industry.					

CLIMATE SMART AGRICULTURE				
 AREAS OF STRENGTH		 OPPORTUNITIES FOR FURTHER DEVELOPMENT		
■ Progress being made on climate smart agriculture policy framework.		■ Explore programmes to improve access to finance for CSA techniques for smallholder farmers. ■ Improve coordination across agencies. ■ Explore how to better incorporate climate change considerations into the advice of extensions worker.		
ENABLERS				
Climate smart agriculture policy and regulation	Access to finance for CSA	Effective coordination across bodies	Incorporation of climate change into due diligence and investments	Incorporation of climate change into extension services
2	1	1	1	1
DISCUSSION				
As with the other sectors, most stakeholders recognise that the policy framework for the sector is in place. However, two overarching factors are almost always identified as holding back private sector climate smart agriculture investments: • Access to finance • Coordination across agencies Most stakeholders recognise that there is more that could be done to incorporate climate change into both the advice provided by extension workers and in the due diligence of agricultural policies.				

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PRIVATE SECTOR ADAPTATION						
 AREAS OF STRENGTH			 OPPORTUNITIES FOR FURTHER DEVELOPMENT			
■ Infrastructure development that is superior to the SSA average. ■ ICT readiness that is superior to the SSA average.			■ Develop stronger strategies to guide the country's adaptation efforts. ■ Explore the financial and economic incentives that could support adaptation. ■ Facilitate the scale up of ICT to provide more information weather and climate, and encourage adaptation, especially by farmers. ■ Build climate change into school curricula and boost societal awareness of climate change challenges.			
ENABLERS						
Institutional and governance arrange-ments	Regulatory policies and frameworks	Infra-structure	ICT	Economic and financial incentives	Knowledge, capacity development and training	Data and information
1	2	1	1	1	2	2
DISCUSSION						
In comparison with the other areas and sectors, the perception among stakeholders is that there is a need for much high-level strategy and institution building to support private sector adaptation, especially so as to improve coordination across agencies. This is despite the fact that desk-based evidence suggests that Namibia has governance arrangements for adaptation that are considered stronger than the global average. Further improvements may be provided when the planned National Adaptation Plan is in place. Stakeholders also perceive that there are few regulatory policies and frameworks to support adaptation, with policy developed in a reactive rather than proactive way. All stakeholders score the presence of economic and financial incentives for adaptation as low or average. This is compounded by a need for greater infrastructure development, especially in the water sector where water recycling in particular is underexploited (although, again, Namibia scores higher than the other countries in this study or the SSA average). Kreditanstalt für Wiederaufbau (KfW) and the DBN are working to enhance the country's water infrastructure and promote water reuse. Although international evidence suggests that Namibia has stronger ICT readiness than other countries in this study, stakeholders perceive the use of ICT to support adaptation as a weakness. A particular challenge noted by stakeholders is that ICT is not being exploited to provide information to farmers, with the relevant information instead being provided through TV commercial despite the fact that many farmers do not have televisions. The ICT activities that there have been are criticised by stakeholders for being small pilots, while the market dominance of one mobile service provider (MTC) is seen by some as holding back private sector ICT companies in providing adaptation services. Stakeholders also see greater opportunities to enhance the provisions of knowledge, capacity development and training so as to boost private sector adaptation activity. This is matched by the desk-based evidence, with Namibia's ranking on ND Gain's adaptive capacity index below the SSA average. A number of stakeholders suggest that enhancing education curricula to improve understanding of climate change, and climate change adaptation opportunities, could be of particular value. Information and data around weather and climate is also seen as a barrier. While there are some initiatives, such the Ministry of Agriculture's attempt to collect data via remote sensors and GIS technology, it is often claimed that whatever information is available at the technocratic level does not filter down to those on the frontline in efforts to tackle climate change.						

5.3.4. Internal private sector barriers

The majority of stakeholders identify the lack of technical capacity and human resources as a critical internal barrier to greater private sector climate investment projects; a view which is supported by poor international ratings. Some argue that these skills gaps are sometimes masked by the re-labelling of conventional development projects as climate change (adaptation) projects. According to stakeholders, skills gaps exist in relation to climate scientists, sector specialists who can identify potential opportunities, bankers and financial transaction advisory skills, as well as engineers and research scientists who could adapt generic climate technologies to meet Namibian specific needs. Some stakeholders consider that these skills seem to be particularly missing in relation to adaptation and climate smart agriculture.

Furthermore, while corporate governance and use of international accounting standards are seen as strengths, with ratings above the global average, the shortfall in human capital shows itself in limited understanding of the impact climate change is going to have on Namibian businesses. Training and further efforts to include climate change at all levels of the national curriculum would go some way to relieving this barrier in the longer term.

5.4. ZIMBABWE

5.4.1. Country Overview

Zimbabwe is a southern African country measuring about 390 000km² with an estimated population of 13.5 million people in 2017⁸⁸. The country's GDP was USD24,6bn in 2018, with large contributions from the agriculture, mining, manufacturing and ecotourism sectors⁸⁹. The structure of the economy makes it sensitive to climate change impacts with, for example, agriculture accounting for the livelihoods of 70% of the population. The introduction of the bond notes in 2016, the Real Time Gross Settlement (RTGS) dollar in 2019 and the eventual outlawing of the United States dollar and other currencies has exacerbated the already challenging macroeconomic environment⁹⁰.

Zimbabwe was amongst the countries which signed and ratified the United Nations Framework Convention on Climate Change in 1992 and has submitted its National Communications in 1998, 2013 and 2017⁹¹, and its Intended Nationally Determined Contribution (INDC) which translates into Zimbabwe's NDC contributions towards achieving the objective of the Convention as set out in Article 2⁹². In these documents, the country states, on account of its low greenhouse gas emissions and high vulnerability, that adaptation is a priority. The country has developed policy documents such as the National Climate Change Response Strategy (2014), the National Climate Policy (2016), the Climate Smart Agriculture Framework and the recently approved Renewable and Biofuels policy.

The country's climate change vision is "to create a nation which is resilient to climate change while ensuring that the country pursues a sustainable development path towards a long-term climate proofed economy". The goal of the country is to mainstream both mitigation and adaptation strategies into development at different levels in the country through multi-stakeholder engagements. It intends to use mitigation actions to strategically enhance socio-economic growth and livelihoods opportunities through the provision of financial resources and capacity building support⁹³.

88 Zimbabwe ICDS (2017)

89 World Bank (2019d)

90 Al Jazeera (2019)

91 Government of Zimbabwe (1998), Government of Zimbabwe (2013) and Government of Zimbabwe (2017)

92 NDC Registry (2018)

93 See footnote 88

5.4.2. Private sector investment opportunities

In its NDC, Zimbabwe has committed to (among other things) conditionally reduce GHG emissions by 33% compared to BAU by 2030, build resilience in managing climate related disaster risks, strengthen the management of water resources and promote climate smart agricultural practices.

The biggest investment need identified in the NDC is in the transport sector where USD38.2bn of investment is estimated to be needed in part to review and modernise the transport sector including refurbishing and electrifying rail system, as well as to undertake ethanol blending. The existing use of PPP arrangements in the rail sector – there is a private concession providing rail services in between Bulawayo and Beitbridge – suggests, in principle, there may be some scope for private sector investment here, although the sector is dominated by the National Railways of Zimbabwe (NRZ).

The NDC also identifies around USD18bn of investment by 2030 in the power and heat sector including through the development of solar water heaters and off-grid solar, an increase hydro contribution, coal bed methane power, changing thermal power station technologies and sustainable energy alternatives for curing tobacco. Although the Zimbabwe Power Company (ZPC) and Zimbabwe Electricity Transmission and Distribution Company (ZETDC) are publicly owned, this may afford opportunities for private sector investment, especially in relation to decentralised energy solutions. Interviewees corroborate the NDC, noting in particular opportunities in the hydro and solar energy as well as in off grid solutions. There are plans to invest in hydro energy in the Eastern Highlands and a solar project in Gwanda. Financing for green investments appears to be growing, led by IDBZ and Steward Bank.

Finally, the NDC identifies around USD26bn of agriculture adaptation investment by 2030 to encourage adapted crop and livestock development and farming practices. As the agriculture sector employs most of the Zimbabwean population, much of this will need to be provided by, or work alongside, private sector farmers.

There are also likely to be an important role for the private sector in improving the climate resilience of the mining sector – which currently contributes about half of the country's foreign currency income – and in the manufacturing sector, although this sector is experiencing economic challenges which have seen companies either shutting down or retrenching workers. Key informants cited the prevailing macroeconomic challenges as being a disincentive to investment since most companies were focused on overcoming the current economic challenges.



5.4.3. Enabling environment assessment and associated institutions

OVERALL ENABLING ENVIRONMENT			
 AREAS OF STRENGTH		 OPPORTUNITIES FOR FURTHER DEVELOPMENT	
■ Strong policy commitments to addressing climate change. ■ Access to finance stronger than other countries under review.		■ Broad-based macroeconomic stabilisation will be essential for maximising the opportunities of the private sector. ■ Further engagement with international climate finance providers to focus on delivering support to the private sector. ■ Undertake more explicit private sector engagement on climate challenges.	
ENABLERS			
Policy commitments to climate change	Policy statements on the role of private sector in addressing cc	Active, ongoing engagement programmes with international climate finance and on climate activities	Overall investment climate
2	1	1	1
DISCUSSION			
The overarching policy commitment from the Zimbabwean government towards addressing climate change is recognised as encouraging, but there is a concern that, despite these commitments, these plans are not well publicised and there is <i>‘not much in implementation’</i>. Private sector stakeholders express concern that there was insufficient engagement of the private sector in the development of climate change policy and its implementation, although the government suggests there have been a number of such engagements. The overall investment climate, including the Indigenization and Economic empowerment Regulations, needs to be improved in order to facilitate greater private sector engagement in climate change. Currently, these regulations restrict participation in some sectors such as agriculture to indigenous Zimbabweans and restrict foreign investors to only owning 41% stake in extractive industries⁹⁴. These regulations have largely been considered as a disincentive to foreign direct investment in Zimbabwe. Stakeholders almost universally rate the overall investment climate as poor and this is supported by scores below the Sub-Saharan average in the World Bank Ease of Doing Business Indicator and the Global Competitiveness index. The macroeconomic climate is characterised by hyperinflation, foreign currency controls, power shortages and high unemployment such that people feel forced to deal with <i>‘bread and butter issues’</i>. The country’s economic challenges are further worsened by its inability to borrow from international lenders such as the Paris Club, as it owes international lenders an estimated USD8,5bn, with some of these debts being a decade old⁹⁵. Engagement with international actors is also largely rated as low, although this could change if a climate finance facility currently being explored comes to fruition.			

⁹⁴ African News (2019) Restricted sectors: transportation (passenger buses, taxis and car hire services); retail and wholesale trade; barber shops, hairdressing and beauty salons; employment agencies; estate agencies; valet services; grain milling; bakeries; tobacco grading and packaging; advertising agencies; provision of local arts and crafts and their marketing and distribution; and artisanal mining.

⁹⁵ Business Report (2019)

RENEWABLE ENERGY					
 AREAS OF STRENGTH			 OPPORTUNITIES FOR FURTHER DEVELOPMENT		
■ Electricity tariffs are deemed to be more conducive to energy efficiency than elsewhere in the region.			■ Help quality local practitioners signal their expertise to foreign companies to reduce counterparty risks. ■ Encourage and support a voluntary carbon market as a stepping stone towards carbon pricing.		
ENABLERS					
Legal framework	Planning for renewable energy capacity	Incentives and regulatory support for renewable energy	Network connection and use policies	Counterparty risks	Carbon pricing
2	2	2	2	1	0
DISCUSSION					
Stakeholders remain unconvinced by the efficacy of the legal framework and regulatory support for renewable energy; however, the international evidence, such as the World Bank RISE index, suggesting that Zimbabwe is actually performing well compared to both its regional and global peers on both fronts with, for example, the tax duty for importing solar panels recently removed. This discrepancy between the qualitative perspective of stakeholder and the international evidence may be partly explained by problems in the awareness and understanding of legislation and the policy framework. A key area of concern across almost all stakeholders relates to the severity of the counterparty risks faced in Zimbabwe. Potential partners, either domestic or foreign, can face substantial challenges in adjudging the quality and veracity of local contractors and suppliers. Stakeholders cite the excessive need for middle-people and the lack of capacity to discern between them as impediments to investment. There are no current plans to introduce carbon pricing.					

ENERGY EFFICIENCY					
 AREAS OF STRENGTH			 OPPORTUNITIES FOR FURTHER DEVELOPMENT		
■ Electricity tariffs are deemed to be more conducive to energy efficiency than elsewhere in the region.			■ Set out a national energy efficiency plan. ■ Explore scope for further regulations and incentives for energy efficiency across all energy use sectors. ■ Explore role for carbon pricing.		
ENABLERS					
National energy efficiency planning	Energy efficiency entities	EE incentives from tariffs	Incentives/ mandates for I&C	Incentives/ mandates for public sector	Incentives/ mandates for utilities
1	1	1	1	0	1
Financing mechanisms	MEPS	Energy labelling	Building energy codes	Transport sector	Carbon pricing
1	1	1	1	1	1
DISCUSSION					
There have been a number of steps the country has taken towards building an enabling environment for energy efficiency. Examples include work by the Zimbabwe Electricity Distribution Company's (ZETDC) on replacing incandescent lights with light-emitting diodes (LEDs) bulbs, which resulted in around 5MW of savings. CTCN has also carried out energy and water efficiency studies for 10 industries, identifying savings opportunities. A key informant mentioned that The Zimbabwe Energy Regulatory Authority (ZERA) considers promoting energy efficiency as a quick win, as adopting energy efficient appliances could lead to a 15% reduction in energy losses. Despite this, both the overall national energy efficiency planning policy and the specific incentives for individual energy use sectors are generally considered by stakeholders to be sub-standard; a view that is broadly corroborated by the international evidence. An exception is the incentives created by electricity tariffs which are rated by RISE as better than SSA and global averages. Many stakeholders feel that very little is being done to support energy efficiency and that there is a clear need to develop a national plan as the first step to addressing some of those concerns.					

CLIMATE SMART AGRICULTURE				
 AREAS OF STRENGTH		 OPPORTUNITIES FOR FURTHER DEVELOPMENT		
■ Efforts are being made to incorporate climate change considerations into the sector's due diligence processes. ■ Climate Smart Agriculture Manual.		■ Explore programmes to improve access to finance for CSA techniques for smallholder farmers. ■ Improve coordination across agencies.		
ENABLERS				
Climate smart agriculture policy and regulation	Access to finance for CSA	Effective coordination across bodies	Incorporation of climate change into due diligence and investments	Incorporation of climate change into extension services
2	0	1	2	1
DISCUSSION				
Like other countries in Southern Africa, Zimbabwe has experienced significant climate variability and increased extreme events such as floods and droughts. Through the development of a National Climate Change Response Strategy and policy documents, the country has described the importance of adaptation, especially in the agriculture sector which employs the majority of rural dwellers and is an important foreign currency earner. Moreover, Zimbabwe has gone beyond developing a climate policy and has developed a climate smart agriculture manual for use in training agricultural personnel, a first in the SADC region. However, two overarching factors are almost always identified as holding back private sector climate smart agriculture investments: • Access to finance • Coordination across agencies Most stakeholders recognise that, while there is <i>‘a lot of awareness and partner support’</i> there is still more that could be done to incorporate climate change into both the advice provided by extension workers and in the due diligence of agricultural policies.				

PRIVATE SECTOR ADAPTATION						
 AREAS OF STRENGTH			 OPPORTUNITIES FOR FURTHER DEVELOPMENT			
■ Knowledge, capacity development and training are superior to the global average.			■ Develop stronger strategies, policies and frameworks to guide the country's adaptation efforts, especially through expediting the delivery of the National Adaptation Plan. ■ Explore the financial and economic incentives that could support private sector adaptation. ■ Facilitate the scale up of data provision to provide more information on weather and climate, to encourage adaptation, especially by farmers. ■ Build climate change into school curricula and boost societal awareness of climate change challenges.			
ENABLERS						
Institutional and governance arrangements	Regulatory policies and frameworks	Infra-structure	ICT	Economic and financial incentives	Knowledge, capacity development and training	Data and information
1	0	0	1	0	2	0
DISCUSSION						
The perception among stakeholders is that there is particular scope for improvement with regards to the high-level strategy, institution building and regulatory frameworks needed to support private sector adaptation. In fact, stakeholders have shown concern about the lack of effort to engage the private sector in any meaningful way; stakeholders almost exclusively rate the efforts as low across the board. A barrier around which the stakeholders hold some of the strongest opinions is with regards to economic incentives for adaptation which they unanimously agree are non-existent. Information and data around weather and climate is also seen as a prohibitive barrier; stakeholders feel that there is not sufficient in-country capacity and as a result, they have to rely on international data providers. This can make applications for climate finance slower and costlier. The international evidence broadly corroborates stakeholders' overall sentiments. One exception relates to knowledge, capacity development and training, where the international evidence suggests that Zimbabwe is more proficient than global comparators. However, even here, stakeholders express concern that training is often poorly implemented, requires (often unaffordable) international travel and is often not sector specific.						

5.4.4. Internal private sector barriers

The majority of stakeholders claim to have strong corporate governance, robust accounting procedures and benefit from a skilled workforce with the requisite knowledge of the threats and opportunities driven by climate change. This sentiment is supported by their Global Competitiveness ratings which suggest that use of international accounting standards and the skill level of Zimbabwean labour are particular strengths. That said, discussions with a number of stakeholders, suggest that further training/education on adaptation technologies and investment tools would still be valuable in order to better adapt their climate change assessments and response programmes.

Across all countries, there is a substantial opportunity to scale up private sector climate investment.

Across the four countries of focus in this study, NDCs and equivalent documents estimate investment needs by 2030 are in the region of USD135bn, with not all activities/investment needs quantified. These substantial needs echo those recorded in the regional and global literature, although it is important to stress that much of the investment can be achieved by redirecting capital flows away from brown investments to their green alternatives, rather than there being a need for a substantial increase in total net investment.

There is significant potential to scale up the role of the private sector in the delivery of this investment.

The breakdown of the available investment needs across different sectors are generally not available, although in the case of Zimbabwe the data suggests investment needs are particularly acute in the power, transport and agriculture (for adaptation) sectors. Similar patterns can be observed in the qualitative discussion of priorities from the other countries. These are all sectors where there is considerable scope for, and benefit from, private sector engagement, although risks will also need to be carefully managed through judicious regulation. Moreover, climate change will have far-reaching impacts on the private sector that will require it to take adaptation actions and will create a growing demand for adaptation goods and service suppliers from within the private sector

There have been important developments across all four countries in recent years towards the demonstration and support of the role of the private sector in climate investment:

- In Botswana, the government has been active, for example, in developing tenders for new solar PV capacity, applying energy efficiency guidelines to new buildings and in providing training on climate smart agriculture capacity
- Lesotho has identified its preferred bidder for its first large-scale solar project, has put in place a national climate change policy and committee to articulate national priorities and provide a platform for engagement with the private sector and, they have identified a number of intended reforms for the energy sector
- Of the countries covered in this study, Namibia has arguably made the greatest progress in engaging the private sector in climate change with strong policy commitments to addressing climate change, a relatively active programme of engagement with climate finance providers, a robust legal framework and planning regime that supports private sector investment in renewable power, and a national energy efficiency policy. DBN has also been working with finance providers in adapting their business models to take account of the specifics of climate investment.
- Zimbabwe also has strong policy commitments to addressing climate change and for support to the renewable energy sector, and is also now incorporating climate change considerations into the due diligence procedures in the agriculture sector

However, there are a number of opportunities to further support private sector climate investment in each of the countries. Table 5 identifies some of the sector's most binding and pervasive constraints and highlights some of the reforms that could be considered to overcome these barriers, across each of the four countries.

TABLE 5: Barriers and opportunities for development

	CONTINUED BARRIERS	OPPORTUNITIES FOR DEVELOPMENT
BOTSWANA	■ Perceived lack of government commitment to addressing climate change and the role of the private sector within this. ■ Limited engagement with international climate finance providers. ■ Limited incentive for renewable energy and energy efficiency. ■ Poor quality imported PV products discourage customers. ■ Limited access to finance for farmers to implement CSA⁹⁶. ■ Limited understanding of the role of the private sector in adaptation, nor are there incentives for their involvement. ■ Climate data is not consumed by those whose decisions it might affect e.g. farmers.	■ Finalise draft climate change policy and ensure that it provides clear expectations regarding the role of the private sector. ■ Identify and resource an institutional home which can coordinate engagement between the private sector and multiple international climate finance providers. ■ Identify opportunities for more strictly targeted electricity subsidies and undertake a study to identify the most effective incentives for renewable energy and energy efficiency such as energy labelling and MEPS. ■ Introduce and enforce minimum standards for imported PV products, further support by training programs for installers ■ Work with domestic and international capital providers to develop a financing mechanism for CSA. ■ Build on existing policies and frameworks, clarify the expected role of the private sector in further enhancing resilience within the country, and investigate the nationally appropriate policy and incentives that can allow for an enhanced role for the private sector. ■ Explore international best practice to identify how to best disseminate relevant climate data to different stakeholders.
LESOTHO	■ Private sector voice is heard but still requires active and regular invitation from government to participate in delivering climate action ■ Limited access to finance for private sector climate investment⁹⁷. ■ Limited incentives for renewable energy and energy efficiency⁹⁸. ■ Potential CSA actions can't be taken forward due to lack of finance and associated barriers related to understanding and awareness of opportunities. ■ Perceived absence of an overarching framework for adaptation, including the role of different public sector agencies and the private sector⁹⁹. ■ Limited private sector understanding of adaptation opportunities.	■ Formalise the role of the private sector within the national climate change committee and its associated platforms with agreed to targets for lowering emissions in conjunction with government support. This will both allow the private sector to have a better awareness of ongoing government efforts to address climate change, and help the government in developing new policies and initiatives over time. ■ Identify and resource an institutional home which can coordinate engagement between the private sector and multiple international climate finance providers. ■ Take forward the reforms identified in the latest Energy Policy and develop a national framework for energy efficiency. ■ Work with domestic and international capital providers to develop a financing mechanism for CSA that, through its design, also addresses related barriers. ■ Development and dissemination of the NAP and further development of climate change adaptation policy. ■ Develop trainings on private sector adaptation, potentially with support from international donors.

⁹⁶ FANRPAN (2017)

⁹⁷ World Bank (2019e)

⁹⁸ DBSA (2017)

⁹⁹ Gwimbi (2017)

	CONTINUED BARRIERS	OPPORTUNITIES FOR DEVELOPMENT
NAMIBIA	■ Concern among some that policy focus on climate change may be waning. ■ Lack of clear expectations regarding the role for the private sector. ■ Weaknesses in MRV of climate finance¹⁰⁰. ■ Difficulties in accessing finance for climate-related investments (especially in the agriculture sector). ■ Concerns over the fitness for purpose of the regulatory regime for mini-grids and off grid solutions. ■ Limited policy or regulatory incentives for energy efficiency. ■ Limited high-level strategy and institutional framework to support adaptation efforts by the private sector. ■ Limited regulatory, economic or financial incentives for adaptation. ■ Limited exploitation of ICT infrastructure to provide climate data to farmers or other stakeholders. ■ Knowledge, capacity development in the private sector on adaptation could be strengthened.	■ Renew public campaigns on climate change and national stakeholder meetings. Clarify the links between existing policies and the country's response to climate change. ■ Develop publication/guidance identifying the expected role for the private sector in NDC implementation. ■ Potentially with support of development partners, augment the country's existing MRV framework. ■ Building on existing framework of engagement with climate finance providers such as the GCF, explore the potential for the expanded financing of CSA programs. ■ Undertake a study to examine whether regulatory regime on mini-grid and off grids solutions needs development. ■ Identify opportunities to develop incentives for renewable energy and energy efficiency such as energy labelling and MEPS. ■ Expedite delivery of the NAP and identify the expected role for the private sector, and associated governance arrangements. Within the NAP explore potential for incentive mechanisms for adaptation in different sectors and how relevant climate information can be best disseminated for farmers. ■ Develop trainings on private sector adaptation, potentially with support from international donors.
ZIMBABWE	■ Challenges in the implementation of climate change policy. ■ Limited awareness of the policy regime and incentives for renewable energy. ■ Limited policy or regulatory incentives for energy efficiency. ■ Limited access to finance for CSA¹⁰¹. ■ Limited high-level strategy and institutional framework to support adaptation, including by the private sector. ■ Limited regulatory, economic or financial incentives for adaptation. ■ Limited exploitation of ICT infrastructure to provide climate data to farmers or other stakeholders¹⁰².	■ Publicise and reinforce efforts to implement the existing climate change policy, including through enhanced engagement with the private sector on its role. ■ Undertake a public awareness campaign regarding the benefits of renewable energy and how it is supported. ■ Identify opportunities to develop incentives for renewable energy and energy efficiency such as energy labelling and MEPS. ■ Finalise the establishment of the planned climate finance facility and work with domestic and international capital providers to develop a financing mechanism for CSA. ■ Better dissemination of the NAP and further development of a climate change adaptation strategy, with explicit role for the private sector, and associated governance arrangements. Within this strategy explore potential for incentive mechanisms for adaptation in different sectors and how relevant climate information can be best disseminated for farmers.

100 Namibia (2016)

101 Thomson Reuters Foundation (2019)

102 Kuipa and Mozheni (2019)

While there are important differences across the countries, at least three common trends emerge from this analysis with associated implications.

First, that these countries have made the most progress in creating enabling environments that support private sector investment in renewable energy, but progress on energy efficiency, climate smart agriculture and adaptation has tended to be less advanced. The contrast is perhaps most marked in Namibia, where the enabling environment for renewables is arguably most established, but can also be seen in the other three countries. This is important given the multiple benefits that can be derived from private sector investment in energy efficiency and given that adaptation, especially in the agriculture sector, is likely to be the priority for these and other Sub-Saharan African countries. There is a need for governments, supported by development partners and other organisations, to take a more comprehensive approach to engaging the private sector in climate change.

Second, while technocratic changes such as new policies, incentives and regulations are likely to be crucial, they need to be complemented by support to build (aspects of) the capacity of the private sector in all countries. These needs are perhaps most acute in relation to CSA and adaptation where the private sector often reports that it has little understanding of the needs and opportunities to engage in climate investment. However, it also applies more widely to the wider ecosystem of climate change expertise that can support private sector climate investment. For example, in Namibia, there is general recognition of the need for more private sector expertise in relation to climate scientists, sector specialists who can identify potential opportunities, bankers and financial transaction advisory skills, as well as engineers and research scientists. Development partners and climate finance providers need to make sure that ‘top down’ support to change the overarching policy landscape is matched by bottom up support that can capacitate the private sector to be able to respond to an improved enabling environment. This support would, in particular, help with an increase in the number and quality of bankable projects that the private sector is able to develop.

Third, access to finance remains a huge challenge, making enhanced engagement with international climate finance providers like the Private Sector Facility of the GCF a priority. In all four countries there is evidence suggesting that the private sector is not undertaking climate investments because of constraints in accessing finance for those investments. This is most frequently and acutely observed in relation to climate smart agriculture investment; but was also noted as a substantial broader challenge in Botswana and Lesotho, while the macroeconomic conditions more broadly are a great challenge in Zimbabwe. This means that all countries should be looking to scale up their efforts to engage on a continuous basis with the GCF and other climate finance, and, in particular, to facilitate the private sector in understanding how these providers – through dedicated facilities such as the Private Sector Facility – can help overcome this critical challenge.

Finally, as one of the early studies looking at the role of the private sector in accessing and delivering climate finance within the region, there are a number of opportunities to further develop and refine this work. The terms of reference for this working paper were set quite broad in order to allow for the fullest consideration of the landscape. However, in hindsight, that broad lens could have been made more specific at inception through co-design workshops between the commissioners, the authors and the NDAs themselves. Through a jointly set scope, it would have likely led to specific focus areas being brought to the fore earlier and crystallised the list of necessary private sector stakeholders for interview. Furthermore, this study was only able to benefit from engagement with in-country stakeholders for one week during the research phase of the work; there has not been an opportunity to validate the resulting conclusions. Additionally, hosting

a validation phase in the project process aids in knowledge sharing and lessons learnt practices. The most valuable next step would therefore be a series of stakeholder engagement workshops in each country, bringing public and private stakeholders together, to test and refine the conclusions. The objective would be to co-create a short 'plan of action' for how to further engage the private sector in the climate challenges that each country faces, including how the country intends to engage international climate finance. The drafting team have learnt that there is a balance that needs to be struck between the NDA's mandate to consult with stakeholders through government processes and the private sector actor's time availability to attend multiple workshops. Building on this in-country stakeholder engagement recommendation, it is also noted that interviews take significant lead time to set up and broker. Therefore, there should be longer periods of time afforded to allow consultants to set up and run one-on-one interview processes with private sector actors. A further valuable next step would be to build on the description of the enablers in section 3.2 of this report, to identify examples of best practice across southern or Sub-Saharan Africa to provide practical real-world examples of the policy interventions governments can introduce to support the enabling environment for the engagement of the private sector.

While this paper has unpacked the literature and added evidence-based content to building further knowledge on the subject matter it leaves a number of key questions open for others to build on. These being: How to enhance the understanding of long-term climate-sensitive structured loans, what are the key drivers of vulnerability in the private sector, how to position climate finance to address key vulnerabilities and demystifying the role of the financial sector. Building from the knowledge in this report is critical in order to inform public policy and decision-making to galvanise the full support of Southern African private sector actors in meeting one of the greatest challenges facing humanity.



- AfDB (African Development Bank) and Vivid Economics. (2011). The costs of adaptation to climate change in Africa. [Accessed: <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Cost%20of%20Adaptation%20in%20Africa.pdf>].
- AfDB (African Development Bank) and Vivid Economics. (2016). African INDCs: Investment Needs and Emissions Reductions in the Energy Sector. [Accessed: <http://www.vivideconomics.com/publications/african-indcs-investment-needs-and-emissions-reductions-in-the-energy-sector/>].
- Africa Development Bank Lesotho. (2012). [Accessed: <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Lesotho%20Full%20PDF%20Country%20Note.pdf>].
- Al Jazeera. (2019). Hyperinflation trauma: Zimbabweans' uneasy new dollar. [Accessed: <https://www.fin24.com/Economy/hyperinflation-trauma-zimbabweans-uneasy-new-dollar-20190705>].
- African News. (2019). Zimbabwe government officially amends indigenization law [Accessed: http://www.xinhuanet.com/english/2018-03/19/c_137050661.htm]
- Biagini, B. and Miller, A. (2013) Engaging the Private Sector in Adaptation to Climate Change in Developing Countries: Importance, Status, and Challenges. *Climate and Development*. 5(3): 242-252. [Accessed: <https://www.ifc.org/wps/wcm/connect/c292ee0041f5da6b9506f5b456904773/Biagini+and+Miller+Engaging+the+Private+Sector+in+Adaptation+to+Climate+Change.pdf?MOD=AJPERES>].
- Botswana Initial National Communication to the United Nations Framework Convention on Climate Change. (2001). Ministry of Works, Transport and Communications [Accessed: <https://unfccc.int/resource/docs/natc/botnc1.pdf>].
- Bryman, A. (2012). Social Research Methods. 4th Ed. New York: Oxford University Press.
- Business Report. (2019). Zimbabwe to borrow USD1.9bn from G7 countries to repay its debt. Business Report. 20 AUGUST 2019. [Accessed: <https://www.iol.co.za/business-report/international/zimbabwe-to-borrow-19-bn-from-g7-countries-to-repay-its-debt-31015172>]
- Cadaval, M. J. (2017). SWPN: Is South Africa's Water Scarcity Helping to Drive New Forms of Partnership Within the Private Sector? [Accessed: <https://www.2030wrg.org/swpn-is-south-africas-water-scarcity-helping-to-drive-new-forms-of-partnership-within-the-private-sector/>].
- Castrén, T., Marko K., Karoliina L., and Jyrki S. (2014). Private Financing for Sustainable Forest Management and Forest Products in Developing countries, Trend and Drivers. [Accessed: <https://www.cbd.int/financial/doc/wb-forestprivatefinance2014.pdf>].

- CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). (2014). Climate-smart agriculture for food security. [Accessed: <https://ccafs.cgiar.org/publications/climate-smart-agriculture-food-security#.Xa2qeOgzY2w>].
- CIF/Vivid Economics. (2016). Climate Adaptation in Developing Countries. [Accessed: https://www.climateinvestmentfunds.org/sites/cif_enc/files/knowledge-documents/7544-wb_cif_ppcr_report-v5.pdf].
- Climate Action in Financial Institutions. (2017). DBSA's innovative blending financing mechanism to catalyze small scale renewable energy market in South Africa. [Accessed: https://www.mainstreamingclimate.org/wp-content/uploads/2016/10/P3_DBSA.pdf].
- Climate Analytics (2016) Africa's Adaptation Gap: Technical Report. [Accessed: <https://climateanalytics.org/media/agr2016.pdf>].
- Climate Policy Initiative. (2016). Global Climate Finance: An Updated View on 2013 & 2014 Flows. [Accessed: <https://climatepolicyinitiative.org/wp-content/uploads/2016/10/Global-Climate-Finance-An-Updated-View-on-2013-and-2014-Flows.pdf>].
- Climate Policy Initiative. (2018). Global Climate Finance: An Updated View 2018 Table A4. [Accessed: <https://climatepolicyinitiative.org/wp-content/uploads/2018/11/Global-Climate-Finance-An-Updated-View-2018.pdf>].
- Convergence. (2019). Design Grant Case Study: Climate Finance Facility. [Accessed: https://greenbanknetwork.org/wp-content/uploads/2019/07/Convergence__Climate_Finance_Facility_Case_Study__2019.pdf].
- Coumou, D., et al. (2016). Climate Change impacts in Sub-Saharan Africa: from physical changes to their social repercussions. [Accessed: https://climateanalytics.org/media/ssa_final_published.pdf].
- Crick, F., Gannon, K.E., Diop, M. and Sow, M. (2018). Enabling private sector adaptation to climate change in sub-Saharan Africa. *WIREs Clim Change*. 9:1-17. [https://doi.org/10.1002/wcc.505].
- Cross Border Road Transport Agency. (2018) BOTSWANA COUNTRY PROFILE. [Accessed: <https://www.cbirta.co.za/uploads/files/2018-03-26-Botswana-Profile-FINAL.pdf>].
- CTCN. (2015). Botswana INDC. [Accessed: <https://www.ctc-n.org/content/indc-botswana>].
- DBSA (Development Bank of Southern Africa). (2017). Renewable Energy Opportunities for DBSA in SADC. [Accessed: <https://www.dbsa.org/EN/About-Us/Publications/Documents/Renewable%20Energy%20Opportunities%20for%20DBSA%20in%20SADC%20-%20September%202017.pdf>].
- Druce, L. et al. (2016). Demystifying adaptation finance for the private sector. [Accessed: <https://www.unepfi.org/wordpress/wp-content/uploads/2016/11/DEMYSIFYING-ADAPTATION-FINANCE-FOR-THE-PRIVATE-SECTOR-AW-FULL-REPORT.pdf>].

- EVITTA, E. F. (2016). Assessing the Effects of Load Shedding (DUMSOR) on SMEs and the Coping Strategies Used to Survive Load shedding in Madina, Accra. Ashesi University College. [Accessed: <https://air.ashesi.edu.gh/handle/20.500.11988/168>].
- FANRPAN. (2014). Scoping Assessment of CSA Policies in Lesotho. [Accessed: https://www.fanrpan.org/archive/documents/d01756/Lesotho_Comprehensive_Scoping_Assessment_of_CSA_Policies.pdf].
- FANRPAN. (2017). CLIMATE-SMART AGRICULTURE IN BOTSWANA. [Accessed: <https://www.fanrpan.org/sites/default/files/publications/Policy%20Brief%20Issue%2010.2017%20CSA%20Botswana%20-%20Final%20Draft03.pdf>].
- FAO. (2017). KUKUA Weather Data and forecasting services for local farmers in Africa. [Accessed: <http://aims.fao.org/activity/blog/kukua-weather-data-and-forecasting-services-local-farmers-africa>].
- FAO. (2019). Sustainable Food Value Chains Knowledge Platform. [Accessed: <http://www.fao.org/sustainable-food-value-chains/home/en/>].
- Fenix. (2019). Power to Rise. [Accessed: <https://www.fenixintl.com/>].
- Gannon, K. E. et al. (2018). 'Business experience of floods and drought-related water and electricity supply disruption in three cities in sub-Saharan Africa during the 2015 / 2016 El Niño'. *Global Sustainability*. 1 (14). [doi:10.1017/sus.2018.14].
- Gicheru, L. (2019). Policy Reform for Energy Transition in Kenya. [Accessed: <https://www.worldenergy.org/news-views/entry/member-views-policy-reform-for-energy-transition-in-kenya>].
- GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit). (2019). Access to Water and Sanitation in Sub-Saharan Africa. [Accessed: http://www.oecd.org/water/GIZ_2018_Access_Study_Part%20II_Narrative%20Report_Briefing%20document.pdf].
- Gotz, T., Tholen, L. and Adisorn, T. (2016). The New South African Standards and Labelling Programme for Residential Appliances – A First-Hand Evaluation Case Study. [Accessed: <https://energy-evaluation.org/wp-content/uploads/2019/06/2016-paper-gotz.pdf>].
- Government of Zimbabwe. (1998). Zimbabwe's Initial National Communication. [Accessed: <https://unfccc.int/sites/default/files/resource/zimnc1.pdf>].
- Government of Zimbabwe. (2013). Zimbabwe's Second National Communication [Accessed: https://unfccc.int/sites/default/files/resource/Second_national_communication_Zimbabwe.pdf].
- Government of Zimbabwe. (2017). Zimbabwe's Third National Communication [Accessed: <https://unfccc.int/sites/default/files/resource/zwenc3.pdf>].
- Griscom B.W., et al. (2017). Natural Climate Solutions. *PNAS*. 114 (44): 11645-11650. [Accessed: <https://doi.org/10.1073/pnas.1710465114>].
- GCF (Green Climate Fund). (2018). DBSA Climate Finance Facility. [Accessed: https://www.greenclimate.fund/documents/20182/574760/Funding_Proposal_-_FP098_-_DBSA_-_].

- GCF (Green Climate Fund). (2019a). Private Sector Facility. [Accessed: <https://www.greenclimate.fund/500m>].
- GCF (Green Climate Fund). (2019b). GCF: Driving the transformation to a climate – resilient financial system. [Accessed: https://www.greenclimate.fund/documents/20182/194568/GCF__Driving_the_transformation_to_a_climate-resilient_financial_system.pdf/325790aa-cb9c-1821-3b34-6e5948cbbc34].
- Gwimbi, P. (2017). Mainstreaming national adaptation programmes of action into national development plans in Lesotho: Lessons and needs. *International Journal of Climate Change Strategies and Management*. 9 (10). [Doi: 1108/IJCCSM-11-2015-0164].
- Hinchberger, B. (2015). Disaster insurance against climate change attracts African countries. [Accessed: <https://www.un.org/africarenewal/magazine/may-july-2017/disaster-insurance-against-climate-change-attracts-african-countries>].
- IEA (International Energy Agency) and IRENA (International Renewable Energy Agency). (2017). Perspectives for the Energy Transition, Investment Needs for a Low-Carbon Energy System. [Accessed: <https://www.irena.org/publications/2017/Mar/Perspectives-for-the-energy-transition-Investment-needs-for-a-low-carbon-energy-system>].
- IEA (International Energy Agency). (2018). Building envelopes. [Accessed: <https://www.iea.org/tcep/buildings/buildingenvelopes/>].
- IFC (International Finance Corporation). (2016) Climate Investment Opportunities in Emerging Markets: An IFC Analysis. [Accessed: https://www.ifc.org/wps/wcm/connect/51183b2d-c82e-443e-bb9b-68d9572dd48d/3503-IFC-Climate_Investment_Opportunity-Report-Dec-FINAL.pdf?MOD=AJPERES].
- IFC (International Finance Corporation). (2019). IFC's Green Buildings Market Transformation Program Presentation. [Accessed: <https://www.edgebuildings.com/marketing/presentations/>].
- Kenyan Ministry of Energy. (2019). The Ministry of Energy and Petroleum (MoEP). [Accessed: http://energy.go.ke/?page_id=528].
- Kindermann, G., Obersteiner, M., Sohngen, B., Sathaye, J., Andrasko, K., Rametsteiner, E., Schlamadinger, B., Wunder, S. and Beach, R. (2008). Global cost estimates of reducing carbon emissions through avoided deforestation. *Proceedings of the National Academy of Sciences of the United States*. 105: 10302–10307. [doi: 10.1073/pnas.0710616105].
- LMS (Lesotho Meteorological Services). (2017). Lesotho's National Climate Change Policy. Ministry of Energy and Meteorology, Lesotho. [Accessed: <https://www.lesmet.org.ls/home/open/Climate-Change-Response-Strategy>].
- Malawian Ministry of Agriculture and Food Security. (2006). Food Security Policy. [Accessed: <http://www.agriculture.gov.mw/Food%20security%20policy/D-Food-Security-Policy-11-09-06.pdf>].
- McCollum et al. (2013). "Energy Investments Under Climate Policy: A Comparison of Global Models". *Climate Change Economics*. 4(4). [Accessed: <https://doi.org/10.1142/s2010007813400101>].

- Meyer-Renschhausen, M. (2013). Evaluation of feed-in tariff-schemes in African countries. [Accessed: http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S1021-447X2013000100008].
- Nachmany, M., Fankhauser, S., Setzer, J. and Averchenkova, A. (2017). Global trends in climate change legislation and litigation. [Accessed: <http://archive.ipu.org/pdf/publications/global.pdf>].
- Namibia. (2016). Second Biennial Update Report (BUR2) of the Republic of Namibia. [Accessed: http://unfccc.int/files/adaptation/application/pdf/namibia-bur2_10_november_2016_.pdf].
- National Energy Regulator of South Africa (NERSA). (2012). Study on the Impact of the Inclining Block Tariffs (IBTs) on Customers. [Accessed: [http://www.nersa.org.za/Admin/Document/Editor/file/Electricity/PricingandTariffs/Study%20on%20the%20impact%20of%20the%20Inclining%20Block%20tariffs%20\(IBTs\)%20on%20customers.pdf](http://www.nersa.org.za/Admin/Document/Editor/file/Electricity/PricingandTariffs/Study%20on%20the%20impact%20of%20the%20Inclining%20Block%20tariffs%20(IBTs)%20on%20customers.pdf)].
- NDC (Nationally Determined Contributions). (2019). Climate Watch. [Accessed: <http://ndcpartnership.org/climate-watch/ndcs>].
- NDC (Nationally Determined Contributions) Partnership. (2019). [Accessed: <http://ndcpartnership.org/climate-finance-explorer>].
- NDC (Nationally Determined Contributions) Registry. (2018). Zimbabwe's Intended Nationally Determined Contribution (INDC) Submitted to the United Nations Framework Convention on Climate Change (UNFCCC). [Accessed: <https://www4.unfccc.int/sites/ndcstaging/Pages/Home.aspx>].
- Nigerian National Council on Power (NACOP). (2016). National Energy Efficiency Action Plans of Nigeria (NEEAP). [Accessed: https://www.se4all-africa.org/fileadmin/uploads/se4all/Documents/Country_PANEE/Nigeria_National_Energy_Efficiency_Action_Plans.pdf].
- Pauw, W.P. (2014). Not a panacea: private-sector engagement in adaptation and adaptation finance in developing countries. *Climate Policy*. 15:5. [Accessed: <https://www.tandfonline.com/doi/full/10.1080/14693062.2014.953906>].
- Power Africa. (2019). Power Africa Methods. [Accessed: <https://www.usaid.gov/powerafrica>].
- PowerCorner. (2019). [Accessed: <http://powercorner.com/>].
- Kuipa, P. and Mozheni, C. (2019). CTA Blog: Delivering bundled digital products and services for climate-smart agriculture in Zimbabwe. [Accessed: <https://www.cta.int/en/climate/all/article/delivering-bundled-digital-products-and-services-for-climate-smart-agriculture-in-zimbabwe-sid0d7a8f5fb-8587-4e6a-a4a4-6e1219f1491b>].
- PWC (2015), Assessing the Global Transport Infrastructure Market: Outlook to 2025. [Accessed: https://www.ifc.org/wps/wcm/connect/efab8303-2918-4fc2-b4ee-00260c4d9777/IFC-Climate_Investment_Opportunity_Creating_Markets.pdf?MOD=AJPERES&CVID=I-sCYLz].
- PWC. (2019). Africa Capital Markets Watch 2018. [Accessed: <https://www.pwc.co.za/en/assets/pdf/africa-capital-markets-watch-2018.pdf>].

- Sadler, M., P., Arredondo, M., Swann, A., Stacy, A., Loannis, V., Tobias, B., Roy, P., Leah Arabella, G. and Friederike, M. (2016). Making climate finance work in agriculture, Washington, D.C.: World Bank Group. [Accessed: <http://www.worldbank.org/en/topic/agriculture/publication/making-climate-finance-work-in-agriculture>].
- SANEDI (South African National Energy Development Institute). (2019). The Cool Surface Project. [Accessed: <https://www.buildinganddecor.co.za/tax-incentives-for-cool-surfaces/>].
- SACFP (Southern African Climate Finance Partnership). (2017). Lesotho Country Diagnostic. [Accessed: <https://southsouthnorth.org/wp-content/uploads/2018/09/Lesotho-Country-Diagnostic.pdf>].
- SACFP (Southern African Climate Finance Partnership). (2019). Private Sector Climate Finance Workshop, Maseru, Lesotho. Document held by SouthSouthNorth.
- Stenek, V., Amado, J.C. and Greenall, D. (2013). Enabling Environment for Private Sector Adaptation: An Index Assessment Framework. [Accessed: <https://www.ifc.org/wps/wcm/connect/6060670042bd92b6b297be0dc33b630b/Enabling+Environment+for+Private+Sector+Adaptation++Stenek,+Amado,+Greenall.pdf?MOD=AJPERES>].
- The Nature Conservancy. (2018). 'Africa [Accessed <http://www.nature.org/content/dam/tnc/nature/en/documents/Africa-YIR-2018-Final.pdf>].
- Thomson Reuters Foundation. (2019). Zimbabwe farmers venture into vegetables to outsmart poor rains. [Accessed: <http://news.trust.org/item/20190514054413-4ccq0/>].
- Ugandan Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). (2011). The National Agriculture Policy (NAP). [Accessed: <https://www.agriculture.go.ug/the-national-agriculture-policy/>].
- UN Environment and Bloomberg New Energy Finance. (2018). Global Trends in Renewable Energy Investment. [Accessed: http://www.iberglobal.com/files/2018/renewable_trends.pdf].
- UNCTAD (United Nations Conference on Trade and Development). (2017). The Least Developed Countries Report 2017: Transformational Energy Access. [Accessed: https://unctad.org/en/PublicationsLibrary/ldcr2017_en.pdf].
- UNCTAD (United Nations Conference on Trade and Development). (2019). Annex table 3. FDI inward stock, by region and economy, 1990-2018. [Accessed: <https://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Annex-Tables.aspx>].
- UNEP (United Nations Environment Programme). (2016). The Adaptation Finance Gap Report. United Nations Environment Programme (UNEP), Nairobi, Kenya. [Accessed: <http://www.unep.org/climatechange/adaptation/gapreport2016/>].
- UNFCCC (United Nations Framework Convention on Climate Change). (2019). Standing Committee on Finance. 2018 -Biennial Assessment and Overview of Climate Finance Flows Technical Report, Figure 3.3a-c. [Accessed: <https://unfccc.int/sites/default/files/resource/2018%20BA%20Technical%20Report%20Final%20Feb%202019.pdf>].

- World Bank. (2010). Economics of adaptation to climate change – Synthesis report (English). Washington, DC: World Bank. [Accessed: <http://documents.worldbank.org/curated/en/646291468171244256/Economics-of-adaptation-to-climate-change-Synthesis-report>].
- World Bank Group. (2016). High and Dry: Climate Change, Water and the Economy. Washington D.C. [Accessed: <https://www.worldbank.org/en/topic/water/publication/high-and-dry-climate-change-water-and-the-economy>].
- World Bank. (2018). [Accessed: <http://pubdocs.worldbank.org/en/531121492188153196/mpo-bwa.pdf>].
- World Bank (2019a). A World Bank Group Flagship Report. Doing Business: Training for Reform. [Accessed: https://espanol.doingbusiness.org/content/dam/doingBusiness/media/Annual-Reports/English/DB2019-report_web-version.pdf].
- World Bank. (2019b). A World Bank Group Flagship Report. Doing Business: Training for Reform. [Accessed: https://espanol.doingbusiness.org/content/dam/doingBusiness/media/Annual-Reports/English/DB2019-report_web-version.pdf].
- World Bank. (2019c). Selected Countries and Economies. [Accessed: <https://data.worldbank.org/indicator/SI.POV.DDAY?locations=NA>].
- World Bank. (2019d). Poverty & Equity and Macroeconomics, Trade & Investment Global Practices. [Accessed: <http://pubdocs.worldbank.org/en/750841492188177908/mpo-zwe.pdf>].
- World Bank. (2019e). Unlocking the potential of Lesotho's Private Sector: A Focus on Apparel, horticulture, and ICT. [Accessed: <http://documents.worldbank.org/curated/en/832751537465818570/128075-WP-REVISED-P164862-PUBLIC.pdf>].
- World Economic Forum. (2013). The Green Investment Report: The ways and means to unlock private finance for green growth. [Accessed: http://www3.weforum.org/docs/WEF_GreenInvestment_Report_2013.pdf].
- World Energy Council. (2016). World Energy Resources 2016 summary. [Accessed: <https://www.worldenergy.org/wp-content/uploads/2016/10/World-Energy-Resources-Full-report-2016.10.03.pdf>].
- World Food Programme. (2018). The R4 Rural Resilience Initiative. [Accessed: <https://www.wfp.org/r4-rural-resilience-initiative>].
- WRI (World Resources Institute). (2018). A Menu of Solutions to Feed Nearly 10 Billion People by 2050 (Synthesis Report). Creating a sustainable food future. [Accessed: <https://www.wri.org/publication/creating-sustainable-food-future>].

ANNEX 1:

STAKEHOLDER LIST AND INTERVIEW PROCESS

STAKEHOLDER SELECTION, DATA ENTRY AND ANALYSIS

Purposive and snowball sampling techniques were employed in the study also acknowledged as sampling techniques reflecting what is known as non-probability sampling techniques¹⁰³. Purposive selection of stakeholders was guided by each country's NDA leadership. A stakeholder engagement plan was devised and included a semi-structured interview guide to allow for the ease of conversation around the subject matter as well as probing for related information. For in-country data analysis processes, raw data was entered into Google sheet excel documents for each country during in-country visits on a daily basis. The finalised raw data entries were then normalised and prepared for data analysis followed by data debriefs and analysis. First, a data debrief was held with the project team to understand the high-level insights gained from in-country stakeholder interviews. This process was named the "Data Stock-take" activity of the analysis and was one of the initial steps taken to begin analysing the qualitative data uncovered from interviews. Second, a "COUNTIF" formula was applied to the normalised data to ascertain a landscape level picture of the enabling environment through the identified domestic enablers. Levels of preparedness regarding "High", "Average", "Low", "Unaware" and "Unanswered" categories per enabler was analysed yielding varying percentages from which findings were drawn. Final steps included thematic analysis and written accounts of initial Impressions from the results rendered.

The list below is a sample pool of potentially relevant stakeholders/ institutions preidentified and approached for interviews. The researchers were able to schedule interviews with those highlighted in black bolded text.

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SACFP REGIONAL WORKING PAPER STAKEHOLDERS					
STAKEHOLDER GROUP	BOTSWANA	LESOTHO	NAMIBIA	ZIMBABWE	REGIONAL
NDA/Focal points	Ministry of Finance and Economic Development, NDA office	Ministry of Energy, Meteorology and Water Affairs	Ministry of Environment and Tourism (MET) – Directorate of Environmental Affairs Climate Change Unit	Climate Change Management Department in the Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement	
Accredited Entity	None Yet	None Yet	Environmental Investment Fund of Namibia	UNEP	African Development Bank
			Deutsche Bank – specifically in relation to the GCF FP027 Universal Green Energy Access Programme	United Nations Development Programme	Development Bank of Southern Africa
			Agence Française de Développement; AfD – Specifically in relation to Transforming Financial Systems for Climate (FP095)	WFP	
			AfDB – recommend moving to a regional sheet (potentially active in multiple countries)	Infrastructure Development Bank of Zimbabwe (IDBZ)	

SACFP REGIONAL WORKING PAPER STAKEHOLDERS

STAKEHOLDER GROUP	BOTSWANA	LESOTHO	NAMIBIA	ZIMBABWE	REGIONAL
Regulatory authorities	Water Utilities Corporation	Lesotho Electricity and Water Authority	National Planning Commission	The Zimbabwe Energy Regulatory Authority (ZERA)	Development Bank of Southern Africa – specifically in relation to the Climate Finance Facility (FP098)
	Gaborone City Council				
	Bank of Botswana	Lesotho Communications Authority	Namibia Energy Institute	Environmental Management Agency	Southern African Power Pool
			Walvis Bay Corridor Group	Zimbabwe National Road Administration (ZINARA)	
			TransNamib Holdings Ltd	Tobacco Industry and Marketing Board (TIMB)	
			TransNamib	Commercial Farmers Union of Zimbabwe	
			Namibian Ports Authority, or Namport,	Postal and Telecommunications Regulatory Authority of Zimbabwe (Potraz)	
			Namibia Statistics Agency		
			NamPower		
			ECB (Electricity Control Board)		
			Namibia Chamber of Mines		
			Namibian Standards Institution		
			NamWater		
			Namibian Chamber of Commerce and Industry (NCCI)		
			Green Building Council of Namibia (GBCNA)		
			Namibia Agricultural Union (NAU)		
			Namibia National Farmers Union (NNFU)		

SACFP REGIONAL WORKING PAPER STAKEHOLDERS

STAKEHOLDER GROUP	BOTSWANA	LESOTHO	NAMIBIA	ZIMBABWE	REGIONAL
Government stakeholders	Ministry of Investment, Trade and Industry (MITI)	Ministry of Energy and Meteorology	Ministry of Agriculture, Water, and Forestry – AMTA Agromarketing Trade Agency	Ministry of Lands, Agriculture and Rural Resettlement – CSA focal point	
	Ministry of Land Management, Water & Sanitation Services		Ministry of Agriculture, Water, and Forestry – Agribusdev	Ministry of Industry and Trade	
	Ministry of Environment Natural Resources Conservation and Tourism (MENT), Department of Meteorological Services (DMS) – MENT also operates the National Environment Fund.		Ministry of Industrialisation, Trade and SME Development	Ministry of Finance	
	Ministry of Minerals, Energy and Water Resources (MMEWR), Department of Energy	Department of Agricultural Research	Ministry of Industrialisation, Trade and SME Development – Namibia Investment Centre (NIC)	Ministry of Energy and Power Development	
	Ministry of Finance and Economic Development - Public Private Partnerships Unit	Department of Environment	Ministry of Finance – Public Private Partnerships Unit	ZESA Holdings Ltd – Rural Electrification Authority	
	Botswana Telecommunications Corporation	Department of Water	Ministry of Mines and Energy – Renewable and Energy Efficiency Division & the Solar Revolving Fund (SRF)	Ministry of Environment, Tourism & Hospitality Industry	
	Ministry of Transport and Communications (MTC)	Ministry of Local Government		NRZ	
	Ministry of Agricultural Research and Food Security, Department of Agricultural Research	Department of Science and Technology		Ministry of Enterprises	
	Botswana Institute for Technology, Research and Innovation	Ministry of Finance		ZUPCO	
	Botswana Power Corporation	Ministry of Development Planning			
		Private Sector Foundation Lesotho			

SACFP REGIONAL WORKING PAPER STAKEHOLDERS

STAKEHOLDER GROUP	BOTSWANA	LESOTHO	NAMIBIA	ZIMBABWE	REGIONAL
Private Sector: Financiers	Barclays Bank of Botswana	Standard Lesotho Bank	Development Bank of Namibia (DBN)	ECONET Solar	
			Namibia National Reinsurance Corporation Ltd	Banc ABC	
	Bank Gabarone	The Lesotho PostBank (LPB)	Bank Windhoek Limited	Agricultural Development Bank of Zimbabwe (AGRIBANK)	
	Standard Bank Botswana	FinMark Trust	Agribank	The Zimbabwe Agricultural Development Trust (ZADT)	
	Stanbic Bank Botswana	Nedbank (Lesotho) Ltd	Trustco Bank Namibia, Ltd., formerly the FIDES Bank Namibia	Homelink Group, RBZ	
	First National Bank Botswana	First National Bank of Lesotho	FNB	Money Mart	
	Letshego Holdings Limited	Lesotho National Development Corporation	Standard Bank	Zimbabwe Microfinance Fund (ZMF)	
	National Development Bank (NDB)		Nedbank	CBZ Bank and Society	
	Citizen Entrepreneurial Development Agency (CEDA)		Baobab Capital	Stanbic Bank, Zimbabwe	
	Botswana Insurance Company		Kongalend Namibia	Steward Bank	
	Debswana Diamond Company Ltd		Stimulus Equity Company	FBC Holdings Limited	
	Botswana Chamber of Mines		Mergence Group – Namibian office		
	Sechaba Brewery Holdings Limited				
	Botswana Green Building Council				
	Energy Systems Group				
	Renewable Energy Association Botswana				
	Solar Industries Association Botswana				
	Hospitality and Tourism Associaion Botswana (HATAB)				
	Midzi Agricultural Development Service				
	The Courier Junxion				
	Steam Energy Systems (Pty) Ltd Manufacturing & Process Industry Energy Efficiency				
	Business Botswana				

SACFP REGIONAL WORKING PAPER STAKEHOLDERS

STAKEHOLDER GROUP	BOTSWANA	LESOTHO	NAMIBIA	ZIMBABWE	REGIONAL
Private Sector: Executing Agents		MOSCET	Bidvest Namibia	Renewable Energy Association Zimbabwe	Mergence Investment Managers (Pty) Ltd
		Venus Dawn Technologies	Telecom Namibia Ltd	HomeOffice	Africa GreenCo
	OnePower	Mobile Telecommunications Limited (MTC)	Green Fuel		
		tn mobile first introduced as Cell One and then Leo	Metallion Valley		
		Namib Mills Ltd	Ultimate Power Solutions		
	Aurecon- Letseng Wind Farm	Namibia Breweries Limited	Nyangani Renewable Energy		
	Ecolite	Renewable Energy Industry Association of Namibia	Practical Action/Hivoz/SNV		
	Lesotho Potato Association	Namibia Biomass Industry Group (NBIG)	Kupinga Renewable Energy (Old Mutual)		
	Water and Sewerage Company (WASCO)		Penhalonga Renewable Energy		
			Distributed Power Africa		
			Padenga		
			Harava Solar		
			CetraGrid		
			Claremore Solar		
			One Stop Solar		
			Solar Projects		
			Finealt Engineering – Bioenergy (jathropha)		
			Manicaland Bioenergy – Bioenergy (wood waste)		
			Samasco		
			Solar Shack		
			Celfre Energy		
			Helen’s Refuse		
			Zimbabwe LeafTobacco Company (Pvt) Limited		
			British American Tobacco (BAT)		

SACFP REGIONAL WORKING PAPER STAKEHOLDERS					
STAKEHOLDER GROUP	BOTSWANA	LESOTHO	NAMIBIA	ZIMBABWE	REGIONAL
Other actors (Bilateral/ Multilateral)	GIZ GCF Readiness Advisor	ICM project - EU	UNDP Namibia – re: Concentrating solar power technology transfer for electricity generation in Namibia (CSP TT NAM); Namibia Energy Efficiency Programme (NEEP) in buildings; Barrier removal to Namibian Renewable Energy Programme (NAMREP), Phase II; Barrier removal to Namibian Renewable Energy Programme (NAMREP), Phase I	The Zimbabwe Livelihoods and Food Security Programme (LFSP)	African Development Bank Group
	Botswana National Committee (sustainable energy development in Botswana)	National University of Lesotho	The Sustainable Use of Natural Resources and Energy Financing (SUNREF) programme	Zimbabwe Resilience Building Fund (ZRBF) – UNDP	SADC – Climate change (Ms. Mavimbela) (noting SADC mentioned for in-country interview in Botswana)
	Botswana Investment and Trade Centre	Smallholder Agriculture Development Project – II – World Bank	NDC PARTNERSHIP – (SSN aware of activities in Namibia but could be working in multiple)	Business Council for Sustainable Development	NDC PARTNERSHIP
	Steam Energy Systems (Pty) Ltd Manufacturing & Process Industry Energy Efficiency	Climate Change Adaptation for Sustainable Rural Water Supply in Lowlands, Lesotho	Fund for African Private Sector Assistance (FAPA)	Confederation for Zimbabwe Industries	Fund for African Private Sector Assistance (FAPA)
	Botswana Global Change Committee (University of Botswana)	Climate Change Adaptation Project in the Lesotho Highlands C4es – Supporting Lesotho to advance their NAP Process	RDJ Consulting Firm	The Climate-Smart Agriculture Education and Policy Project (CSEP)	Guarantco
			O and L Group	Green Building Council of Zimbabwe	
			Desert Research Foundation of Namibia (DRFN)	Zimbabwe National Cleaner Production Centre (ZNCPC)	
				Oxfam	
				FAO	
				WWF	
				UNICEF	
				UNIDO	

As per the process recommendations extensive engagement with more Stakeholders within the sample pool would have benefited the study further to ensure consensus views on various identified issues.

ANNEX 2:

DIAGNOSTIC TOOL DEVELOPMENT

The diagnostic tool described in Section 3 consists of three components:

1. A breakdown of the climate investment needs of a country as identified by gaps in its NDC.
2. A qualitative and quantitative analysis of the strength of a country's enabling environment for private sector climate investment.
3. An examination of the internal capacity of the country's private sector.

This Annex sets out in detail the steps taken to establish the second and third of these sub-assessments. These two elements bring together ratings by international agencies and opinions from local stakeholders to provide an overall assessment of the state of private sector involvement and capacity in Botswana, Lesotho, Namibia and Zimbabwe.

ENABLING ENVIRONMENT

A key element of the stakeholder discussion was a qualitative discussion surrounding the enabling environment in each country, drawing on the list of enabling conditions according to the interests and knowledge of each stakeholder. This allowed for a rich contextualised discussion of the strengths and weaknesses of the enabling environment which was then consolidated to provide the qualitative discussion in section 4.

However, to supplement this qualitative discussion, stakeholders were also asked to provide a categorised rating of the private sector engagement/capacity as either 'low quality', 'average quality' or 'high quality' for each of the enablers outlined in Section 2.2.2. The categorised rating was then combined with international ratings (where available) to provide an enabler specific score out of 4 for each country via the following steps:

1. Stakeholder responses were converted into a score out of 3; none = 0, low = 1, average = 2 and high = 3.
2. Responses which did not fall into the three categories provided (low, average or high) were converted to numeric values where possible.
 - i. Mixed responses such as 'low to average' and 'average to high' were converted to midpoint scores of 1.5 and 2.5 respectively.
 - ii. Responses of 'unsure' or 'unaware' were treated as missing values.
3. The converted scores were then averaged for each enabler to provide a score out of 3 for the average stakeholder sentiment with respect to the enabler in question.

4. Each enabler was given a score out of 3 based on international ratings where available¹⁰⁴. The scores were assigned as follows:
 - i. 1 out of 3 if the international rating was worse than the SSA average or the average of the other 3 countries.
 - ii. 2 out of 3 if the international rating was better than both the SSA average and the average of the other 3 countries.
 - iii. 3 out of 3 if the international rating was better than the global average.
5. The averaged stakeholder sentiment scores were then amalgamated with the international ratings with a weighting of 3:1 in favour of the stakeholder scores¹⁰⁵.
6. Finally, these weighted scores out of 3 were converted into scores out of 4 as follows:

SCORE OUT OF 3 (X)	SCORE OUT OF 4
$x \leq 1$	0
$1 < x \leq 1.66$	1
$1.66 < x \leq 2.33$	2
$2.33 < x \leq 3$	3
$3 < x$	4

INTERNAL CAPACITY

The analysis of the private sector's internal capacity was similar to that of the enabling environment in that it consisted of a stakeholder discussion supplemented by international ratings; an approach which benefits from the recognition of both introspective insights and international comparison.

The analysis differs in that it remains purely qualitative as it was not possible to create scores in the way described above. The reasons for this are twofold. Firstly, it is plausibly more challenging for stakeholders to accurately introspect and identify/report weaknesses in their own organisations as opposed to identifying external barriers which impede their progress and secondly, international ratings were less available for the indicators of internal capacity. Instead, stakeholders' opinions were qualitatively combined with international ratings (where available) to inform an opinion as to the key private sector capacity deficiencies in each country. The ratings that were sourced are detailed in section C1 of Table 6. The full list of indicators discussed in the interviews is as follows:

- i. Strong corporate governance
- ii. Use of international accounting standards and good financial record keeping
- iii. Skilled labour
- iv. Managerial and technical skills
- v. Good understanding of how climate change will affect profitability of individual firms or assets
- vi. Knowledge of investment relevant and usable tools, such as risk assessment tools to integrate considerations of long-term climate trends into site specific decision making.
- vii. Knowledge of adaptation technologies e.g. rainwater harvesting or low-cost irrigation
- viii. Awareness of mitigation regulations and policies
- ix. Size of companies – degree of market fragmentation

¹⁰⁴ See Table 6 for the sources of the enabler specific international ratings.

¹⁰⁵ Where no international rating was available, the stakeholder score received a 100% weighting.

TABLE 6: International Ratings Sources

	ENABLER	SOURCE & RATING	COUNTRIES INCLUDED	URL
B1	Existence of policy commitments to climate change			
	Policy statements on the role of the private sector in supporting climate investment			
	Active and ongoing programmes of engagement with international climate finance actors to support the private sector with climate ambitions			
	Overall investment climate	World Bank Ease of Doing Business indicator – Overall Score	Botswana, Lesotho, Namibia, Zimbabwe	https://datacatalog.worldbank.org/dataset/doing-business
	Ease of access to finance	Doing Business Report – Getting Credit Score	Botswana, Lesotho, Namibia, Zimbabwe	https://www.doingbusiness.org/en/data/doing-business-score?topic=getting-credit
	Strong MRV systems			
B2	Legal framework	RISE Score – Enabler specific	Zimbabwe	http://rise.worldbank.org/indicators
	Planning for renewable energy expansion			
	Incentives and regulatory support for renewable energy			
	Network connection and use policies			
	Counterparty risks			
	Carbon pricing			
B3	National energy efficiency planning	RISE Score – Enabler specific	Zimbabwe	http://rise.worldbank.org/indicators
	Energy efficiency entities			
	EE incentives from electricity rate tariffs			
	Incentives and mandates for industrial and commercial end uses			
	Incentives and mandates for public sectors			
	Incentives and mandates for utilities			
	Financing mechanisms			
	Minimum energy performance standards			
	Energy labelling			
	Building energy codes			
	Transport sector energy efficiency			
	Carbon pricing			

	ENABLER	SOURCE & RATING	COUNTRIES INCLUDED	URL
B5	Institutional or governance arrangements e.g. climate change coordinating bodies, network or consortia on climate change			
	Regulatory policies and frameworks e.g. climate change adaptation policies at national and regional levels, building standards and zoning rules incorporate climate change considerations,	ND-Gain Readiness Index – Governance Score	Botswana, Lesotho, Namibia, Zimbabwe	https://gain.nd.edu/our-work/country-index/rankings/
	Infrastructure and markets e.g. transportation infrastructure, water and electricity infrastructure, access to inputs, public infrastructure incorporates climate change considerations	Global Competitiveness Index Score – Pillar 2 Infrastructure	Botswana, Lesotho, Namibia, Zimbabwe	http://reports.weforum.org/global-competitiveness-report-2018/competitiveness-rankings/
	Information Communication Technology	WEF Networked Readiness Index	Botswana, Lesotho, Namibia, Zimbabwe	http://reports.weforum.org/global-information-technology-report-2016/networked-readiness-index/
	Economic and financial incentives e.g. government incentives, finance incentives, climate and adaptation funds	ND-GAIN Index of Readiness – Economic Readiness Score	Botswana, Lesotho, Namibia, Zimbabwe	https://gain.nd.edu/our-work/country-index/
	Knowledge, capacity development and training e.g. Climate change adaptation courses targeted at private sector; research institutions engaged in climate change	ND-GAIN Index of Vulnerability to Climate Change – Adaptive Capacity Index	Botswana, Lesotho, Namibia, Zimbabwe	https://gain.nd.edu/our-work/country-index/
	Data and information e.g. climate and hydrological observations, seasonal weather forecasts, climate change projections, standardised risk assessment tools	WEF Networked Readiness Index – 8th Pillar Government Usage	Botswana, Namibia, Zimbabwe	http://reports.weforum.org/global-information-technology-report-2016/networked-readiness-index/

	ENABLER	SOURCE & RATING	COUNTRIES INCLUDED	URL
C1	Strong corporate governance	Global Competitiveness Index Score – Pillar 1.G Corporate Governance	Botswana, Lesotho, Namibia, Zimbabwe	http://reports.weforum.org/global-competitiveness-report-2018/competitiveness-rankings/
	Use of international accounting standards and good financial record keeping	Global Competitiveness Index Score – Pillar 1.18 Strength of Auditing and Reporting Standards	Botswana, Lesotho, Namibia, Zimbabwe	http://reports.weforum.org/global-competitiveness-report-2018/competitiveness-rankings/
	Skilled labour	Global Competitiveness Index Score – Pillar 5 Ease of Finding Skilled Employees	Botswana, Lesotho, Namibia, Zimbabwe	http://reports.weforum.org/global-competitiveness-report-2018/competitiveness-rankings/
	Managerial and technical skills	Global Competitiveness Index Score – Pillar 5 Skillset of university graduates	Botswana, Lesotho, Namibia, Zimbabwe	http://reports.weforum.org/global-competitiveness-report-2018/competitiveness-rankings/

Note 1 – All enablers in B2 & B3 are sourced from enabler specific RISE Scores and are only available for Zimbabwe.

Note 2 – B4 is excluded as no relevant international ratings were available.



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