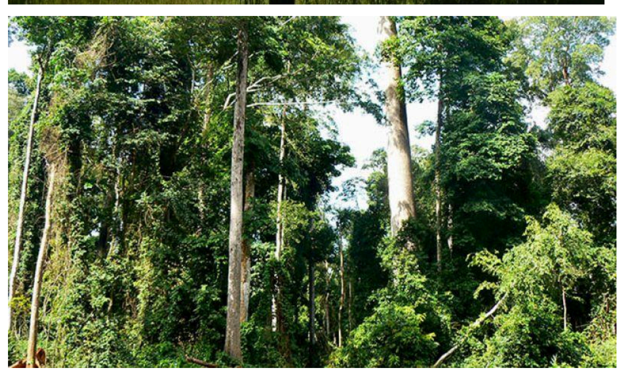
Government of Ghana

Green Finance Study in Ghana: Baseline Report



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SECTION ONE

INTRODUCTION TO THE STUDY

1.0 INTRODUCTION

Climate change financing continues to receive attention from government, Civil Society Organizations (CSO), development partners (DPs), financial institutions and the private sector. Global interest in the 'green economy' has grown rapidly, largely due to economic, social and environmental challenges, including climate change, natural resource depletion, inequality, unemployment, loss of biodiversity and ecosystem services. Green financing has become very critical in the Paris Agreement and 2030 global sustainable development goals agenda. Although the transition to a green economy is universal and has attracted increased attention at the international and national levels over the past years, it has become clearer that the key for success will be the ability to finance green economy. Globally, the private sector is increasingly becoming the major source of investment for climate change mitigation and adaptation. Private sector engagement in green financing and investment in developing countries will be needed to drive the transition of countries to low-carbon and climate-resilient development pathways. Green economy would be a vehicle to achieve sustainable development goals. There is therefore the need for a shared responsibility by government, private sector, communities and the citizens in financing green economy which would require huge and long-term investments.

In 2014, Ghana became a member of The Partnership for Action on Green Economy (PAGE), a joint initiative by UN Environment, ILO, UNDP, UNIDO and UNITAR in response to the outcome of the Rio Outcome document "*The Future We Want*". PAGE seeks to support governments to put sustainability at the heart of economic policymaking to advance 2030 agenda for Sustainable Development. PAGE supports countries to reframe economic policy around sustainability and put in place enabling policy conditions, reforms, incentives, business models, and partnership to catalyze greater action and investment in green technologies and natural, human and social capital. As Ghana is transitioning to green economy, this study seeks to analyze the green economy opportunities in Ghana, financial and private sector participation in green financing and investment and the barriers to green financing. The overall goal is to support Ghana government to reframe policy across sectors, and to build individual and institutional capacity to ensure sustainability and scaling up green financing in Ghana.

1.1 THE CONCEPT OF GREEN ECONOMY AND FINANCE

The concept of Green Economy hinges on a new development paradigm that is socially acceptable, economically viable and environmentally friendly. There is no clear definition for green economy, but the term itself underscores the economic, social and environmental dimensions of sustainability. The UNEP Green Economy Report (2015) defines a green economy as "one that results in improved human wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities. This is because of the "growing recognition that achieving sustainability rests almost entirely on getting the economy right".

Green finance has been defined broadly by various scholars to include the financial investments channeling into sustainable development projects and initiatives, environmental products, and policies that encourage the development of a more sustainable economy (Höhne et al, 2012, Lindenberg, 2014, HFC, 2013, Zadek and Flynn, 2013). Green finance is often used interchangeably with green investment. Similarly, the International Finance Corporation (2017) defines green finance as the financing of investments that provide environmental benefits in the broader context of sustainable development. According to Pricewaterhouse Coopers Consultants (2013), in the financial and banking sector, green finance is defined as financial products and services, under the consideration of environmental factors throughout the lending decision making, ex-post monitoring and risk management processes, provided to promote environmentally responsible investments and stimulate low-carbon technologies, projects, industries and businesses. In view of the above, this study defines green finance as financing or investment in any products and services that will improve human wellbeing, poverty reduction and in environmentally friendly manner.

1.2 OBJECTIVES OF THE STUDY

This study seeks to establish a baseline on the level of integration of sustainability issues in the business sector's operations, value chains, products and services, green finance interventions, investment opportunities and barriers, and the policy interventions and enabling environment for scaling up green finance in Ghana. It also aims at examining government policies and interventions for scaling up of green finance opportunities in Ghana. The outcome of the study aims to enable PAGE to support Ghana government to reframe policy across sectors, and to build individual and institutional capacity to ensure sustainability and scaling up of green finance and investment in Ghana. The study also seeks to understand the current status of green investment and financing by the private and financial sectors and provide recommendations on how to better align different barriers to green finance so as to develop ways to enhance the ability of the financial system to mobilize private capital for green investment in Ghana.

1.3 STUDY METHODOLOGY

This study was conducted between March and June 2018. The central questions of the study include:

- The level of awareness of green economy and green financing among private firms and its implications for the integrations of sustainability issues into business operations (value chains, products and services) in Ghana.
- The extent to which the private sector is willing to invest in green products and services
- The current opportunities, risk and barriers to green financing in Ghana.
- How to scale up of green finance in Ghana

In doing so, three main methodological approaches were used: (a) desktop review and analysis of literature and relevant national policy documents on climate change and green financing; (b) stakeholder consultations and (c) a survey.

First, a desktop analysis was conducted with an extensive review of relevant documents on green finance including policies, practices, frameworks, programmes and projects in Ghana in order to assess their linkages to green financing. Second, stakeholder consultations[1] were carried with some key stakeholders on green financing. The third phase involved the administration of questionnaires and indepth interview[2] with policy makers and relevant state agencies. The survey instruments were designed based on the findings from the desktop review. Field data was collected from relevant stakeholders including private sector, financial institutions and government ministries and agencies through purposive sampling technique. A total of 42 non-financial private sector organization were sampled for the study. Mostly, the private sector firms sampled for the study are under the umbrella of Private Enterprise Federation of Ghana. Also, 21 financial institutions and one (1) independent financial and business development consultant participated in the survey. In addition, some selected ministries and agencies were interviewed. They also provided relevant policy documents on climate change, green economy and sustainable development[3]. The final phase (yet to be done) will be the organization of a stakeholder consultative workshop to validate the findings and also solicit comments and inputs from relevant stakeholders for integration into the final report.

1.4 OUTLINE OF THE STUDY

This study is structured into seven chapters. Chapter 1 focuses on the background, the concept of green economy and financing, objectives of the study, methodology, and outline of the report. Chapter two highlights the country's context and socio-economic development. The chapter further provides an overview of Ghana's green economy landscape and effort to mainstream green economy. Chapter three contains a review of the factors that drive green financing in Ghana. Chapter four, discusses both the primary data collected from the field with the literature review in previous chapters. Chapter five on the other captures the risk and barriers of private sector investment in green finance in Ghana. Chapter six elaborates on the opportunities for scaling up green finance in Ghana while chapter seven covers recommendations and conclusion to this study.

[1] See appendix ?? for list of stakeholder consultations held
[2] See list appendix ?? for list of interviewees
[3] See appendix ?? for list of surveyed organisations

SECTION TWO

OVERVIEW OF THE STUDY CONTEX

2.1 COUNTRY CONTEXT AND SOCIO-ECONOMIC DEVELOPMENT

Ghana is located along the coast of the Gulf of Guinea in West Africa, about 750 km north of the equator. The nation shares boundaries with Burkina Faso to the north, Cote D'Ivoire to the west, Togo to the east and the Gulf of Guinea to the south. Ghana is one of the first African countries to gain independence from the British in 1957. The current population of Ghana is estimated to be 29.6 million in 2018 (World Bank, 2018) from the official 2010 population census figure of 24.7 million. Female constitutes 51.2% whiles male population constitute 48.8%. Population growth rate was estimated at 2.5 percent in 2010, a slight decline from the 2000 estimate of 2.7 percent. The country has been a democratic state for over two decades and has been lauded as a "model for democracy" in Africa. In the past two and half decades, Ghana has taken major strides toward democracy under a multi-party system, with its independent judiciary winning public trust. Ghana consistently ranks in the top three countries in Africa for freedom of speech and press freedom, with strong broadcast media in particular, and radio the medium with the greatest reach. Factors such as these provide Ghana with solid social capital.

One of the strongest economies in West Africa, Ghana is a low middle-income country. She has demonstrated impressive economic development over the past decade, attaining the status of a low middle-income country. Ghana's economy has had a commendable growth trajectory though facing some challenges in the last three years. The annual growth in gross domestic product (GDP) was steady, averaging between 4 and 5% in the 1990s, ultimately reaching a stable rate of nearly 8% after 2006. Ghana's macroeconomic performance improved in 2017 after challenges in 2016. The country's economy expanded for the fifth successive quarter in September 2017; at a rate almost double that of 2016, according to a World Bank report of 2017. Ghana Statistical Service figures released in April 2018, estimated that Ghana's economy expanded by 8.5% in 2017 from 3.6% in 2016 driven by the mining and oil sectors. GDP growth for 2017 is estimated to increase throughout 2018. Service sector accounts for 53.4% of Ghana's GDP in 2017 followed by industrial sector (23.6%) and 23.3% from the Agricultural sector (GSS, 2017).

Ghana is endowed with very rich mineral resources including gold, diamonds, manganese, limestone, bauxite, iron, salt, clays and granite deposits. Agricultural production, such as of cocoa, has also contributed to consistent economic growth. In 2007 oil was discovered in commercial quantities and since 2010, oil is being exported making Ghana an emerging oil and gas economy. Renewable energy resource opportunities, such as solar, hydro, biomass and wind, are abundant. Ghana's forest resources support various fauna, flora and ecosystems, and inland and marine water resources support various biodiversity and tourism industries. Ghana has a well-developed financial services sector by African standards and a wide array of financial institutions operating.

2.2 OVERVIEW OF GHANA'S GREEN ECONOMY ASSESSMENT

Ghana has recognized the importance of green economy as important vehicle for achieving the sustainable development of the country. It presents an attractive framework to deliver more resource efficient, lower carbon, less environmentally damaging, more socially inclusive societies. The concept presents a new paradigm shift, emphasizing growth that is friendly to the earth's ecosystems and that can also contribute to poverty alleviation. A baseline assessment of Ghana's Green Economy by PAGE in 2015 identified the key opportunities for a green economy transition in Ghana including the potential impact of increased green investments in terms of economic growth and development, poverty reduction and environmental improvement. The study identified how Ghana can transition its key sectors towards a green economy pathway. It provided a profile of the country in terms of its economy, environment, social contexts and policy landscape and scenarios for future growth that estimates economic, environmental and social impacts. The assessment shows clear economic, environmental and social benefits of Ghana's transition to a green economy. Generally, the findings show that an implementation of green economy policies and investments in Ghana will bring about better overall performance in social, economic, and environmental dimensions than the Business-As-Usual scenario. Investments in the green economy reduces the risks of adverse events associated with climate change, energy shocks, water scarcity and loss of ecosystem services and long term increased employment, as green investments are generally more employment intensive, and have direct benefits in terms of poverty reduction. The assessment concluded that by placing sustainability at the heart of its development planning, Ghana will be better placed to address challenges of unemployment, sustained economic growth and poverty reduction.

2.3 MAINSTREAMING GREEN ECONOMY IN GHANA

The government of Ghana has taken some steps in the transition towards green economy through a set of national policies, strategies and programmes and in line with the sustainable development objectives. Recognizing that climate change has consequences for the national development, the government has put in place a number of measures to mainstream green economy programmes and projects that promote a clean environment, job creation and poverty reduction. These policies and strategies are to ensure Green economy interventions have been reflected in the country's development policies and strategies including the revised Medium-Term National Development Policy Framework, the Ghana Shared Growth and Development Agenda II (GSGDA II) and more recently in the 40-year development plan by the National Development Planning Commission.

Ghana's immediate past national development plan - the Ghana Shared Growth and Development Agenda II (2014-2017) promoted the adoption of the principles of green economy in national development planning. Over the years, Ghana has introduced several developmental plans aimed at overcoming such challenges and propelling improvements in all sectors. The current plan is the Ghana Shared Growth and Development Agenda Two (GSGDA II) which runs from 2014 to 2017. Other initiatives incorporating green economy elements include the Environmental Fiscal Reform Policy

(EFRP), National Climate Change Policy (NCCP), National Climate Change Adaptation Strategy (NCCAS) and the National Climate Change Master Plan (NCCMP).

Currently, there are a number of initiatives underway in all the critical sectors such as energy, agriculture, forestry, waste etc. which are spearheaded by the central government, private sector or non-profit and development partners in the area of GE. In the energy sector, the Energy Commission launched a rooftop solar program, originally conceived in 2015, which provides an initial investment to cover the cost of PV panels up to a maximum of 500 W. The applicant is required to pay only for the cost of the balance of system components (BOS) such as inverter, batteries, charge controllers, breakers, switches, cables, and installation works. Under the Rooftop Solar Program, the Energy Commission aims at installing 200 MW of rooftop PV capacity in the medium term. PV systems installed under the program can sell their power surplus to the local grid through a net-metering scheme, which is expected to come into force in 2018. VRA commissioned a 2.5 MW grid-connected solar plant in Navrongo in 2013 as part of its Renewable Energy Development Programme. This aims to install a total capacity of 10 MW in its first phase. The Navrongo plant is the first "large-scale" solar plant to be integrated into the national grid. It comprises six PV arrays covering 3.9 ha. The China Wind Power Company completed the installation for USD 8 million funded by VRA, which is receiving a grant of EUR 22.8 m from KfW2 to add another 12 MW at Kaleo and Lawra in the Upper West Region.

The SWITCH Africa Green Project seeks to support Ghana, among five other African countries, its transition towards a more inclusive, sustainable, green economy. The initiative is based on sustainable consumption and production patterns, while generating growth, creating decent jobs and reducing poverty. For example, GIZ resource efficiency initiatives in industrial zones in Ghana are a critical component of developing a stronger founder for GE take-off. The government is also enforcing tree planting culture for businesses that exploit forest resources, has partnered World Bank's Forest Carbon Partnership Facility (FCPF) and is currently implementing a large-scale REDD+ project.

3.1 DRIVERS OF GREEN FINANCE IN GHANA

The motivation for green finance in Ghana revolves around a number of factors. In other words, specific factors influence the adoption and implementation of the concept. This section discusses the major factors that influence green finance in Ghana.

3.1.1 ENVIRONMENTAL REGULATORY FRAMEWORKS

Ghana's recent policies on climate change, energy, mining and manufacturing provide clear public policy directives and signals for private sector organizations (e.g financial industry) to incorporate sustainable development practices into their decision making, service and product lines (e.g, National Climate Change Policy- 2014; Ghana's Environmental Fiscal Reform-). Adopting a policy-based approach to the sustainable financial system (banking) to help tackle environmental problems and support the transition to a green, inclusive and resilient sustainable growth path has being a conventional approach. This approach provides a clear-cut approach that provides a common denominator for all actors within the financial sector to reference. The central government in Ghana uses two approaches to promote a green industry; compliance promotion and compliance enforcement, which worked hand-in-hand to ensure a green financing.

3.1.2 COMMITMENT OF RELEVANT ACTORS

The transition to a greener economy is a product of both political and corporate leadership. Political commitment is vital for transforming an economy into environmentally sustainable one given its capacity to offset the significant tradeoff and short-term implications of transition. Essentially, the negative externalities and early cost outlay of the transitioning scares most economies. It then behoves central government and captains of industries to make the desired commitment to pursue an all-inclusive agenda. Political commitment is often likely to provide the resources (policy, finance, advocacy) needed to implement a greener economy agenda. Whiles corporate leadership is essential for driving entire organization towards sustainable organizations. The Bank of Ghana, other relevant ministries and private banks in Ghana have shown such leadership by jointly issuing "the banking sustainability principles" in 2018.

3.1.3 GLOBALIZATION OF STANDARDS IN THE FINANCIAL SECTOR

The concept of Globalization has had sweeping effect on the financial services sector as well. The apparent adoption of green financing in the western world is gaining momentum in developing countries. Ghana is a country of excellence across most governance indicators in Africa, its financial sector has shown remarkable improvement in adopting emerging global market good practices such as sustainable banking. A typical example of global standards effects on green financing in Ghana is the amendment of Bank of Ghana's Environmental Guidelines to formally adopt the IFC Performance Standards. Apart from government regulation pushing the financial sector to incorporate green financing into their investment facilities, there is evidence of self-regulatory and voluntary behavioural patterns driving green financing in Ghana.

3.1.4 EXTERNAL STAKEHOLDERS SUPPORT

Some international and local non-governmental organizations (NGOs) have also been actively supporting the adoption and diffusion of green financing in Ghana. Development partners have been cardinal advocates for policy and behavioural change in Ghana. Private Sector organizations are receiving technical and funding support from donor agencies to develop their capacity to explore, invent, adapt and diffuse green products and services in Ghana. The support from donor agencies includes financial, advocacy, technical training, etc. For example, in 2016, the World Bank Group provided US$17.2 million grant for the establishment of Climate Innovation Center (CIC) to support Ghana's green growth strategy at Ashesi University. The Centre is providing support to over 100 local clean technology companies to develop and scale innovative solutions to climate change and enable over 300,000 Ghanaians to increase resilience to climate change in the next ten years. Such donor support would create the incentive for green finance in the short run and perhaps increase both the supply and demand side of green finance in Ghana. Similarly, PAGE in 2015 supported a study that took stock of Ghana's transition to a Green Economy. Such studies create awareness and drive green financing.

3.1.5 STAKEHOLDERS GATE KEEPING ROLE

Environmental, safety and gender negligence of organizations can lead to financial, reputation, legitimacy and legal damages. External stakeholders such as gender activist, non-governmental organizations, the media, and other investment institutions continue to exert unalloyed pressure on companies in Ghana including the bank to kowtow to emerging standards of operations. Whiles domestic banks are not directly implicated on environmental issues there are reported cases of other companies that have been sued in Ghana on environmental and safety matters. In 2018, an NGO, the Center for Natural Resource and Environmental Management (CNREM) and the Keta District Vegetable Farmers and Marketers Association (KDVFMA) jointly filed a lawsuit in the Supreme Court challenging oil contract awarded to some oil companies by the government of Ghana. The suit is largely driven by environmental and social concerns of hosting community. Also, there are coalitions of organizations in Ghana that have and continue to oppose mining in the forest reserves. Given the global sniveling for sustainable society, private sector organizations in Ghana are likely to become more exposed to stakeholder demand for environmentally and socially responsible investments. As environmental awareness continues to grow along a maturing environmental legal framework in Ghana, businesses will necessarily have to lace up and incorporate suitability into their operations, least they become uncompetitive and illegitimate.

3.1.6 NATIONAL SUSTAINABLE DEVELOPMENT FRAMEWORKS

There are a number of existing policies and sustainable development strategies of Ghana that influence the transition to green economy and sustainable investment. The government of Ghana has taken positive steps with a well-developed National Climate Change Policy (NCCP) and its Action Program for implementation: 2015–2020 and a National Climate Change Adaptation Strategy to tackle climate change and mainstream green economy in the country. The NCCP is therefore Ghana's integrated response to climate change and green economy.

The NCCP provides the institutional framework, strategic direction and coordinates issues of climate change mitigation and adaptation in Ghana. The policy is hinged on a number of national development policy documents including the Ghana Shared Growth Development Agenda (GSGDA I) (2010-2013) and the GSGDA II (2014-2017) and stakeholder consultations. The GSGDA I (2010-2013) and the just ended GSGDA II (2014-2017), explicitly recognize adaptation as vital to addressing the potential impacts of climate change. Ghana's National Determined Contributions (NDCs) also provides policy direction for government's intervention on mitigation and adaptation. Government of Ghana also launched the National Climate Change Adaptation Strategy (NCCAS) in 2012. The aim is to increase societal awareness and preparedness for climate change and enhance the mainstreaming of climate change into national development planning.

SECTION FOUR:

ASSESSMENT FINDINGS

4.0 INTRODUCTION

This section of this report presents the analysis of empirical data gathered from both the survey and in-depth interviews with key stakeholders. As indicated in the methodology, three major stakeholders were covered in this study: private sector organizations, financial institutions and policy makers.

4.1 DEMOGRAPHIC ANALYSIS: ORGANIZATIONAL OVERVIEW

A total of 63 private and financial institutions participated in the survey. Forty-two (42) were private sector non-financial organizations, twenty-one (21) financial institutions and one (1) independent financial consultant. Majority (62.5%) of the private sector organizations surveyed are small scale enterprises. 32.5% are medium scale enterprise and only 5.0% are large enterprises. Private firms surveyed include energy and waste sectors (36%), agribusiness sector (19%), manufacturing sector (26%) and service sector (19%). Financial institutions were 21 comprising of seven (7) commercial banks, thirteen (13) micro/rural banks and one (1) independent financial and business development consultant.

Table 4.1 Demographic Analysis

Type of Private Sector Firms Surveyed	**Frequency (n)**	**Percentage (%)**
Small scale	27	64.0
Medium	13	31.0
Large	2	5.0
Total	**42**	**100.0**
Sector of Operation of Firms		
Energy & Waste Sector	15	36
Agribusiness Sector	8	19
Manufacturing Sector	11	26
Service Sector	8	19
Total	**42**	**100.0**
Type of Financial Institutions Surveyed		
Micro/Rural Banks	13	62
Commercial Banks	7	33.3
Independent Financial Consultant	1	4.7
Total	**21**	**100.0**

Source: Field Data, 2018

Notes: *Osei et al (1993) classification of enterprises was used where Small Scale Enterprises in Ghana has employment cut off point of 30 employees whiles medium and large scale enterprises exceeds 30 employees*

4.2 PRIVATE SECTOR CONCERNS/PERCEPTION ON SUSTAINABILITY

Organizations were asked to rate the extent of concern to sustainability issues as pertain to their organizations. The study found (From table 4.2) that most respondents expressed concern about sustainability issues in their organisaions such as working conditions (Mean=4.50), safety and security (Mean=4.51), health and wellness (Mean=4.42), social inclusion (Mean=4.05) and water use (Mean=4.40). In summary respondents are more concerned about those sustainability issues that have direct and short term bearing on their performance and profitability. Issues such as social inclusion, employment, discriminatory labour practices were of less concern.

Table 4.2 Organizations concern on sustainability issues

Extend of concern	Mean
Working conditions	4.50
Safety and security	4.51
Health and wellness	4.42
Unemployment	3.35
Social inclusion	2.75
Discriminatory labour practices	3.90
Water use	4.40

Source: Field Data, 2018

Scale: 1=not all concerned, 2=not concerned, 3=somewhat concerned, 4=concerned and 5=very concerned

4.3 ANCHORING SUSTAINABILITY ISSUES INTO BUSINESS OPERATION

Organizational vision, strategic plan and daily decision making is the lifeblood of all organizations. As a result, this study attempted to identify the extent to these factors influence the management of environment at the company level. Respondents were asked to indicate if their organizational vision and daily decision making considers environmental concerns. Figure 4.1 below shows that 60% and 55% affirmed that their firms' vision and operational decisions incorporated issues of sustainability respectively. Ironically, none (100%) of the firms publishes its environmental performance. Similarly, only few (30%) have a vertical monitoring of their environmental stewardship where both strategic and operational level management monitor the extent to which company's operations reflects its environmental commitments.

Though some respondents indicated that they have staff responsible for sustainability issues in their organisation, none of the firms surveyed had a separate department with a sole mandate for sustainability. It is interesting to note that while large (92.5%) of respondents have a good knowledge of sustainable development goals, only few (15%) are aware of Ghana's Nationally Determine Contribution (NDCs). Finally, it is significant to highlight that 45% of the respondents are not aware of Ghana's environmental performance rating schemes such as the "AKOBEN" for private sector organizations.

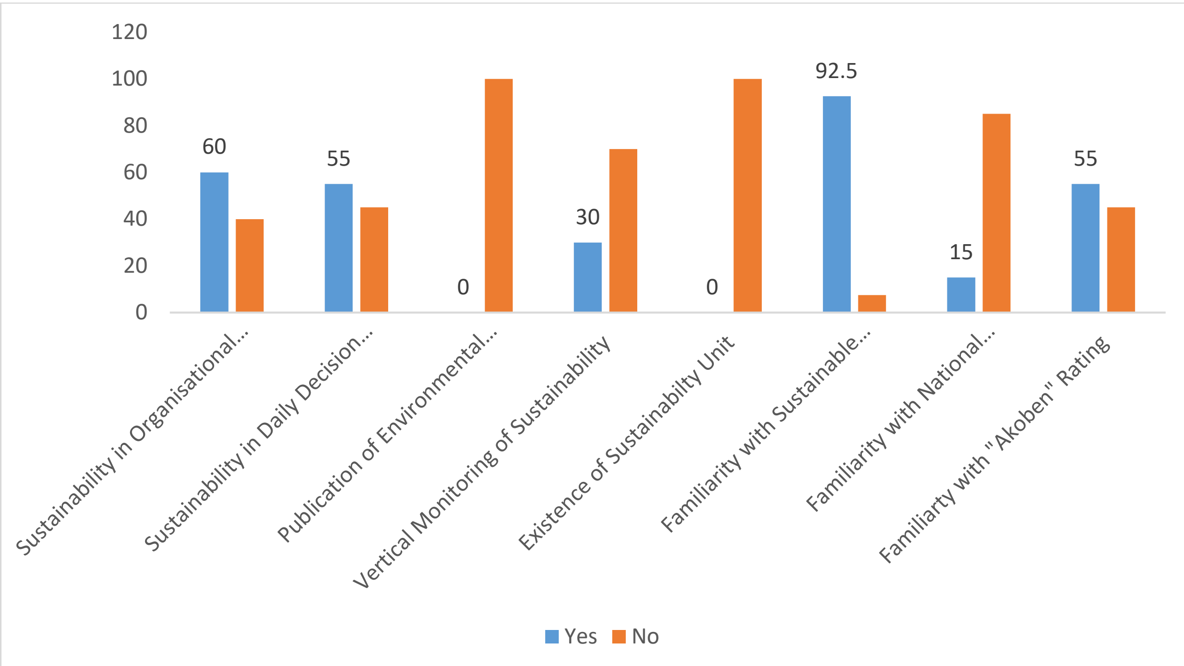


Figure 4.1: Governing Sustainability at Company Level

4.4 CURRENT STATUS OF GREEN PRACTICES AND INVESTMENT

The data showed that there is appreciable level of use, investment and future intention to invest in green products and services. 60% of the firms have invested in some form of green products. Areas indicated include waste to energy (biogas), waste recycling, planting trees and the use of energy saving appliances (bulbs, fridge, solar panels, cook-stoves and waste reduction. 80% of the firms have indicated intentions to invest in green products and services in the future. Most firms have the potential to expand green activities in Ghana.

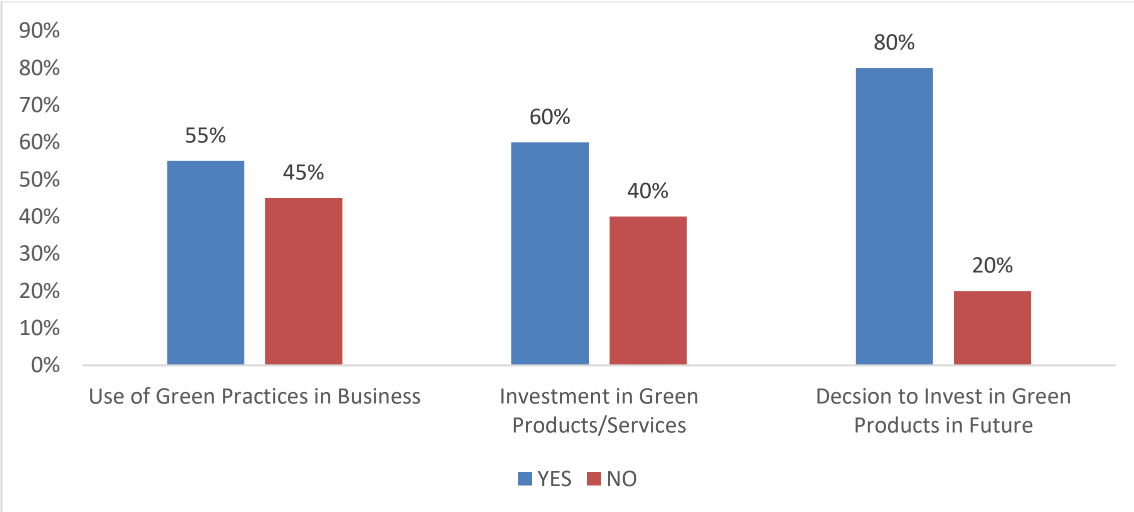


Figure 4.2: Current status of Green Practices and Investment

4.5 MOTIVATION FOR SUSTAINABILITY ADOPTION

Motivation for going green seems to be mostly driven by a number of factors including market access, corporate image, attracting investors, reduction in operation costs among others. Going green provides competitive advantage (Mean=4.22), investors are looking for environmentally friendly innovators (Mean=4.67), integrating sustainability issues will enhance corporate image (Mean=4.45) and going green will reduce operational cost (Mean=4.20) were all cited as motivations to go green.

4.5 GREEN FINANCING OPPORTUNITIES IN GHANA

This section of the report discusses green opportunities that exist in Ghana that can be scaled up to accelerate the transformations towards green economy. The majority (85%) of the respondents have identified green finance opportunities in Ghana while 15% couldn't identified any opportunity. The sectors identified are energy, agriculture, forestry, transport, waste, industrial, building and water sectors as presented in Figure 4.3.

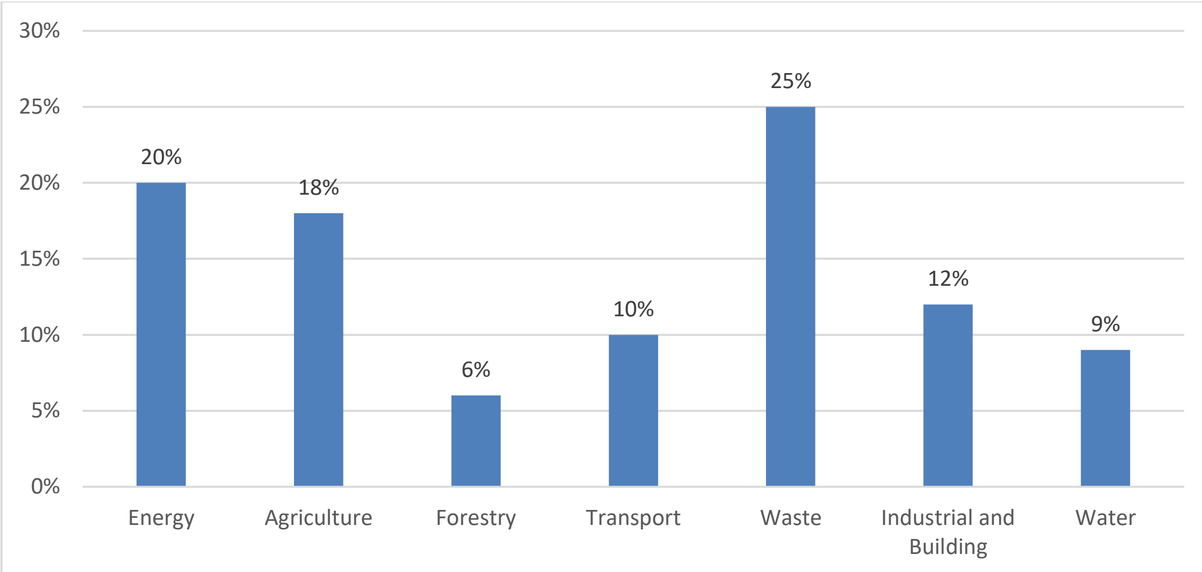


Figure 4.3 Opportunities for green financing in Ghana

4.5.1 Energy Sector

From figure 4.3, 25% of the respondents indicated that there are opportunities for green investment in the energy sector in Ghana. Ghana is endowed with renewable energy resources, particularly biomass, solar, wind energy, and to a limited extent, small- and mini-hydro energy that can be utilized to contribute to sustainable economic growth of the country. It has been recognized that these resources can contribute to achieving the Sustainable Energy for All agenda by ensuring access to modern energy services for the majority of rural communities. It has been established that small-scale renewable energy systems can provide affordable and cleaner energy for cooking and heating and for empowering enterprises for increased production, create employment and increase rural income and thereby reduce poverty. Although, Ghana abounds in renewable energy resources, the bulk of this potential largely remained untapped. When combined with aggressive measures to promote energy efficiency, renewable energy development can contribute substantially to expanding energy access, while reducing the latent crises of energy insecurity stalking the country. There are opportunities in Ghana to deploy renewable energy systems capable of meeting a large variety of service needs. However, resources have to be allocated only to priority needs, the satisfaction of which can generate high impacts at low costs.

Demand for electricity in Ghana currently stands at 1400MW and increases at 10% annually. The grid reserve margin stands at 8% of installed capacity, against the desirable level of 15%-30%. Government plans to increase installed generation capacity from 2170 MW to 5,000 MW by 2020 with 10% being renewable energy. Government has therefore developed a robust feed-In-Tariff Scheme and rate and has also established renewable Energy Fund. It is important to also note that there are adequate policies and regulations in place to support renewable energy sector. These developments including the demand for energy gaps in Ghana create investment opportunities for private sector to explore green investment opportunities. The following technologies are needed in the energy sector to transition Ghana's economy into sustainable economy: Steel kilns charcoal production, Biomass power plants, Biogas power plants, Combined cycle power plants, Wind power, Solar photovoltaic, Below 100MW hydro-electricity, Large municipal landfills, Improved cook stoves and LPG stoves.

4.5.2 Agricultural Sector

The agriculture sector is one of the most important sectors of the economy, contributing about 22.7% to GDP in 2012 and employing about 42% of the labour force. The sector is made up of the crops, livestock, fisheries and forestry sub-sectors. Agricultural GHG emissions are the second largest contributor to Ghana's total emissions, representing 40% of overall emissions. 18% of the respondents identified green investment opportunities in the agricultural sector. The emission levels of the sector create an opportunity for greening the sector. Firstly, private investors and government can scale up green investment the agriculture sector through afforestation programs. For example, the modified "taungya system" has the potential to scale up to create jobs.

4.5.3 Transport Sector

Only 10% of the respondents identified some opportunities in the transport sector. However, interview with policy makers has revealed a number of opportunities in the transport sector. Ghana has a huge demand for efficient transport system – rail, water and Bus Rapid Transit (BRT). Currently, passenger traffic in Ghana is growing at 8% annually. There is legislation in Ghana to promote emissions reduction from road transport. There is therefore the potential for incorporating green financing mechanisms into investments in the transport sector. For example, there is a huge market for LPG gas in the transport sector. The rail systems have higher emission reduction potential compared to bus systems..

4.5.4 Waste Sector

A significant number of the respondents (25%) identified investment opportunities in the waste sector. Waste generation in Ghana is bound to increase with population growth and urbanization. The Environmental Sanitation Policy (2010) indicates that the five largest cities in Ghana generate about 3,200 tonnes of solid waste per day with organic component of between 60-65%. The huge tones of solid waste generation in Ghana represent a significant raw material base for composting. Efficient investment into the sector would enhance Ghana's low carbon goal since methane emission from waste sector can be captured and put to economic use. Opportunity for green finance exists in the sector for scaling up composting technology. Ghana is a Party to the Global Methane Initiative and Climate and Clean Air Coalition. These groups support initiatives and projects that seek to capture, reduce, recycle and re-use methane. Investors can tap into this resource in the form of finance, technology or expertise. The following waste technologies include biogas power plants, large municipal landfills, composting plants and wastewater treatment facility.

4.5.5 Industrial, Building and Home Appliances

Opportunities for greening the building industry remains a competitive market given the estimated housing deficit of 200,000 units/year. 12% of the respondents mentioned industrial, building and home appliances as investment opportunities for the private sector and financial institutions. The commitment of the successive government to reduce housing deficit with cleaner technology and energy-efficient housing construction creates a safe regulatory heaven for the private sector to invest. For instance, the National Energy Policy (2010) recognizes the need to improve end-use energy efficiency. The energy for all program and government policy to achieving 10% energy mix in 2020 provides greater opportunity to green the building sector. There is also high demand for energy efficient appliances in homes and industries due to the high cost of electricity in Ghana compared to other countries in the sub-region. There is also high demand for climate-friendly cook stoves that use LPG.

4.5.6 Water Resources

From Figure 4.3, 9% of the respondents mentioned water sector as one of the important sectors for scaling up green finance in Ghana. Water demand in Ghana is projected to grow given the increasing size of Ghana's population amidst dwindling water resources. It is believed that this element will attract most of investments in the coming decades. Green investment opportunities in the water sector are numerous because the process of providing and delivery of drinking water includes many aspects: management of infrastructure, the design of technological solutions, conservation and water's quality. The process of designing such technologies and the usage of the technologies can be modeled along sustainable development mechanisms. For example, Ghana has a huge opportunity in to scale up solar investment in the water sector (Solar pumps, etc). This would reduce the use of fossil fuel to pump water. From sustainable development perspective investments into the water, sectors are seen as a potential source of attracting green financing. Investment in the Ghanaian water sector needs to facilitate innovation and adoption of greener water provision and water use technologies, contributing to job creation and structural transformation towards greener economies.

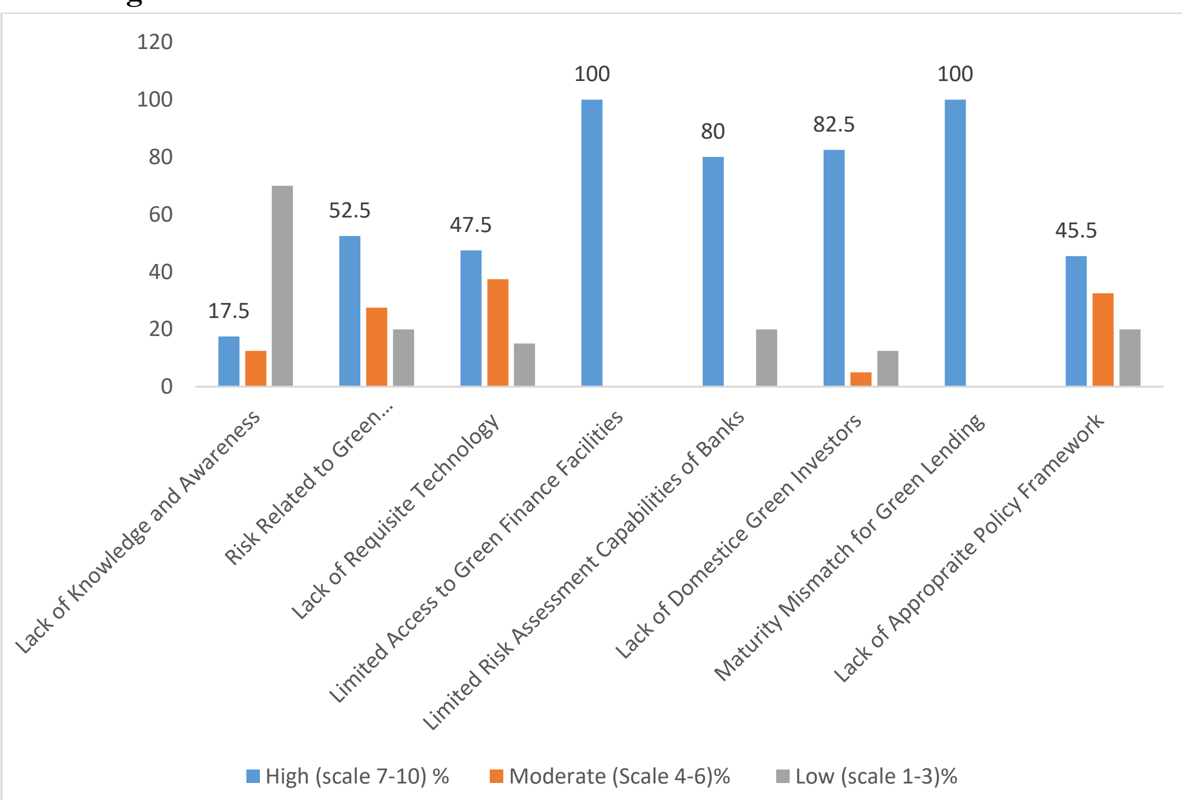
SECTION FIVE

BARRIERS TO PRIVATE SECTOR INVESTMENT IN GREEN SECTORS

5.0 Introduction

This study identified a number of barriers that inhibit private sector organizations from investing and green sector. In Ghana. These barriers were decomposed into eight (8) generic factors. Five (5) out of the eight (8) factors were rated as very high barriers or risks that constrict private sector from investing in green sectors. As indicated in Figure5.1, 52.5% rated risk related to green investment/product/service as very high whiles all respondents (100%) rated limited access to green finance facilities as equally high. Similarly, 80%, 82.5% and 100% confirmed that investment into green sectors is restricted by limited risk assessment capabilities of banks, lack of domestic green investors and maturity mismatch for green lending respectively.

Figure 5.1: Barriers of Private Sector Investment into Green Sectors



Source: Field Data, 2018

5.1 Knowledge and Awareness of Climate Change and Green Economy

The concept of sustainable development and green economy has become extremely topical due to increasing consensus that climate change is anthropogenic. It is therefore instrumental to ascertain the level of climate change awareness among vital stakeholders that have the potential to influence the transition to green economy. The findings from the data substantially support existing views across the literature. It was evident that the private sector substantial knowledge about global climatic change and its relative implication for business growth and human development. For instance, the data shows that business operators are aware (Mean=4.72) of climate change. Similarly, it was also established that business operators are aware that environmental change can affect their businesses (Mean=4.70) and businesses have a role to play to protect the environment (Mean=4.73). The high level of awareness of climate change and the admission of its impact across sectors provides a positive picture for engaging stakeholders and building consensus for to scale up green financing in Ghana. Quite surprisingly, whiles majority of the respondent demonstrated good understanding of sustainability and green financing, it appears that knowledge and awareness of green economy are relatively low among all the three major stakeholders studied. Throughout the data collection it become clear that the concept of green economy needed careful explanation to allow respondents understand and follow the discussion. It was necessary to describe and explain the concept in most of the interviews and surveys.

5.2 Perception of High Risk Sectors

Participants interviewed from the financial sector and government agencies were unanimous that green financing has being on the agenda for some time now but its real take-off has been quite problematic partly due to projected high risk and risk uncertainties. They acknowledged that in a developing country like Ghana the need for green investment is critical not only for meeting the goals of sustainable development, but also is linked to the critical challenge to meeting infrastructure and energy needs, to improve inclusive development, efficiency and access to finance. However, green financing remains a high risk terrain for economies that lacks efficient data that could approximate potential risk and mitigation mechanism. The data confirms that respondents are concerned about the risk potentials of green finance. This is heightened in Ghana due to lack of data to enhance project reviews, customer demands projection, financial flow analysis, etc. that are pre-requite for business decision making.

5.3 Technology Risks

Green economy and green finance are likely to thrive in a context where supporting and related infrastructure (e.g, information and communications technology, electricity) are stable and predictable. In developing countries, as explained by respondents such infrastructure are scarce and therefore makes green project face a high upfront capital outlay. For instance, investment into waste recycling plant could have a high technology risk emanating from intermittent power supply leading to lower revenue performance. Others, indicated that the dangers posed by climate change on infrastructure cannot be predicted hence the risk related to investing in technologies that have long term maturity period appears unattractive. A respondent aptly put it this way:

> *Physical damages due to adverse climate or weather events leading to financial losses can also be significant which holds back investors decision to support such sector.*

Another put it differently:

> *Technical knowledge of evolving technology for green projects are not readily available locally creating different risk components for investors.*

5.4 Credit and Capital Markets Risk

The literature highlights several barriers related to capital market and credit risk. In this survey, four major risks were identified constituting both credit and market risk. First, the risk/return profile of green investment may not be easily understood and managed. Second, potential borrowers of green finance in Ghana are likely to be SMEs with generally low collateral value and lack of credit history. Third, creditworthiness of counterparties, which has been highlighted as a common problem with long term green investment. It was noted that when creditworthiness counterparties is in doubt it permit early contract abrogation which eventually affect cash flow. The last issue has to do with the volatility of the Ghana cedi (local currency). Buttressing these barriers an independent consultant stressed:

> *Weak micro economic fundamentals leading to currency volatility affect long term investment decision. Both credit and market risk can't be quantify unless some stability and confidence is gain over micro economic signals for some time.*

5.6 Risks Assessment capabilities of Banks

It was noted that dealing with the various risks require some requisite human resource expertise. However, most of the actors interviewed were of the opinion that many financial institutions, institutional investors and independent risk rating firms in Ghana have not adequately developed the capacity to assess, identify and quantify credit, market risks that may arise from climate change and other environmental exposures. Implicitly, experts in green lending or long term green investment lending barely exist in Ghana. The option for the finance industry is to utilize the services of international consultants which increases transaction costs of small green lending projects. The general understanding of the financial implications of environmental risks by financial institutions is still at an early stage. The data indicates that valuation of green project risk before lending is extremely vital for investors because green projects stretch over long term whose outcome is perhaps lazed with several kinds of uncertainties. Also, using historical information on similar project is of little use to plausible risk modeling. Lastly, future policy changes which can heavily impact project outcome are barely predictable creating further layer of uncertainty. These findings from the field are consistent with the general view that there is yet to be clear, unifying framework for reviewing and promoting sustainability-consistent and economically viable investment (OECD, 2016). An interviewee buttresses this point:

> *The inherent uncertainties on investment returns, regulatory changes, and consumer demands on long term "green projects" continue to discouraged investments.*

5.7 Lack of clarity on Green Finance integration

The lack of clarity as to what constitutes green finance activities and products (such as green loans and green bonds) can be an obstacle for investors, companies and banks seeking to identify opportunities for green investing. Despite the growing importance of green finance within financial markets and among the private firms in Ghana, the question of what is 'green' in the context of finance remains answered and how private sector firms can integrate it into their investment portfolio. There is lack of clarity on how to incorporate design green finance products given the lack of consensus on what actually constitutes green finance. The lack of clarity is compounded by the fact that green finance is synonymous with other concepts such as sustainable finance, triple bottom finance, sustainable banking, financial inclusion, etc.

5.8 Lack of domestic green investors

Globally, various studies have confirmed the potential of leveraging green financing in environment where institutional investors exist. However, in Ghana the outcome of the survey conducted for this report affirmed the lack of institutional investors in Ghana. The findings indicated that the few institutional investors in Ghana are constricted by the diversity of interests which create many decision and clearance point leading to delays on deciding whether to invest in newer sectors (green sector). They explained that institutional investors who provide a chunk of domestic green investment are a diverse and highly differentiated group who are subject to different regulatory and management environments.

5.9 Maturity mismatch for green lending

Structural features of the Ghanaian financial system create maturity mismatches, due to the dominance of relatively short-term bank financing. Financing of long-term green infrastructure projects relies heavily on bank lending, while banks are constrained in providing sufficient long-term loans due to relatively short tenor of liabilities. Investment pools that could substitute for bank lending are also relatively low. This is a common feature of many financial systems in developing countries. Maturity mismatches are caused by a structural asymmetry between the characteristics of the supply and demand for finance. Although 'maturity transformation' (i.e. borrowing short-term and lending for longer periods) is a fundamental function of the banking system, this feature can create barriers to the types of finance required by many green projects.

5.10 Policy Frameworks

The policy challenge as explained by most respondents is not a "lack of policy" per se but a "non-alignment" of existing policy frameworks to business decision models. Most existing policy instrument appears quite complex which perhaps delaying their translation into coherent financial decision making. Indeed, the study shows that there is plethora of sector specific guidelines which inadvertently affect the financial institutions and their clients, yet they are barely adapted by financial institutions. These policy instruments are generic and must be adapted into firm level decision making which gives room for intense contestation and eventual inaction. However, there is an ongoing discussion to roll out voluntary environmental and social (E&S) standards to guide the financial sector of Ghana. Some players within the financial sector expressed optimism about the ongoing initiatives and indicated that it will bring clarity and sanity to financial sector sustainability issues and what is expected of stakeholders. When asked if respondents are aware of some government policies that seek to motivate them to invest in green products and services or mainstream environmental issues into their operations, most respondents answered in affirmative. In all, four major policy domains came up.

First, industrial greening supportive laws such as the "AKOBEN" environmental performance rating and disclosure initiative, Environmental Impact Assessment Regulation, 1999 (LI 1652); Environmental Protection Agency Act, 1994-ACT 490 and the labour Act, Act 651 of 2003. Second, climate change supportive laws such as 2014 national climate change policy of Ghana, 2010 national climate change adaptation strategy, Ghana national Medium term development frameworks -the GSGDA I (2010-2013) and GSGDA II (2014-2017), etc. Third, welfare supportive laws such as Ghana labour act that requires that social welfare and gender related issues that are cardinal elements of green economy are well catered for by industries. Fourth, financial supportive laws such as Ghana's Environmental Fiscal Reform- 2015, ongoing Environmental and Social Risk Management (ESRM) guidelines, and international financial regulations and programs. For instance, some respondents indicated that the GCF initiative has injected some enthusiasm into the financial sector with leading institutions streamlining their activities to become implementing entities which inadvertently will ensure that they incorporate green financing into their activities. A leading player within the banking sector of Ghana indicated as follows:

> *The GCF will be of great value to the enhancement of green economy activities in Ghana as it will help to identify and source key funding channels for green activities and projects for climate mitigation efforts*

SECTION SIX

SCALING UP GREEN FINANCE IN GHANA

6.0 Introduction

This section discusses the opportunities available for Ghana to scale up green finance.

6.1 Potential to Access Global Climate Funds

Ghana has the opportunity to access international climate funds such as Green Climate Fund, adaptation funds, global environment facility among others to scale up green financing in Ghana. Facilitating the accreditation of implementing entities as requirement for accessing public multilateral and bilateral climate change finance schemes will help the country to scale up green financing. Ghana has created a National Designated Authority (NDA) as the interface between Ghana and the Green Climate Fund. This is an opportunity to present bankable project to GCF by supporting the private sector to meet funding requirements and access funds that are already tired up to green investments. The US$100 billion climate finance commitment of the green climate Fund is anticipated to unlock private capital aimed at scaling up low-carbon energy infrastructures. It would encourage innovations into environmentally friendly sectors such as green energy sources.

6.2 Private Equity Flows into Ghana's Economy

The recent flow of private equity into Ghana was cited as an untapped prospect to scale-up green finance. Ghana has become the preferred destination for private equity investment since 2007, with Ghana being favorite compared to South Africa and Nigeria. For instance, Ghana received the second highest private equity investment in Africa after independent power producer concluded $ 900m investment in 2014. The burden of responsibility lies on how to firms can incorporate responsible environmental practices into their operations.

6.3 Institutional Investors

The capital outlay of long term green investment requires much larger pools of capital beyond current capital provided by traditional banks in Ghana. Institutional investors serve as the surest conduit to mobilize needed capital to invest in fundable green projects. The current pool of institutional investors in Ghana offers enviable opportunity to scale-up green financing. The existence of institutional investors is one of the main drivers of the development of capital markets. As carefully illustrated by the independent consultant interviewed the capacity of institutional investors in Ghana; insurance, pensions, mutual funds, unit trust, etc. has not been harnessed to leverage the scope of sustainability financing.

6.4 Demands Potentials of Green Market

The study revealed that there is high demand for green products and services by the public. This presents an opportunity for private sector to scale up green finance across diverse economic sectors of Ghana. Major sectors that came up include communication, energy, and infrastructure, Agricultural, Forestry, Transport Sector, Waste and Water Resources. For instance, Nelplast (Case study) explained that its production is relatively less than the market demand for their "pavement blocks" produced from recycled plastic materials. The company can increase their current production capacity more than 1000% if they can access long term investment facility. Similarly, those from the renewable energy sector noted that geographical locations of some communities coupled with Ghana's energy mix goal represent another opportunity to scale up green investment.

6.5 Mobilizing Domestic Finance

Similarly, respondents from the communication sector noted that FINTECH penetration in Ghana makes Ghana a destination to mobilize sufficient private financial resources that would have otherwise remain unbanked through traditional banking system. Between 2016 and 2017 there was 84.6% increase in the amount of *money* mobilized outside the banking system through *mobile money* peaking at GH¢2.3 billion. Given the level of mobile phone usage in Ghana and the huge amount of private capital outside the banking system, FINTECH represent a great avenue to mobile the large capital outlay required to scale-up green finance.

6.6 Incubating local green investors

Ghana has the potentials to incubate local green investors. Several way can support this drive. Significant among them is the issuance of green bonds. Ghana performance in bond issue has been adjudge as one of the best in Africa whiles the performance of green bonds globally has been steady increasing from about a billion in 2013 to expected $250 billion in 2018. Given these prospect Ghana can scale-up green financing by considering the issuance of green bond in the medium term. To access the potential of green bonds government, need to develop a clear and implementable set of green bond criteria and associated disclosure requirement. Also, awareness should be created on existing international best practices and the potential benefits of the green bond market among policy makers, regulators, as well as potential bond issuers and investors in Ghana. Again, green bond issuers need to reduce risk premiums and facilitate cost-efficient verification and reporting, develop green bond indices, ratings, and stock exchange lists, promote international and finally collaboration to facilitate cross-border investment in green bonds. Secondly, Ghana can take the advantage of the existence of institutional investors to incubate domestic green institutional investors by building their capacity for them to identify green assets opportunities while improving the transparency of holdings. Secondly, Ghana can take the advantage of the existence of institutional investors to incubate domestic green institutional investors by building their capacity for them to identify green assets opportunities while improving the transparency of holdings.

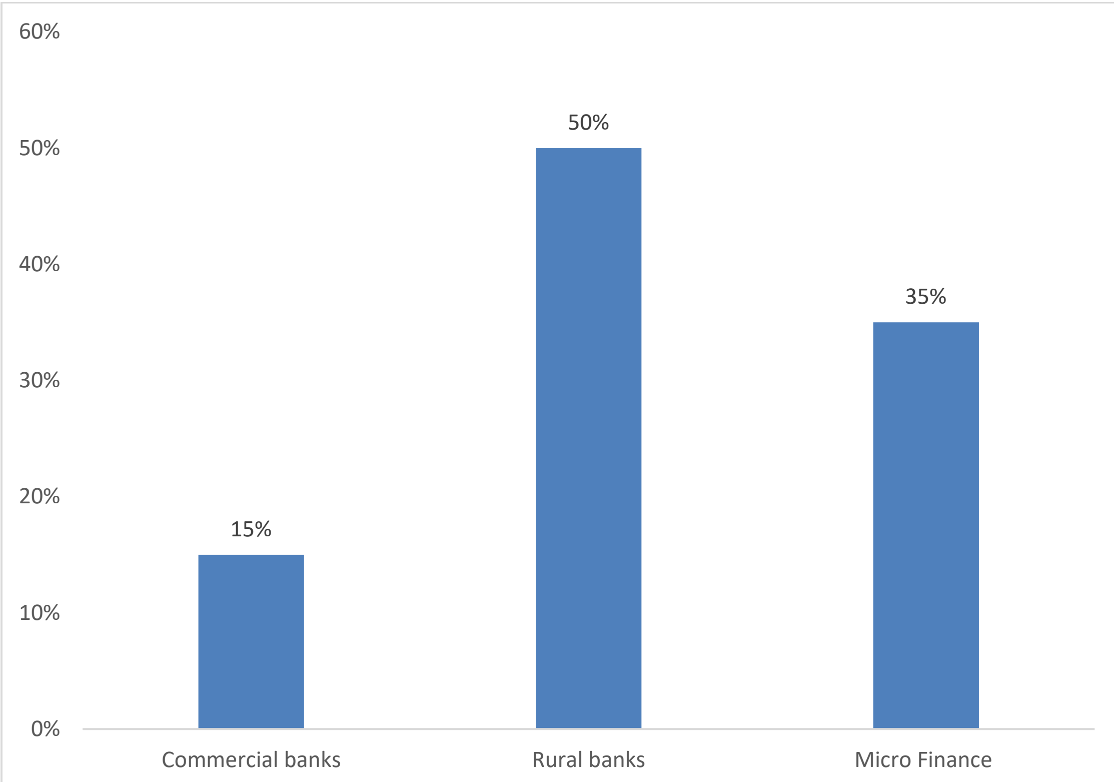
6.8 Refocus Corporate Social Responsibility

Many corporate organizations have embraced the concept of Corporate Social Responsibility in Ghana. CSR therefore form one major budgetary allocations of private firms in Ghana. Many mega firms in Ghana invest in several socially responsible areas. This investment can have a triple win benefit if it is refocused to consider sustainability as its core investment criteria. For instance the PriceWater Coopers supports Environment360, a local NGO recycling programme.

6. 9 Greening the Banking System

Within the framework of sustainable banking in Ghana, the banks are increasingly taking environmental risks and opportunities into account in their business operations, as part of wider strategies for sustainable banking. With time, banks would be able to effectively manage the risks associated with lending to polluting sectors and could help improve the resilience of the financial system. There is the need for government to support the banks to mainstream sustainability issues into their business models. Also, there are many microfinance and rural banks in Ghana. This sector appears to have the wherewithal for greening the finance sector. Most SMEs access finance from these institutions more easily compared to traditional commercial banks. Microfinance in Ghana foster bottom-up innovative and sustainable financing approach to support green start-ups. The opportunity to scale-up green finance through micro finance and rural banks is significant. To utilize this opportunity capacity building and awareness creation on green economy must be provided to micro finance and rural banks. The figure 6.1 shows various financial institutions that support green financing in Ghana.

Figure 6.1 Financial Institutions that Provide Green Financing



Source: Field Data, 2018

6.10 Greening Government Expenditure

To scale up green finance, the public sector through its expenditure and investments must lead. Sustainability can be incorporated into public procurement system to enhance the greening of government expenditure. Ghana's economy is about $40 billion with about 11.25% allocated to capital expenditure for 2018. This represent huge but unused potential for scaling up green finance.

SECTION SEVEN

RECOMMENDATIONS AND CONCLUSION

This section provides some recommendations to help scale up green finance in Ghana

- **Policy buy-in**

There is the need for a high-powered stakeholder committee comprising representatives from all financial institutions and private sector in Ghana as well as top regulatory agencies in order to stimulate a policy buy-in, political and institutional leadership commitment, clear road map for strategy implementation as well as system of check and balances.

- **Stakeholder Partnership**

Development partners, international institutional lenders and multilateral climate funding schemes should partner domestic commercial banks to roll out green financial products through priority-lending, below-market-rate financing, subsidies and preferential central bank refinancing mechanisms.

- **Capacity building and education on green economy**

Capacity building on green economy, green financing, environmental reporting, disclosure and climate change budgeting for the media, public sector budget officers, legislatures and financial institutions are extremely relevant to sink the idea of sustainability into these influential policies and behavioural change agents. When lack the conceptual understanding of green economy and green finance, the possibility of contestation and delays in action cannot be ruled out. Education and awareness creation among stakeholders on incentives and opportunities for private sector investment will help to scale up green financing in Ghana. Again, the standards and rules for disclosure on environmental performance should be well communicated across industries. For instance, the application of AKOBEN and its significance for organizational image and performance within a given industrial ecology.

- **Implementing Entities**

Government as a matter of urgency must support and accelerate the processes of getting financial institutions in Ghana to become recognized implementing agencies for the "green climate fund" to create an opportunity for green financial products take-off in Ghana.

- **Incorporating sustainability issues into curriculum**

Incorporating sustainability into educational curriculum by educational institutions in Ghana will help to enhance the understanding of green economy.

- **Consideration for Green Bonds Issuance**

Many medium- and long-term green projects with steady cash flows are good candidates for financing by the bond market. However, the bond market, which currently provides about one third of total financing for corporates globally, has yet to be implemented in Ghana. The potential for scaling-up the green bond market is tremendous. In the short term, this will depend on policy, market and institutional barriers constraining its development being addressed. The green bond lists can also help push the market to common definitions around what is green in the green bond market, and therefore reduce transaction costs and facilitate trading.

- **Mobilizing domestic savings pools**

The successful take off of Fintech in Ghana could be leveraged to help unlock the potential of mobilizing funds from personal financial assets since. If more deposits or mobilize from individuals, such savings could help offset challenges associated with a relatively small institutional investment pool. For instance, when the Kenyan government issued its M-Akiba bond in March 2017, with the aim of mobilizing retail savings to fund Kenyan infrastructure it helped mobilize household savings for infrastructure mobile platform.

Though the idea of green economy is a new phenomenon it is catching up across diverse stakeholder very well. However, as this report argues the lifeblood of green economy is green financing. Without robust and sufficient green financing regime green growth agenda would be a mirage. Just like other developing countries, Ghana have the potential to shift towards green development provided sufficient finance can be made available to fit the lending needs of green investors. It was observed that green financing thrives on participatory financial regimes that allow different actors to cooperatively operate within a territorial area. The major actors that have the potential to drive green financing initiatives in Ghana include institutional investors, commercial banks, central banks, multi-lateral financial institutions, donor agencies and financial regulators.

These actors would have to provide unique green finance service such as regulatory and monitoring service, financial schemes, capacity building, risk management, lobbying and data provisions service. Though the sustainable development benefit of green financing is not in dispute, mobilizing the necessary capital for green investments is constricted by several microeconomic challenges including information asymmetry, limited risk, analytical capacity, limited clarity on green financing, maturity mismatch, technological risk, poor awareness on green economy, market and credit risk. As noted in this study there is maturity mismatches in most developing countries where long-term projects take off and delayed by lack of long term lending opportunities. Given these challenges this report provides some recommendations to help incentivize financial institutions to supply enough green finance products whiles attracting entrepreneur to develop fundable business cases.

References