SWITCH AFRICA GREEN

(GHANA)

COUNTRY IMPLEMENTATION DOCUMENT

Resource Efficiency

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July 2015

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1.0 INTRODUCTION AND BACKGROUND

The United Nations Environmental Programme (UNEP) in collaboration with United Nations Development Programme (UNDP), the United Nations Office for Project Services (UNOPS) and other regional and national partners is implementing Switch Africa Green Project with financial support from European Commission. EPA is the main implementing agency.

The Switch Africa Green Project seeks to support Ghana, among five other African countries, to attain sustainable development by engaging in transition towards inclusive green economy. The initiative is based on sustainable consumption and production patterns, while generating growth, creating decent jobs and reducing poverty. The project is intended to support private sector led inclusive growth to achieve its objective.

The project implementation starts with an inception phase planned to inform the project partners on the scope and objectives of the project; and more specifically ensure that an open and transparent process is established. This phase is also intended to refine and finalize the modalities and mechanisms for implementation as well as identify, engage and mobilize the project team and key stakeholders and actors.

The inception phase, which is intended to end by December 2014, includes assessment of the business environment at country level and capacity building needs of key actors to contribute to the development of indicators for the overall project monitoring and evaluation framework. The main output of the inception phase is a country implementation document detailing out the management structure for SWITCH Africa Green at the national level, composition of the National Technical Coordination Committee, national delivery plan and log-frame and national work plan.

This report therefore presents the output of the consultations with the key stakeholders during the different levels of the formulation of the programme; contributing to the formulation and development of the key project themes and criteria and key elements of the Country Project; and the institutional processes for SAG Country Implementation strategy were also validated at this Phase Report.

2.0 GREEN ECONOMY IN GHANA

2.1 Definition of Green Economy

The United Nations Environment Programme (UNEP) defines a green economy as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.

Green economy essentially involves a low carbon, resource-efficient and socially-inclusive economy, which requires transformation of production and consumption lifestyles towards economic activities that enhance and preserve environmental quality, while using energy, water and natural resources more efficiently and reducing social inequalities.

At the operational level, a green economy is characterized by growth in income and employment driven by investments that reduce carbon emissions and pollution; enhanced energy and resource efficiency; prevention of loss of biodiversity and ecosystem services; and reduction of unemployment and poverty, especially among the poorest segments of society.

The Government of Ghana does not yet have an official definition of 'green economy', whereas the term is increasingly used at the national level and the country's development priorities are consistent with the green economy objectives.

Ghana is already making positive steps towards a transition to green economy through a set of national policies, strategies and programmes in line with sustainable development objectives. The transition from linear economy to cycle economy calls for sustained political will and good governance, which could contribute to sustained growth in income and employment.

2.2 Justification for Green Economy

Ghana has significant natural resources, such as minerals, petroleum, freshwater resources, coastal zone, forest and wildlife constituting a major pillar of Ghana's socio-economic development. Nonetheless, the country faces numerous environmental challenges, such as land degradation and coastal erosion; desertification; deforestation; loss of biodiversity; air

and water pollution; waste management problems in major urban areas; overfishing; a reduced water volume in Lake Volta (a major source of water in the country); and the negative impacts of climate variability and change.

Furthermore, the large-scale oil production could further aggravate environmental degradation. The annual cost of Ghana's environmental degradation is reckoned to be alarmingly high and has already been estimated at almost 10 per cent of the country's GDP; one of the highest in the world.

The Government of Ghana recognizes that sound environmental management and sustained healthy ecosystems are pivotal to the country's socio-economic development. Consequently, Government of Ghana has developed various policies and strategies to support the government's desire to use science, technology and innovation, to reverse environmental deterioration and increase resilience to climate change. These decisions are embodied in Ghana's Medium-Term National Development Policy Framework, as well as in Ghana Shared Growth and Development Agenda, GSGDA, 2014- 2017.

In the pursuit of moving the country towards a low-carbon green economy, Ghana's Ministry of Environment, Science, Technology and Innovation, together with the United Nations Environment Programme (UNEP), has undertaken studies including Green Economy Assessment Study and Ghana Fiscal Policy Scoping Study. The initiatives aimed to assess government policies designed to achieve income growth, economic development/diversification and job creation and, at the same time contribute to social equity and environmental improvement in relation to green economy.

The country's long-term vision and development agenda as set out in the National Development Policy Framework since 1995 has been to achieve a balanced economy, a middle-income country status and high standard of living. The long-term National development strategy has been based on five key themes: human development, economic growth, rural development, urban development and an enabling environment.

Furthermore, Ghana has aligned and ratified global conventions and initiatives to achieve sustainable development including Africa 10 Year Framework Programme (10YFP) on Sustainable Consumption and Production; however, the Government acknowledges that a lot more remains to be done to achieve the envisaged sustainable development. The main National and International Policy Frameworks promoting sustainable development in Ghana are identified to include the following:

Development

1. Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (GSGDA) (2014 – 2017) by the National Development Planning Commission (NDPC)
2. National Employment Policy (2012) from 2012-2016 by the Ministry of Employment and Social Welfare
3. National Health Policy - 2007 by the Ministry of Health
4. Health Sector Gender Policy - 2009 by the Ministry of Health
5. National Disaster Management Organization act 1996 by the National Disaster Management Organization

Energy

6. National Energy Policy of Ghana 2010 by the Ministry of Energy
7. Renewable Energy Act 2011 by the Ministry of Energy

Agriculture (incl. Forestry)

8. Food and Agriculture Sector Development Policy (FASDEP II) (2007) from 2009-2015 by the Ministry of Food and Agriculture
9. Medium Term Agricultural Sector Investment Plan (METASIP) from 2011-2015 by Ministry of Food and Agriculture
10. Tree Crops Policy 2012 by the Ministry of Food and Agriculture
11. Fishery Act 2002 by Ministry of Food and Agriculture
12. National Forest and Wildlife policy 1994; revised in 2012 by the Ministry of Lands and Natural Resources

Environment

13. National Environmental Policy 1992, revised in 2014 by the Ministry of Environment, Science Technology and Innovation (MESTI)
14. National Environmental Action Plan 1991, MESTINational Land Policy 1999 by the Ministry of Lands and Forestry
15. National Water Policy 2007 by the Ministry of Water Resources, Works and Housing
16. National Climate Change Policy, MESTI 2014

UN submissions

17. Ghana's Second National Communication to the United Nations Framework Convention on Climate Change 2011 by the Environmental Protection Agency
18. Fourth National Report to the UN Convention on Biological Diversity 2009 by the Ministry of Environment, Science and Technology

19. National Action Program to Combat Drought and Desertification 2002 by the Environmental Protection Agency
20. National progress report on the implementation of the Hyogo Framework for Action (2010) 2009-2011 by the National Disaster Management Organization

Furthermore there are a number of initiatives relating to climate and environmental protection in Ghana embodying factors of green economy. The comprehensive list is attached as annex 1.

Ghana has identified three sub-sectors for transition to green economy based on the Ghana's Green Economy Assessment Report. The sectors include agricultural, forestry and energy sectors, which are reckoned to present key opportunities for greening the economy in Ghana. The selection of these sectors was based on their significant contributions to the National Gross Domestic Product (GDP), economic welfare, low carbon development, global competiveness and other imperatives.
The assessment identified a number of priority strategies and actions to design practical roadmap for greening the agriculture, forestry and energy sectors in Ghana[1]. These include:

2.2.1 Agriculture

2.2.1.1 Promoting large-scale adoption of organic farming with support of organic fertilizer;
2.2.1.2 Promoting large scale scientific irrigation farming
2.2.1.3 Increasing value-addition of agricultural products through investments in infrastructure and technology and strong farmer organizations;
2.2.1.4 Investing in sustainable agriculture research and capacity development;
2.2.1.5 Developing green agriculture finance and fiscal instruments.

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2.2.2 Forestry

2.2.2.1 Implementing and intensifying up existing programmes on Sustainable Forest Management(SFM);
2.2.2.2 Investing in research and capacity development in SFM
2.2.2.3 Developing fiscal policy/regulatory instruments for SFM.

[1] Ghana Green Economy Report

2.2.3 Electricity

2.2.3.1 Intensifying renewable energy investments and dissemination;
2.2.3.2 Intensifying energy efficiency and conservation measures;
2.2.3.3 Investing in research and capacity development on energy diversification and conservation;
2.2.3.4 Developing green energy finance;
2.2.3.5 Developing and enforcing policy instruments to support the dissemination of renewable energy

Ghana's initiatives relating to transition to a green economy are envisaged to contribute to sustained growth in income and employment, driven by investments that reduce carbon emissions and pollution; enhanced energy and resource efficiency; reduced loss of biodiversity and ecosystem services; and reduced poverty, especially among the poorest segments of society.

On the other hand, the African 10 year Framework Programme on Sustainable Consumption and Production identified the key priorities for specific action under the thematic areas of industrial development to include:

- Exploring the expansion of value chains for agricultural production and by-products by expanding their industrial uses.
- Improved markets for sustainable goods and services to ensure competitiveness irrespective of destination market[2].

Again, as part of the Ghana's Green Economy Assessment, UNEP commissioned the Millennium Institute (MI) in partnership with Institute of Statistical, Social and Economic Research (ISSER) to conduct a quantitative assessment of the potential impact of green investment and policy reforms in Ghana, using a dynamic and transparent tool, the T21 model[3]. The quantitative assessment considered the three priority sectors agriculture (crop cultivation), forestry and energy. However, the model included Industry and Tourism as specific sectors of concern.

The assessment compared Ghana's projected economic development under three scenarios, namely (1) a Green Economy (GE) Scenario, (2) Green Economy with Low Thermal (GE-Low Thermal) Scenario and (3)Business As Usual (BAU) Scenario.

[2] Sustainable Development Action Plan (Sdap) (2011-2016) Volume 1 EPA. UNEP
[3] Integrated Assessment of the Impacts of Green Investment and Policy Reforms in Ghana, Millennium Institute & ISSER 2014

1. Green Economy (GE) scenario:

    - Implementation of green policies and additional green investments from 2013 to 2030
    - The amount of green investments are determined based on policy targets, estimated as 1.5% of GDP on average2013 to 2030
    - Assuming development of electricity generation from renewable sources would not cause reduction in thermal electricity generation.

2. Green Economy with Low Thermal scenario (GE-Low Thermal

    - Implementation of green policies and additional green investments from 2013 to 2030
    - The amount of green investments are estimated based on policy targets, estimated as 1.5% of GDP on average2013 to 2030
    - Assuming reduction in thermal electricity generation as electricity generation from renewable sources increases.

3. Business As usual (BAU) scenario:

    - Additional Investment of the same amount as the green investemnt scenarios(1.5% of GDP on average) in continuation of current trends and planned policies from 2013 to 2030

Modeling economic development under the three scenarios for the period 2013 to 2030, revealed indications of GE scenario generating the best results compared to the other scenarios. The modeling revealed that GDP will continue to increase at an average annual growth rate of 5.9% between 2013 and 2030 in the BAU scenario, reaching 84 billion Ghana Cedis in 2030. The two green scenarios are expected to see higher GDP growth at an annual rate of 6.9% (under GE) and 6.5% (under GE-Low Thermal). Total GDP in 2030 will be 98 billion Ghana Cedis (under GE) and 91 billion Ghana Cedis (under GE-Low Thermal) respectively; 17% and 11% above the BAU cases. (Figure 1).

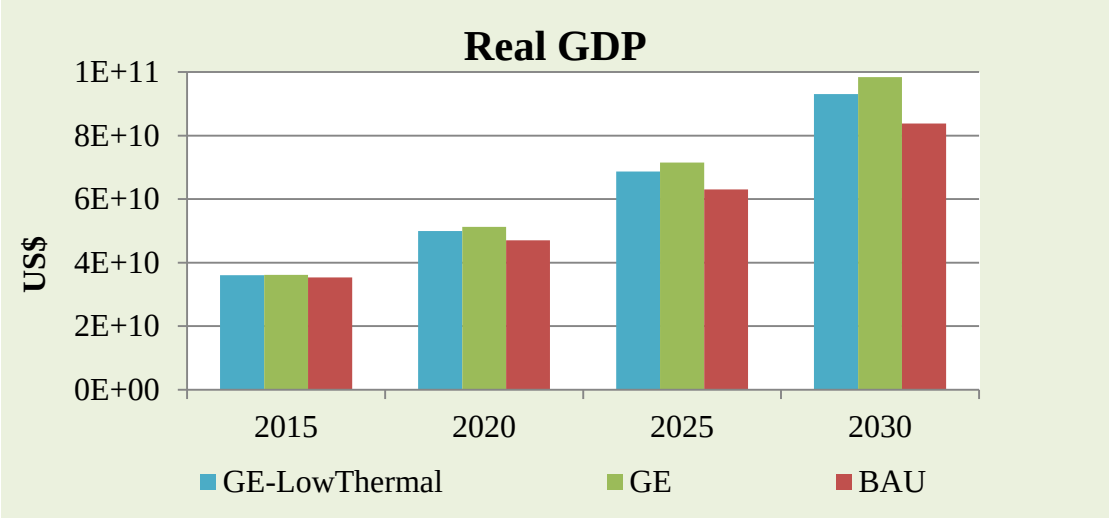


Figure 1a. Real GDP at market price

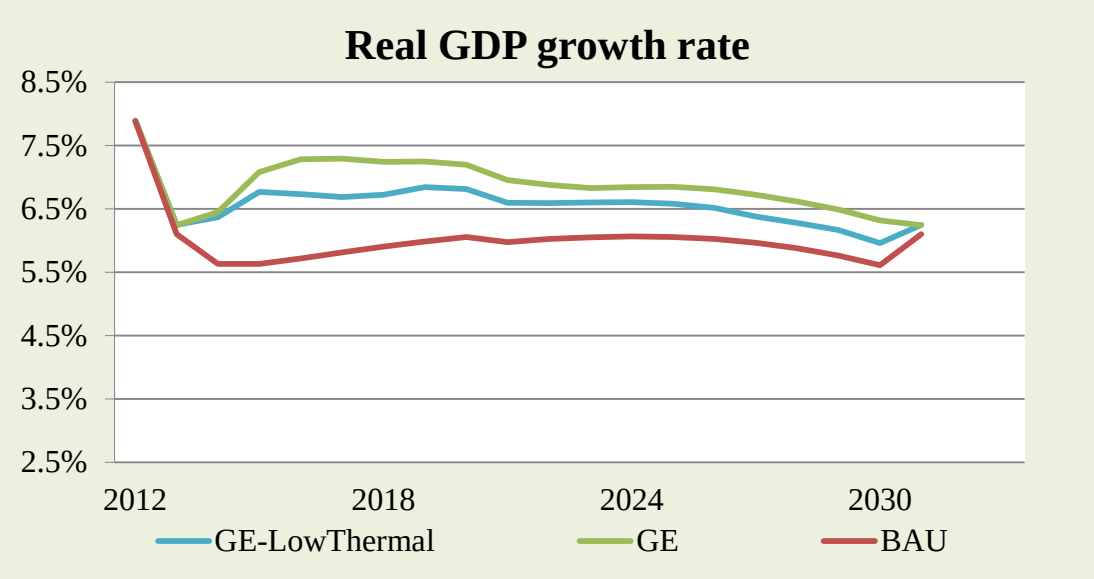


Figure 1b. Real GDP growth rate

The report also calculated and analyzed the amount of green investments required to reach target of each policy area and presented the trend in green investment as share of GDP as in Figure 2[4].

[4] [4] Integrated Assessment of the Impacts of Green Investment and Policy Reforms in Ghana, Millennium Institute, 2014

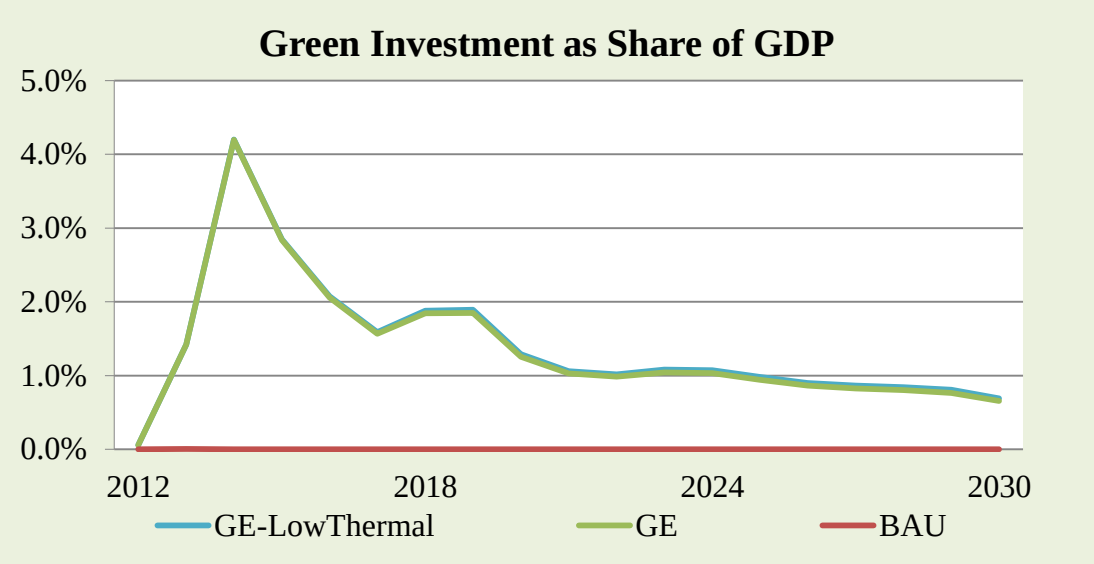


Figure 2. The trend in green investment as share of GDP

Comparing total electricity demand in the GE and BAU scenarios, the effect of economic growth on electricity demand offsets the reduction in demand resulting from efficiency improvements. Therefore total electricity demand will reach 14.7 billion kWh in 2030, still slightly higher than the BAU scenario of 14.1 billion kWh. In the GE-Low Thermal scenario, however, as GDP growth is less strong than the GE scenarios, total demand develops slower than in the BAU scenario until 2022, but then in the long run grows faster than in the BAU driven by higher economic growth. In 2030, the demand will be 14.4 billion kWh (Figure 3)[5].

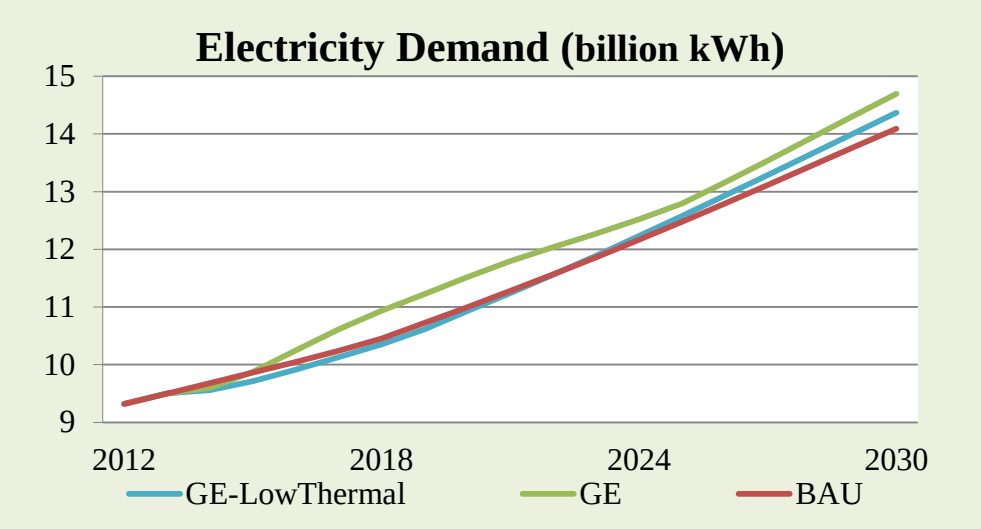


Figure 3. The trends in electricity demand in the BAU, GE and GE-Low Thermal scenarios

[5] [5] Integrated Assessment of the Impacts of Green Investment and Policy Reforms in Ghana, Millennium Institute, 2014

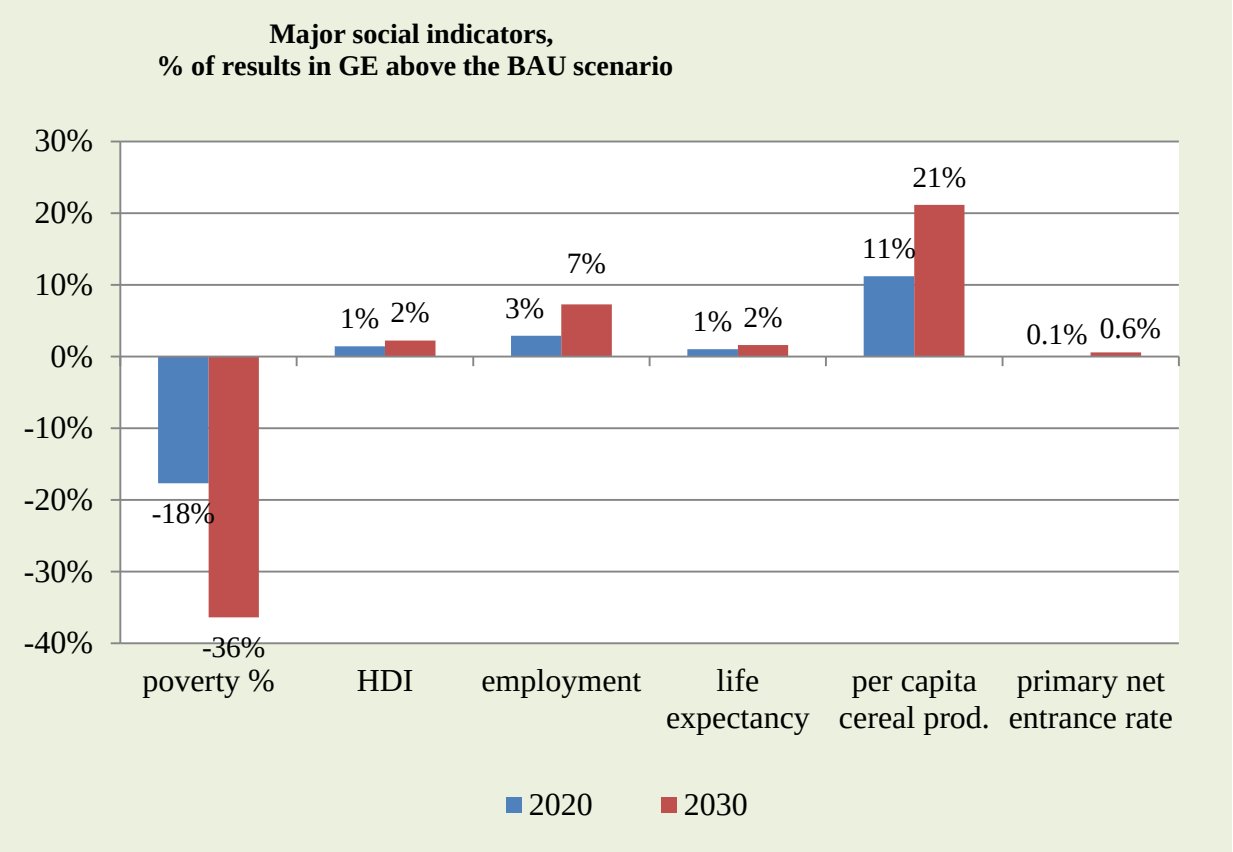
The three scenarios are expected to impact on the socio-economic aspect of the population similarly. The Social Indicators are that under Green Investments, the proportion of population below the poverty line is expected to decline to approximately 5% by 2030 as a consequence of higher real per capita national income, representing 2 percentage points below the baseline by 2030.

The GE scenario will create 0.4 million additional jobs, while (GE-Low Thermal scenario) creates 0.2 million more jobs than the BAU scenarios. It is expected that total employment will reach around 13.9 million (GE scenario) and 13.7 million (GE-Low Thermal scenario) respectively by 2030.

In relation to health, there would be a resulting increased crops productivity and harvested area, consequently the average cereal production per capita (as a proxy for nutrition level) will increase the health of the populace significantly by 10% (GE scenario) and 7% (GE-Low Thermal scenario) by 2030 compared to the corresponding BAU scenarios. Additionally life expectancy is expected to reach more than 72 years on average in the green economy scenarios, about one year longer than the BAU. Furthermore, school enrolment will increase marginally by around 0.5% in 2030, consequent of higher education expenditure per capita (allowed by higher GDP and thus total government expenditure) and average household income level.

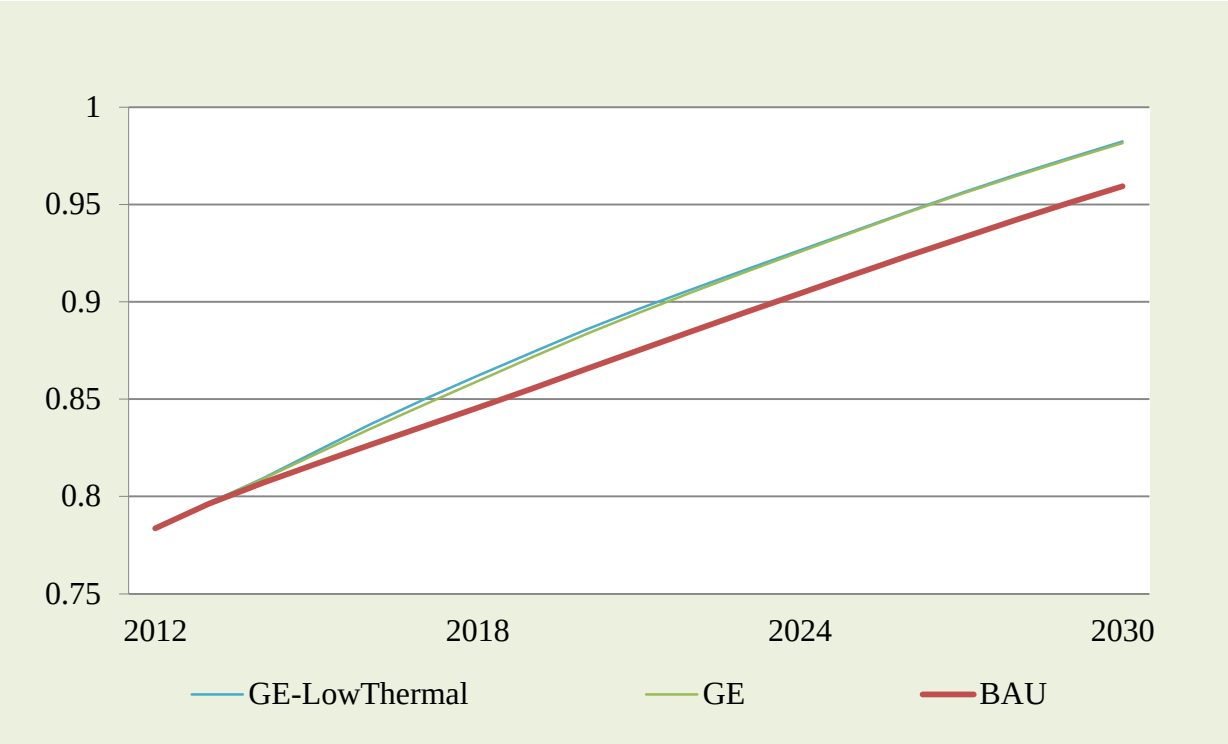
These improvements, especially in health of the population, are expected to improve the Human Development Index (HDI) of Ghana by 1.5%-2.3%. Figure 4.1 below summarizes the results of these main social indicators under the three scenarios.

Figure 4.1 **Results of the GE Scenario Relative to the BAU Case (in percentage). Selected Indicators: poverty (proportion of population below poverty line), employment, HDI, life expectancy, nutrition (cereal production per capita), and education (school enrollment)**



Furthermore, the overall MDGs performance is expected to improve during the period under review, which is driven by declining poverty rate and mortality rate but also reduced by increased emissions and deforestation in Ghana. The results of GE and GE- Low Thermal scenarios are very close as the differences in MDG scores in income and emissions largely offset each other. Generally the overall MDGs performance reaching around 0.98 in both scenarios, exceed the performance of 0.967 in the BAU case (Figure 4.2).

Figure 4.2 Trend in Overall MDGs Performance in the BAU, GE and GE-Low Thermal Scenarios



The scenarios as illustrated above further justify and validate the need and relevance of Ghana's transition to a green economy.

3.0 DESCRIPTION OF IDENTIFIED SUB-SECTORS TARGETED FOR SWITCH AFRICA GREEN PROGRAMME

Implementation of SWITCH Africa Green in Ghana will focus on three priority sectors namely Manufacturing, Tourism and Integrated Waste Management. In addition, cross-cutting themes have been identified and prioritized to include energy efficiency, labeling and standards, water efficiency, eco-innovation and sustainable trade.

The priority sectors and cross-cutting themes have been identified following a national stakeholders' consultative engagement in April 2014. Having reviewed various sectors in relation to the needs and demands for Ghana's transition to a Green Economy, the three sectors were selected on the basis of their potential to significantly contribution to realizing sustainable consumption and production practices in Ghana, contributing to overall cost efficiency and effectiveness in resource use and therefore stimulating global competitiveness and furthermore the economic importance of these sectors to the national economic and social development.,

The three sectors are described below highlighting the key pertinent aspects of the sectors:

3.1 Manufacturing Sector

The productive sector of the Ghanaian economy is broadly categorized as Agriculture, Industry and Service sectors[6]. The industrial sector contributed 27.3% to the total GDP in 2012. The sector is made up of five sub-sectors, namely Mining and Quarrying, Manufacturing, Electricity generation and distribution, Water and Sewerage and Construction. The manufacturing sub-sector share of GDP is 6.9% in 2012 and it grew by 5.0%. Contribution of the manufacturing sub-sector to the economy has also remained stagnant over the last four years and also declined with respect to its share of GDP since the mid-1970s[7].

The major components of the manufacturing sub-sector in Ghana are food manufacturing, textiles, apparel and leather goods, non-ferrous metal products, beverages, tobacco and tobacco products, sawmill and wood products and chemical products. This composition and structure of Ghana's manufacturing sub-sector has been described to reflect a manufacturing industry in its early stages of development[8] .

[6] Growth and Poverty Reduction Strategy, (GPRS II) 2005. National Development Planning Commission.
[7] The State of the Ghanaian Economy in 2012
[8] Determinants of the output of the manufacturing industry in Ghana from 1974 to 2006, Kwabena A. Anaman and Charity Osei-Amponsah

The manufacturing sector in Ghana can also be grouped according to the international classification of manufactured goods, which has nine broad categories listed as following:

Classification Number	Classification Name
01	Food, Beverages and Tobacco
02	Textiles, Apparel And Leather
03	Wood Products and Furniture
04	Paper, Paper Products and Furniture
05	Chemical Products
06	Non-Metallic Mineral Products
07	Basic Metal Industry
08	Fabricated Metal Products
09	Other Manufacturing

The industrial Census of 2003 and the 2010 population and Housing Census[9] both confirmed that the manufacturing sub-sector was the most important component of the industrial sector in terms of employment. In 2010, the manufacturing sub-sector accounted for 70% of the economically active population in the industrial sector and about 10.8% of workers in the entire economy. Efforts to increase the value of the manufacturing sub-sector can therefore lead to broad-based employment and poverty reduction through increased income among workers of that industry, given the employment capacity of that industry[10].

There are more than 25,000 firms in Ghana registered with the Registrar Generals Department, though more than 90% of them are micro and small size enterprises and around 55% of them are located within the Greater Accra/Tema region. Generally, the manufacturing sector is underdeveloped[11] and is characterized by a narrow industrial base dominated by agro-industries. On the other hand, subsidiaries of multinational companies have strong presence in the country and there are also considerable medium sized local companies.

The manufacturing sector is acknowledged as major source of environmental problems, accounting for a large proportion of green house gas emissions and hazardous waste

[9] Ghana Statistical Service 2006 and 2012
[10] The State of the Ghanaian Economy in 2012
[11] Determinants of the output of the manufacturing industry in Ghana from 1974 to 2006, Kwabena A. Anaman and Charity Osei-Amponsah, 2009

generation. The activities continue to leave tracts of contaminated sites; creating conditions that could potentially harm human health and environment.

Following the adoption of Agenda 21 and related conventions in 1992, Ghana subscribed to the comprehensive international policy statement on the need to attain sustainable patterns of development adopted globally.

The sector is faced with two key challenges. These challenges relate to (1) ensuring conservation of environmental resources in most cost efficient manner; (2) ensuring the manufacturing sector responds to trends emerging from international environmental norms and standards.

The World Economic Forum's Global Competitiveness Report (2012-13) revealed the relatively unsophisticated production processes in Ghana. However, the manufacturing industry sector of Ghana has over the years successfully implemented a number of SCP initiatives such as implementation of pollution prevention measures that include cleaner production measures and resource efficient cleaner production approaches. Nonetheless, these remain isolated examples, which urgently would need scaling up and replication.

Both the energy and water policies aim at ensuring efficient use of energy and water respectively in the various sectors including the manufacturing sector. The recent establishment of the Ghana National Cleaner Production Centre (GNCPC) provides an important foundation for this scaling up and replication of the initiatives in the various categories of the manufacturing sector; developing local benchmark practices and matrices to facilitate widespread adoption.

The Policy Initiative incorporating renewable energy sources in the Industrial Policy is expected to create business and employment opportunities as well as benefit the environment. The objectives seek to achieve reduced use of fossil fuels, especially kerosene and biomass in most rural areas, reduced green house gas (GHG) emissions levels, contributing to improved health status of people and reduced level of deforestation. The policy recognizes the importance of adequate, efficient and cost-competitive electricity and water supplies for industrial development while ensuring environmental sustainability. The policy also supports the development and implementation of energy and water efficiency and conservation programmes.

Based on OECD assistance under the Climate Technology Initiative (CTI), Ghana identified desired technologies, which have been prioritized and developed into a Technology Transfer and Acquisition Plan (TTAP). Within the TTAP three priority technologies have been selected based upon national set of criteria. The three priority technologies selected are:

a. Energy Efficient Lighting using Compact Florescent Lamps (CFL);

b. Industrial Energy Efficiency;
c. Landfill Methane Gas Recovery.

3.2 Tourism Sector

The service sector served as the key engine of growth contributing about 50% to GDP taking over the traditionally agriculture dominated economy. The Service sector also dominated the economic growth recording about 10.2% growth rate in 2012. The sector is the main channel through which the primary and secondary sectors of the economy operate. The Service Sector, which is also characterized by a large informal sub-sector, contributed about GHS 33,963 million to the Ghanaian economy in 2012, representing 50% of the GDP[12].

The Tourism sub-sector is a part of the Service Sector of the Economy. Ghana in the last decade identified and shifted focus to the Tourism Sector as a major potential foreign exchange earner for the country aside the traditional commodities such as gold, cocoa and timber. The recognition has resulted in significant improvement and expansion of tourism facilities including tourist sites, accommodation and other tourism supply establishments thus leading to increased international and domestic visitors. Currently, the sub-sector contributes about 4.3% to the national GDP.

The structure of the Tourism industry sub-sector reflects about 68% of the total accommodation establishments being budget hotels, 9% are guest houses, 19% are 1-Star and 2-Star and 1.4% are 3-Star, 0.3% is 4-Star and only two are 5-Star accounting for 0.07% and others 2%**[13].

Tourism Sub-Sector Performance Indicators

	2005	2006	2007	2008	2009	2010	2011	2012
Contribution to GDP (Million GHS)	-	-	-	1,716	2,196	2,593	3,007	3,611
Real Growth Rate	-	-	-	9.1	-3.8	2.6	3.5	13.0
Arrivals (000)	428.5	497.1	586.8	698.1	802.8	931.2	1,080.2	-
Receipt (million USD)	836.1	986.8	1,172.0	1,403.1	1,615.2	1,875.0	2,178.9	-
Employment (000)	172.8	183.2	206.1	234.7	260.0	291.2	330.5	-
Number of Hotels	1,345	1,427	1,432	1,595	1,775	1,797	2,100	-
Number of Rooms	18,752	22,835	20,788	24,410	26,047	28,058	34,200	-
Number of Beds	23,924	27,839	26,063	29,645	31,664	34,388	39,700	-

Source: Ghana Tourism Authority and Ghana Statistical Services

[12] The State of the Ghanaian Economy in 2012
[13] As of 2007, awaiting current figures

The Tourism sub-sector has gained remarkable recognition as a key service sub-sector contributing considerably to employment and income generation in recent times. The contributions to the economy through hotel and restaurants services have continued increasing over the years from as low as GHS 1,716 million in 2008 to GHS 3,611 million in 2012 with grow rate of 13% in 2012.

Subsequently, there have been efforts to promote Ghana on the global tourism market[14].The Sub-sector has shown significant growth reflecting the number of tourists arriving in the country increasing consistently from 428,530 in 2005 to 1,080,220 in 2012; generating revenue of USD 836.1 million in 2005 and increasing correspondingly to USD 2,178.85 million in 2011. Furthermore, the Tourism sub-sector also contributed to reducing the level of unemployment in the country over the years, employing 172,800 people in 2005 and 330,510 in 2011. In addition, the number of hotels increased from 1,350 in 2005 to 2,140 in 2011.

The World Economic Forum's Travel and Tourism Competitiveness Report 2011, rated Ghana relatively high for overall environmental sustainability in terms of its regulatory framework (47 out of 139 countries) and in terms of its Natural Resources (57 out of 139 countries), scoring high in particular for its Protected areas (48) but more modestly for the Quality of the natural environment (75).

In the Ghanaian context, Tourism comprises of the activities of persons travelling to and staying in places outside their usual environment, for a period of not more than one consecutive year, for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited.

A 15-Year National Tourism Development Plan (2013-2027) assesses how tourism can contribute to national and local economic development and enhance its role as a leading sector for employment creation, revenue generation, environmental conservation and national cohesion and overall economic growth[15].

National Tourism Development Plan (2013-2027) reckoned tourism development causes environmental problems that damage the nature base and affect the quality of life of local residents.

[14] The State of the Ghanaian Economy 2012

[15] National Tourism Development Plan (2013 to 2027).

The 1996-2010 National Tourism Plan explained that Ghana faced several environmental problems as a result of some traditional socio-economic practices, modern efforts aimed at utilizing the natural resource base for further economic advancement, the rapidly increasing urbanization of the country, and general population pressure on use of resources'.

The National Plan considered that existing tourism development and activities associated with tourism in Ghana are causing pollution and damaging the environment. It identified:

- inadequate sewage waste disposal with resultant surface and ground water pollution
- improper human waste disposal in and near some attraction site
- littering at some attraction features
- poor siting and design of some tourist facilities; and
- poaching of animals and plants, removal of trees and agricultural encroachment in national parks and reserves by local residents

The concern is the impact of coastal environmental problems in general on future tourism potential[16]. Sanitation is a major problem in Ghana. The World Economic Forum in its Travel and Tourism Competitiveness Index Report 2011 measured Access to adequate sanitation expressed as a percentage of the total population based on World Health Statistics collected in 2010. Ghana was ranked 128 out of 139 countries (with1 being the top ranking).

The tourism industry is also defined as those firms, organizations and facilities that intentionally or incidentally provide facilities and services for tourists, to cater for their needs from the time of planning for their trip through their return home.

The structure of the industry reflects the Ministry of Tourism, Culture and Creative Arts as the policymaking body for Ghana's tourism industry, with its implementing agency being the Ghana Tourist Authority (GTA). The Ghana Tourism Federation (GHATOF) is the umbrella association for private sector tourism organizations and their affiliates and the private sector operatives of tourism establishment and businesses operating as hotels, travel agents, tour operators, car rental companies, restaurants and nightclubs all over Ghana.

The objective of the tourism policy of Ghana is to develop tourism as a leading socio-economic sector of the country with, internationally competitive tourist destination, within the framework of maintaining permanent sustainability. The basis of the policy framework includes the following:

[16] National Tourism Development Plan 2013-2027

- Tourism would be developed as one of the major socio-economic sectors of the country, generating substantial foreign exchange earnings, income, employment, and government revenues and appreciably raising the living standards of the Ghanaian people equitably. Tourism will be used as a means to strengthen the economies of both the urban and the rural areas.
- Additionally, tourism would serve as catalyst for the expansion of other sectors of the economy, and support payments for improvement of the country's infrastructure.
- Tourism would be developed in a manner that helps to achieve preservation of the country's cultural, historical, and environmental heritage; and thus serve as a means to present Ghana's unique cultural and historical heritage to the domestic and international communities.

The specific strategies identified to achieve the policy objectives of developing tourism industry for jobs and revenue generation include the Promotion of sustainable and responsible tourism in such a way to preserve historical, cultural and natural heritage; particularly developing sustainable ecotourism, cultural and historical sites; and ensuring the elimination of incidence of sex abuse and the spread of sexually transmitted diseases via the tourism industry.

3.3 Integrated Waste Management

3.3.1 Waste Sector

Ghana generates about 4.5 million metric tonnes of solid waste a year[17]./ Improper waste management can have significant impact on water quality and public health. The prevalence of untreated waste in the urban areas has already contributed to cholera outbreaks and an increase in mosquitoes breeding sites. Emissions of GHG from the waste sector have been increasing since 1990 mainly because of increasing per capita solid waste generation and population increases, especially in urban areas. On average, the waste sector is estimated to contribute 10 per cent of all GHG emissions between 2000 and 2006. Solid waste disposal on land constituted the major (over 72 per cent) source of GHG emissions in 2006.

Waste management in Ghana falls under various acts and regulatory instruments. However, the main policy framework governing waste management in the country is the revised 1999 Environmental Sanitation Policy (ESP). The policy aims at

[17]

improving access to hygienic toilets; implementing active sanitary inspection and vector control programmes to control the incidence of vector-borne diseases; and at enforcing all environmental standards and sanitary regulations. The revised ESP also promotes public private-partnerships (PPPs) for waste management.

The policy reckoned all human activities produce solid and liquid wastes, which include municipal waste, agriculture waste, wood processing waste, hazardous waste and electronic waste. Therefore the policy strategies look at how best solid and liquid wastes can be disposed of in environmentally friendly manner[18].

Furthermore, the Ghana Shared Growth and Development Agenda 2010-2013 (GSGDA) also stated that over-population in urban areas has direct bearing on human health in Ghana especially relating to waste management problems and weakness in basic sanitation. Policy considerations have included waste management hierarchy structurally defined as Reduce, Re-use, Re-cycle, Recover and Disposal.

The efficient management of waste is critical for environmental management in Ghana. Waste management policies, strategies and practices are required:

3.3.1.1 To reduce and manage waste generated in urban areas as a result of residential and economic activity;
3.3.1.2 To regulate and monitor waste production, enforce waste control measures and consolidate waste management under metropolitan, municipal and district assemblies;
3.3.1.3 To set targets to minimize waste generation at the different levels;
3.3.1.4 To promote a hierarchy of waste management practices, namely reduction of waste, reuse, recycling and safe disposal as the last resort;
3.3.1.5 To provide special training and control the generation and disposal of toxic waste and hazardous materials;
3.3.1.6 To promote the adoption of waste-to-energy practices;
3.3.1.7 To educate the general public on littering;
3.3.1.8 To control the importation of aged materials that easily converts to hazardous waste;
3.3.1.9 To provide incentives to adopt affordable and appropriate technologies in waste management;
3.3.1.10 To promote and nurture sound partnerships between and among government, communities and the private sector in the development

[18] National Environmental Policy

of an integrated sanitation delivery system and to foster the supplementary role of NGOs in the urban areas;

3.3.1.11 To introduce effective policies and incentives to encourage waste producers to adopt cleaner production processes and minimize waste generation.

3.3.2 Pollution Prevention and Control

The policy strategies emphasize Ghana Government ensuring that the existing sanitation laws are properly enforced by relevant authorities and offenders face the appropriate penalties; old recycling plants be rehabilitated and where possible, replaced with new ones in every district.

3.3.3 Environmental Research and Innovation

The policy objectives included the following:

- To develop strategic environmental research, which aims at identifying the social, economic and technical factors influencing resource and environmental management;
- To support research on appropriate technologies and innovation for environmental management;
- To combine existing traditional systems of research and learning with a new system, this incorporates both modern and traditional components;
- To allocate adequate resources to respective Institutes of the Council for Scientific and Industrial Research (CSIR), tertiary institutions and analogues institutions to perform their roles in environmental research.

In relation to integrated waste management, various opportunities exist for green investments especially in industry and electricity sub-sectors to bring more social, economic and environmental benefits to the country. The Policy instruments to support green energy development and especially to increase the renewable energy revenues should include:

3.3.3.1 Strict implementation of the renewable energy Feed-in- Tariff (FiT) policy; *legislations,* banning the production/ importation and use of inefficient electrical appliances, especially old appliances;

3.3.3.2 *Standards and regulations* such as Renewable Portfolio Standards, which require electricity producers to generate a certain percentage

of their electricity needs from renewable energy technologies (e.g. solar PV or wind turbines);

3.3.3.3 *Subsidies* for households purchasing renewable energy technologies;

3.3.3.4 *Tax waivers and other incentives* for all renewable energy technologies imported into the country for electricity generation to reduce their selling prices; introduction of high taxes on non-renewable electricity generation sources such as diesel generators, mini-thermal plants; removal of fossil fuel subsidies; and

3.3.3.5 *National reward schemes* for individuals and organizations utilizing renewable energy sources for the bulk of their electricity needs.

Waste management provides employment for the population in both urban and rural areas. For example, the need for proper waste management has led to the emergence of waste management companies, such as Zoomlion Ghana Limited. In 2011, this company had a core staff of 3000 and ground staff of 65 000, together with other waste contractors.

3.4 Cross-cutting Themes

The cross-cutting themes are identified to include energy efficiency, labeling and standards, water efficiency, eco-innovation and sustainable trade. These themes provide broader opportunities for environmental sustainability in all the three selected focal sectors; hence their consideration.

3.4.1 Energy efficiency

Energy use and consumption is acknowledged to be extensive and significant across all the selected priority sectors. Promotion of energy efficiency is therefore identified to be crucial to the sectors and it emphasizes the positive impacts this will have on MSMEs through cost reduction and material recovery thus supporting the transition to greening their processes and the economy as a whole. In Ghana, this would involve the implementation of the RECP programme in the manufacturing, tourism and integrated waste management sectors to enhance energy efficiency in industries and facilities. Energy Efficiency is one of the deliverables under 2020 targets of the African-EU Energy Partnership.

3.4.2 Labelling and Standards

Labelling and standards are identified as cross-cutting area vital to all the selected sectors, which is relevant for the promotion and development of local green product schemes. Eco-labels provide indication of how well a product or service is

environmentally adapted. In Ghana, green products are still niche product areas and consumer awareness and readiness to recognize such value are still low. However, there are opportunities to expand market share or access to new international markets for sustainable products.

However, innovation capacity is limited, patchy and requires concerted support. In view of securing recognition of sustainable African products in overseas markets including the EU; the EU has been supporting a number of eco-labelling programmes in Africa (including leather industry in Kenya).

3.4.3 Water efficiency

Water usage is also identified as cross-cutting area in all the selected sectors. The demands for freshwater especially for industrial and commercial uses have increased significantly during the past two decades. The increasing demand reflects in the various sectors impacting on economic growth and development, improved standards of living, growing populations and increasing consumption by the populations and expanding industries of the priority sectors including tourism, manufacturing and agriculture.

Frequent droughts leading to water scarcity, decreasing rainfall and rising temperature have emphasized the need to promote water saving initiatives across all sectors.

3.4.4 Eco-innovation

Ghana, among other countries in Africa, is faced with the absence of up-to-date resource efficient technologies; and often relying on other countries to access knowledge, expertise and acquire technologies to adopt and implement cleaner production techniques. Eco-innovation has been identified to offer opportunities to stimulate the implementation of RECP in the target sectors in order to promote environmentally sustainable growth. There is also the opportunity for effective linkages developed between SAG and the current EU-funded project on eco-innovation.

3.4.5 Sustainable trade

Green economy measures create opportunities for penetrating new markets and enhancing trade in environmental goods and services. On the other hand, the cross-sectoral discipline of identifying and harnessing sustainable trade opportunities feeds into the promotion of environmentally sound production processes, improved resource efficiency, creating incentives for increased investments in green

technologies, and contributing to green job creation. In this way, sustainable trade boosts the transition to a green economy.

In general, the approach would focus specifically on growing "green" sectors and enhancing domestic and international market opportunities for resource efficient, green goods and services and supporting local entrepreneurs starting up and developing green business ventures. Furthermore, the approach could focus on awareness and capacity building for MSMEs to apply SCP practices particularly in the target sectors, which have higher potential for job creation and social inclusion.

4.0 SITUATION REVIEW

4.1 Policy Gaps

The current pattern of development in Ghana contributes to environmental degradation and progressive loss of natural capital stocks and ecosystem services resulting from poor natural resource management, which is estimated at cost of about 10 per cent of national GDP (IMF & GoG, 2012). In addition, climate change impacts, such as increased frequency of floods and droughts, are already having dramatic impacts and consequences for the Ghanaian population and economy.

There are disturbing environmental trends relating to the depleting natural resource stocks, which constitute essential factor of the national economy and a source of livelihoods for local communities, especially in the poorest areas of the country. For example, indiscriminate deforestation and unsustainable management of forest resources have led to a rapid degradation of forest ecosystems and progressive reduction of forest cover; consequently the loss of forest stocks has accelerated desertification, and it is estimated that 35 per cent of the national territory is prone to desertification and/or degradation.

In this regard, the Government of Ghana has over the years been implementing policies, strategies and programmes aimed at improving environmental protection and sustainability.

Apparently, Ghana has a number of policy direction and initiatives in line with greening the economy. However, a key policy gap in Ghana's transition to Green Economy has been identified as the absence of a well-defined Green Economy model the country intends to pursue, which would provide policy directions, strategic interventions and options for the country.

An assessment of Green Economy in Ghana identified several enabling conditions necessary for Ghana's transition to Green Economy[19]. The conditions, which generally cut across the various sectors are listed to include:

4.1.1 Regulations and Standards including adoption and enforcement of standards and voluntary sustainability initiatives;

4.1.2 Economic and Fiscal Policy Instruments addressing international trade, reforming subsidies and revising tariffs and taxes structures;

[19] Ghana GE Assessment Report, ISSER July 2015

4.1.3 Financing instruments, potential sources of funds and partners relating to green finance initiatives, annual budgetary allocation for green investments and favourable investment climate and risk reduction instruments;

4.1.4 Institutional and Policy Processes to support reform in respect of sustainable public procurement, capacity and awareness campaign for green economy, monitoring and evaluation, institutional collaboration and stakeholder engagement and good governance and strong political will.

4.2 Policy Reforms

The transition process to Green Economy requires the creation of key enabling conditions for sustainable consumption and production practices (UNEP, 2011). Generally, countries in pursuit of sustainable development and poverty eradication require variety of policy instruments to facilitate the process.

Policy instruments may include fiscal incentives and disincentives, targeted public investments, and sound regulatory frameworks, which may contribute to shaping future trends and orienting the economy towards achieving sustainability and inclusiveness of development goals.

The Ghana Fiscal Policy Study[20] reviewed the status of the fiscal policy in Ghana with the purpose of identifying potential fiscal space for green economy initiatives, thereby supporting the transition to a more sustainable and inclusive economy.

An Environmental Fiscal Reform (EFR), recognized as the taxation and pricing measures increasing public revenues to finance transition to green economy, while advancing environmental and sustainable development goals, has been considered to reform two key elements of public finance management, identified as:

4.2.1 Tax revenue systems, through measures that internalize social and environmental externalities by increasing taxes on environmentally harmful products and production processes, while possibly reducing taxes on activities and products that are beneficial to the environment and society

4.2.2 Public spending strategies and approaches, through the phasing out of potentially harmful subsidies and the reallocation of investment priorities in order to level the playing field for green products and businesses, and to support clean technology development and inclusive, sustainable growth.

[20] Green Economy Fiscal Policy Scoping Study, UNEP, 2014

Four priority areas of intervention are recommended to guide environmental fiscal reform[21] in Ghana. These include:

4.2.3 *Addressing environmental externalities and existing market failures:* EFR policies should pursue the reform of market incentives so as to ensure that prices of goods and services reflect the cost of environmental and social externalities.

Market failures may be addressed by governments using variety of fiscal and other market-based instruments, such as environmental taxes to provide incentives to reduce emissions and natural resources use efficiency. At the same time stimulating innovation and research on alternative products and production processes.

4.2.4 *Limiting government spending in areas that deplete natural capital***:**
EFR might seek to reduce public spending in the sectors and activities damaging natural capital and ecosystems.

4.2.5 *Promoting investment and spending in areas that stimulate the green economy***:,**
Governments might directly support the development of green sectors, green jobs and green infant industries by introducing fiscal incentives to stimulate investments and innovation towards environmentally friendly activities. Also Government may reform public procurement to commit to purchasing goods that meet certain sustainability criteria.

4.2.6 *Establishing sound regulatory frameworks*:
A sound regulatory framework is needed to effectively implement and enforce EFR to create the rights and incentives that drive green economic activity, remove barriers to green investments, increase the confidence of investors and markets, and regulate the most harmful forms of unsustainable behaviour.

Overview of EFR in Ghana has indicated that the government of Ghana has demonstrated commitment to undertake substantial EFR policies in order to address current and projected environmental challenges[22]. According to the Green Economy Fiscal Policy

[21] Green Economy Fiscal Policy Scoping Study , UNEP, 2014
[22] Green Economy Fiscal Policy Scoping Study, UNEP, 2014

Scoping Study report, in 2013 the government formed an EFR working group to review fiscal instruments that can be used to raise revenue for addressing environmental problems in Ghana (GoG, 2013). The environmental fiscal reforms considered include:

4.2.7 *Taxation measures* relating to specific taxes introduced to encourage environmental protection, notably a tax on plastic (introduced with the 2011 Budget and Economic Policy Statement) and penalties on over-aged vehicles. It is recognized that environmental tax revenues remain small in Ghana and make limited contribution to opening up fiscal space. However, the taxes can still be effective in changing behaviour in line with environmental objectives.

4.2.8 *Targeted incentives* have been provided to stimulate investments in green sectors and purchase of environmental friendly goods and services; (e.g. feed-in tariffs on renewable energy introduced by the 2011 Ghana Renewable Energy Act, and targeted financial support programmes for the purchase of energy efficient appliances).

4.2.9 *Reform of environmentally harmful subsidies* implemented to include removal of subsidies on fossil fuels in order to create additional fiscal space for sustainable development policies (IMF, 2013) and a decrease in subsidies on electricity and water. However, significant subsidies remain on crop and fish production.

The Ghana Fiscal Policy Scoping Study Report further presented proposals for fiscal policy intervention in Ghana**.** The proposal includes:

4.2.10 The Government carefully assessing EFR interventions and aligning them with national sustainable development priorities, as well as global EFR best practices and guidelines.

4.2.11 Environmental externalities internationalized, through additional tax measures possibly framed to distribute costs and benefits in an inclusive and equitable manner.

4.2.12 Removal or phasing out of harmful subsidies (for example, on electricity and agricultural inputs), carried out through a systemic approach to minimize negative impacts and avoid side effects.

4.2.13 Adoption of longer term visions, considering short, medium and long term effects of policy reforms.

4.2.14 Introduction of incentive measures to stimulate private investment in green sectors, especially in business areas, such as renewable energy production and distribution, which require high upfront costs.

However, the need for green economy learning in Ghana to build the capacity of national learning institutions to support ensuring that decision makers inside and outside government can take ownership and drive a green transition has been identified as a priority under the PAGE programme. Training activities beyond project-driven learning to create knowledge in green economy modeling and assessment, valuing natural capital and ecosystem services and advancing resource efficiency have been proposed. Often the national and local decision-makers are not familiar with these areas, yet they are relevant for greening national economy, sectoral activities and thematic policy analysis, reform and implementation.

4.3 Sector Specific Analysis

Presently, there have been interventions proposing and recommending varied sectors and sub-sectors to scope the transition to Green Economy based on various studies. The Green Economy Assessment[23] identified initial key sectors for Ghana's transformation to a Green Economy to include agriculture (Cocoa and Fisheries sub-sectors), Forestry, and Industry (Energy). Consequently, policy reviews and strategic interventions have been recommended for the target sectors, which defined areas and focus of development of green initiatives.

4.3.1 Needs and Priorities for Policy Support

Generally, the needs for policy support and priorities are proposed to include:

4.3.1.1 Updating policy and expanding energy, water, natural resource use and waste management laws, regulations, guidelines, codes, standards in the energy, manufacturing, tourism, housing sectors in conformity with recommendations of the Sustainable Development Action Plan (SDAP) and Green Economy Assessment introducing Executive Instruments for policy directives;

4.3.1.2 Emphasizing renewable energy technologies in the energy generation mix and energy efficiency measures

4.3.1.3 Providing direct financial interventions to private/industry sectors to implement SCP and GE project deliverables and for the development/start-up of new green businesses.

4.3.1.4 Mainstreaming the SCP and GE energy policies developed into the National Development Plan

[23] Ghana Green Economy Assessment Report

4.3.2 Needs for Fiscal Policy Review and Reforms for Private Investment

4.3.2.1 Updating and expanding the energy, water and natural resource use and waste management policies, laws, regulations, guidelines, codes, standards in the sectors mentioned and other sectors in conformity with recommendations of the Sustainable Development Action Plan and Green Economy Assessment; stimulating private investment;

4.3.2.2 Introduction of mixed economic instruments and financing mechanisms to support SCP uptake of the private sector operatives for existing and new businesses; promoting energy, water and natural resource use efficiency;

4.3.2.3 Provision of Executive Instruments in the form of subsidies for the development and uptake of indigenous knowledge and technologies in renewable solutions;

4.3.2.4 Creation of waste-to-energy hubs in wood processing enclaves and promotion of the production of briquettes from wood waste as well as every waste from lumber through saw milled products; e.g. ethanol and charcoal;

4.3.2.5 Up-scaling/expansion of selected existing renewable (biomass) energy generators (waste-to-energy) in the agro-processing (palm oil, cashew nut, pawpaw, pineapple, mango etc.) and general reduction in waste generation (alternate use of waste as resource) by manufacturing companies;

4.3.2.6 Mandatory water and energy efficiency audits and compliance for high water and energy consuming manufacturing industries with clear public disclosure process.

4.3.3 Needs & Priorities for Green Business Development

4.3.3.1 Promotion and investment in renewable energy technologies and integrated waste management technologies including solar, biogas, natural sunlight, e-waste and others.

4.3.3.2 Promotion and investment in simple technologies for energy use reduction and efficiency and efficient natural resource use (including sky-lighting, energy efficient motors, energy wastage elimination devices, energy efficient wood cook-stoves, water efficient devices introducing sensors and efficient material use devices);

4.3.3.3 Up-scaling/expansion of capacity of selected existing renewable (biomass) energy generators and users in the wood processing sector (e.g. waste-to-energy turbines, furnaces etc.

4.3.3.4 Development of local capacities in the installation, operation and maintenance of renewable energy technologies; waste management technology; material efficiency management;

4.3.3.5 Development and enforcement of energy, water and resource use management standard, guidelines and codes, and also training of energy auditor; resource efficient and cleaner production consultants and service providers

4.3.3.6 Enriching and expanding renewable energy technology, resource efficient and cleaner production courses in the three Polytechnics and Universities to produce the needed technicians and competences.

4.3.3.7 Expansion of the sky-lighting product manufacturing and encouraging setting up new ones to meet the expected demand from industry and warehouse energy requirements.

4.3.3.8 For the agro-processing industry the waste from the mango, pineapple, pawpaw, cashew and palm nuts may be considered for biogas generation to power dryers and boilers;

4.3.3.9 For on-going RECP projects, installation of meters, capacitor banks, retooling and/or replacement of inefficient motors, boilers and energy efficient lighting have been proposed;

4.3.3.10 Wood processing waste management may entail aggregating saw mills in Kumasi and Akim Oda into power enclaves and the saw dust from the various mills are used to power a 1.0MW power plants for distribution to the associated saw mills;

4.3.3.11 Promote green jobs through the establishment of collection centres and dismantling /recycling facilities for in-country generated electronic waste;

4.3.3.12 For the hospitality and housing sectors, a combination of approaches have been proposed to include:

4.3.3.12.1 Substitution of primary sewage treatment plants of existing 3-5 star hotels with biogas plants and all new hotel applications required to install biogas plants; with the generated gas fed to kitchens and for external lighting purposes;

4.3.3.12.2 Adoption of solar heaters for all the hot supply systems;

4.3.3.12.3 Mainstreaming the use of electronic key power control systems in rooms, use of shadow sensitive lighting in corridors, mainstreaming the use of energy saving bulbs.

4.4 Description of the Current Situation of the Selected Sectors

4.4.1 Manufacturing Sector

The Industrial Policy considers environmental sustainability as a cross cutting issue under component four of the thematic areas. The policy recognizes that pursuing industrial development has implications on the environment and that there is the challenge ensuring that Ghana's industrial development is pursued in an environmentally sustainable manner. Consequently, the policy direction promotes the development of the manufacturing sector in a sustainable manner.

The policy context establishes achieving increasing production whilst safeguarding the environment by introducing environmentally friendly technologies and improved manufacturing processes[24].

The policy objective therefore seeks to ensure environmentally sustainable industrial production and the strategy prescribes Government facilitation of development programmes including:

4.4.1.1 Promoting efficient use of raw materials, energy and water in industry;

4.4.1.2 Supporting industry adopting cleaner production technologies and improved manufacturing process;

4.4.1.3 Strengthening the capacity of regulatory bodies to enforce environmental regulation as well as effectively monitoring manufacturing processes;

4.4.1.4 Ensuring the promotion of relevant ISO standards on environmental management; and

4.4.1.5 Encouraging industry to develop and implement self-regulatory measures on environmental management.

Furthermore, the Policy strategies outlined in the Industrial Sector Support Programme 2011 -2015 promotes Environmental Sustainability Initiative, which has the following four objectives[25]:

4.4.1.6 Environmentally sustainable industrial production and development ensured;

4.4.1.7 Environmental standards and regulations aligned with technological innovations and manufacturing processes in industry;

[24] Ghana Industrial Policy

[25] Industrial Sector Support Programme 2011 -2015

4.4.1.8 Firms assisted to improve environmental performance through more efficient operations;

4.4.1.9 Compliance with relevant environmental regulation is ensured by manufacturing firms.

The outputs of the Initiative are determined to include:

4.4.1.9.1 Cleaner Production programmes developed to promote the efficient use of raw materials, energy and water in industry;

4.4.1.9.2 Industry supported adopting cleaner production technologies and improved manufacturing process;

4.4.1.9.3 Industry supported to implement environmentally sound waste disposal practices;

4.4.1.9.4 Capacity of regulatory bodies strengthened to enforce environmental regulations as well as effectively monitor manufacturing processes;

4.4.1.9.5 Adoption of relevant ISO standards on environmental management within industry promoted;

4.4.1.9.6 Industry encouraged developing and implementing self-regulatory measures on environmental management.

The strategic Initiative is based on substantially increased share of renewable energy supply in Ghana's energy mix and introduced alternative technologies for cleaner, efficient and sustainable energy for manufacturing, including bio-fuels, wind and solar energy as a means of achieving environmentally sustainable industrialization. The focus is on manufacturers encouraged to replace their existing production technologies with cleaner production technologies that minimize waste, energy consumption and emissions during production as well as ensure environmentally sound waste disposal practices.

On the other hand, the Environmental Sustainability Initiative as described seeks to equip and strengthen the capacity of service providers including regulatory bodies, such as the Environmental Protection Agency and the Department of Factories Inspectorate to implement programmes that provide manufacturing firms with technical assistance and financial intermediation. Firms would be encouraged to adopt and implement the ISO 14001 environmental management system.

The key policy gaps have been identified to include specific instruments, framework and incentives, which translate the policy initiatives to support for the adoption of sustainable production practices. Such specific instruments, framework and incentives are necessary to operationalizing and implementing the policy initiative.

Furthermore, the programme did not recognize the Ghana National Cleaner Production Centre and its potential role to contributing significantly in achieving sustainable production.

4.4.2 Tourism Sector

The Ghana Shared Growth Development Agenda provides four (4) Policy Objectives for the Tourism Sector, which align with sustainable development principles including inclusiveness and poverty reduction. The objectives include the following:

4.4.2.1 Diversified and expanded the tourism industry for revenue generation;

4.4.2.2 Domestic tourism promoted to foster national cohesion as well as redistribution of income;

4.4.2.3 Sustainable and responsible tourism promoted in such a way to preserve historical, cultural and natural heritage;

4.4.2.4 On-going Institutionalization and internalization of policy formulation, planning and monitoring and evaluation at all levels deepened.

The Ghana Tourism Development Plan 2013 - 2027 recognizes the National Environmental Policy document, which identifies key sectoral and cross-cutting policies controlling and guiding each sector to develop and operate in sustainable manner.

The Policy Document recognized that the development of the tourism sector is associated with serious environmental impacts on fragile ecosystems such as beaches, mangroves, and so on as well as natural resource use, water use and energy use. Therefore the policy concerns have centred on promoting sustainable and responsible tourism in such a way to preserve historical, cultural, natural heritage and improve energy, water and natural resource use efficiency..

Apparently, tourism development causes environmental problems that damage nature base and affect the quality of life of local inhabitants. Although there have been some improvements since 1996 in this regard, there are many on-going issues that remain to be resolved.

The following issues have been noted:

4.4.2.5 littering, pollution and environmental degradation at certain sites and areas popular with tourists;

4.4.2.6 poor waste management by tourist firms
4.4.2.7 deteriorated and poorly maintained historical buildings
4.4.2.8 depletion of natural resources at tourist areas such as extracting sand from the beaches and cutting mangroves and forests
4.4.2.9 overcrowding at popular sites

Environmental damage is also caused by local communities living near the beaches, forests and inland tourism attractions for the following reasons:

4.4.2.9.1 poor management by tourism enterprises operating in these areas,
4.4.2.9.2 tourists not respecting local rules and regulations and
4.4.2.9.3 development from other economic sectors, in particular the oil and gas and the mining sectors.

Ghana recently reviewed the policy and management sections of the Tourism Policy document. A theme and objective proposed in the policy document to drive the work of the Ministry of Tourism and its implementing agencies is the Tourism Resources Management and Protection, which is seeking to effectively manage and conserve the cultural, environmental and historical resources of Ghana, balancing economic utilisation with sensitivity, preservation and conservation.

However, a crucial sustainability concern in the Tourism Sector is the Coastal Zone Management and Ecotourism.

The Collaborative Actions for Sustainable Tourism (COAST) project Ghana study[26], which focused on policy, regulations and other management mechanisms, acknowledged that the principles of sustainable tourism are well understood in Ghana. Indicating that the policy framework is sound, stemming closely from the national policy for sustainable development and poverty reduction. Tourism and environmental policies are in harmony and recognize the important link between the two areas.

However, the study further identified that while there is no need to alter the main policies, yet the policy gaps reveal the lack of recognized integrated coastal zone management strategy or coordinating structure.

Consequently, suggestions were made to strengthen governance and management processes for sustainable coastal tourism, which included:

[26] COAST Governance and Management Study – Ghana Country Report; UNWTO – UNIDO Study on Mechanisms for Sustainable Tourism Governance and Management in Coastal Areas

4.4.2.10 Strengthening inter-ministerial and public-private liaison structures
4.4.2.11 Producing a position statement on sustainable coastal tourism
4.4.2.12 Establishing an Integrated Coastal Zone Management structure and plan
4.4.2.13 Clarifying roles and structures of Regions, Destination Management Organisations (DMO) and District Assemblies in delivering sustainable tourism;
4.4.2.14 Preparing a template for District tourism plans and their implementation, covering content and process and taking account of coastal issues;
4.4.2.15 Strengthening capacity and resources at the local level to deliver sustainable tourism;
4.4.2.16 Further developing the guidelines on EIA requirements for tourism, taking account of the coast;
4.4.2.17 Working with Ghana Tourism Federation (GHATOF), Ghana Hotel Association (GHA), Tour Operators Union of Ghana (TOUGHA) and other stakeholders to establish responsible operational standards for tourism enterprises, which link to advisory services, environmental audit and rating requirements;
4.4.2.18 Strengthening coordination and capacity of inspection processes
4.4.2.19 Strengthening work with coastal communities on awareness raising, skills development and environmental improvement;

Ghana has a relatively long history of local community tourism initiatives, the majority started-up with the assistance of foreign NGOs. In the early 1990s, USAID, the US Peace Corps and SNV initiated several ecotourism and community-based tourism activities, especially around the Cape Coast area and the Kakum National Park. Nature Conservation Resource Centre (NCRC), an environmental and nature conservation NGO, started developing and promoting ecotourism and set up the Ghana Rural Ecotourism and Travel Office (GREET) in 2008.

GREET's role is to:

- Provide up-to-date information on rural ecotourism destinations to tourists and potential investors;
- Market and promote collaborating rural ecotourism destinations
- Build partnerships among communities, private investors, government and non-governmental agencies, thereby supporting the mediation, negotiation and brokering needs of such partnerships;

- Network and serve as a central help desk for communities through lobbying, advocacy and provision of advice
- Vet and accredit agreed ecotourism standards for rural ecotourism destinations and tour operators utilising these destinations;
- Collect and analyse sub-sector data on agreed indicators for rural tourism destinations.

The development goals and objectives guiding the tourism development strategy reflect Government of Ghana's aspirations expressed in the Ghana Shared Growth and Development Agenda (GSGDA).

These are captured in the Ministry of Tourism's Vision and Mission. Thus the overarching goals are: to contribute to the country's economic wealth, reduce poverty, conserve the environment, promote sustainable development and practice, foster national cohesion, and achieve greater GDP growth.

The goal is envisaged to be achieved by:

4.4.2.20 creating a conducive and favourable environment for sustainable growth and development ensuring the sector greatly contributes to GDP;

4.4.2.21 effective and efficient use of appropriate policies

4.4.2.22 developing corporate planning programmes and projects as well as public private partnership

These overarching goals are enhanced by the following specific goals and objectives:

4.4.2.23 *Planning and development goal:* to develop tourism in a planned and sustainable manner driven by;

- formulating a phased spatial plan to guide the distribution and nature of tourism development
- proposing improvement and expansion of existing attractions and assets and developing new attractions
- exploiting the opportunity of planned infrastructure development and influencing development priorities
- encouraging sustainable and responsible development that protects the natural, cultural and historical resources of the country

4.4.2.24 *Business development goal*: to improve and expand commercial tourism facilities and services driven by;

- supporting the development of SMEs;
- promoting and supporting investment in tourism plant and products;
- building the human and institutional capacities of the sector to provide high quality services;
- maximising opportunities for local communities to participate in tourism through supply and value chain linkages;
- promoting sustainable consumption of resources such as water and energy and encouraging appropriate disposal of solid and liquid waste as well as recycling;
- ensuring quality of services and products offered by the business community by providing guidelines on standards, extension services, training and enforcement of regulations.

4.4.2.25 *Marketing goals*: to diversify tourism source markets and market segments driven by:

- developing a positive and sought-after tourism brand identity and improving Ghana's tourism image locally and abroad
- ensuring consistent application and promotion of a common brand identity by all public and private tourism stakeholders
- adopting a targeted marketing approach
- diversifying the product base to match the needs of the different markets and market segments (providing value for money)
- intensifying public-private partnership in marketing and promotion
- establishing a presence in key source markets
- developing promotional tools and materials as per the key markets and segments
- monitoring and evaluating the results of marketing activities by conducting market research at regular intervals

It is apparent that the Tourism Development Strategy has not explicitly reckoned the promotion of eco-labeling and standards and eco-entrepreneurship to diversify the market and marketing strategy; these therefore constitute considerable policy gaps in the development strategy

and needing attention in line with the identified cross-cutting thematic area of the SWITCH Africa Green programme.

4.4.3 Integrated Waste Management

Unsustainable waste management in Ghana is creating considerable environmental damage,[27] considering that the annual rate of solid waste generation increased dramatically in the recent years, going from 7,000 metric tons/day in 1996 to about 13,800 metric tons/day in 2011 (GoG, 2013).

Inefficient industrial waste management, inadequate domestic sanitation and improper disposal of municipal waste, poor enforcement of existing sanitation laws, obsolete waste recycling plants, as well as illegal dumping of solid, liquid and e-waste are all contributing factors to the high level of waste pollution in the country (GoG, 2012a). In particular, improper waste disposal is causing the degradation of ecosystems, such as mangroves and wetlands, which provide essential services to the population.

In the national development strategy, several projects and initiatives are oriented towards the greening of the waste sector. In particular, the government planned investment in upgrading and maintaining of waste treatment and small-scale waste collection facilities, possibly through public-private partnerships in solid and liquid waste management. Moreover, the strategy provides for the creation of incentive packages for sanitation workers, as well as for the promotion of cost-effective and innovative waste management technologies. In particular, emphasis is put on the implementation of integrated waste processing and recycling and waste-to-energy projects, aimed at converting most of the urban, industrial and agricultural wastes to energy (GoG, 2010).

The Accra Compost & Recycling Plant (ACARP) is an integrated waste processing and recycling facility established in 2012 engages in collection, sorting, processing and recycling solid and liquid waste producing organic compost for agronomic purposes in Ghana and the sub region. ACARP has provided effective integrated processing, management and recycling of solid and liquid waste for economic and social good in an environmentally sustainable manner. The plant process involves material recovery and treatment of organic fractions into compost and recovered recyclables are treated for industrial uses such as steel works, plastic and paper production. The facility produces high grade compost, high quality pelletized plastics and other recycled materials.

[27] Green Economy Fiscal Policy Scoping Study, UNEP, 2014

National authorities are introducing different Environmental Fiscal Reform (EFR) policies in order to address the problem of unsustainable waste management. In particular, a 20 per cent tax was imposed on plastic materials in 2010 with the aim of discouraging production, consumption and improper disposal of plastic products. However, there were exemptions for pharmaceuticals, agriculture, and plastics used for water sachets (GoG, 2013). The latter in particular compromised the effectiveness of the policy.

Following industry consultation, the tax was reduced to 15 per cent in 2012. According to the 2013 budget , the revenue raised by this tax was insufficient to support the required levels of waste management, and a review was announced. In addition to disincentive fiscal measures, tax rebates are also provided to enable the shift to sustainable waste management. For instance, a seven-year tax holiday is offered to companies willing to invest in waste processing, including plastics and polythene.

Current efforts to create a fiscal regime conducive to more sustainable waste management could be further intensified through the implementation of additional EFR interventions. These are identified to include:

4.4.3.1 A "polluter pays" incremental levy system designed in order to distribute costs of waste pollution across all actors, on the basis of pollution margins.

4.4.3.2 Additional incentive measures, such as feed-in tariffs, provided to companies willing to invest in waste-to-energy infrastructure.

Given the huge amount of municipal, industrial and agricultural waste generated each year in Ghana many opportunities abound within the waste sub-sector for green investments, employment creation and health benefits, such as:

4.4.3.3 Investment in waste reduction, reuse, and recycling; the Renewable Energy Law promoting the use of waste-to-energy resources as a significant part of the national sanitation programme. Investments can be channelled to energy technologies (e.g. combustion, gasification, pyrolysis, anaerobic digestion, fermentation, esterification) to convert waste into electricity, heat and fuel.

4.4.3.4 Waste recycling requiring the development and implementation of integrated land use management, urban planning and investments in appropriate urban services (e.g. recycling plants and factories for the

production of organic (composting) and inorganic fertilizers); and training in waste recycling and waste engineering.

4.4.3.5 Fiscal policy instruments and regulatory tools can help green the waste sub-sector. These include high fees for waste collection; heavy fines for indiscriminate disposal of wastes; eco-labelling certain items; high taxes on non-degradable plastic materials, especially plastic bags; provisions of incentives to entrepreneurs to establish recycling plants; introduction of a Volume-Based Waste Fee system.

4.4.3.6 Ensuring a strong regulatory framework; regulatory policies greening the waste sub-sector should include strict implementation of existing policy instruments.

4.4.3.7 Mainstreaming water harvesting and conservation; all buildings, including prospective ones should be mandated to incorporate water-harvesting technologies in their architectural structures.

4.5 Institutional Issues and Capacity Building Needs of Key Actors

Strong institutional arrangements and policy processes[28] are identified to be crucial for the effective implementation of policy initiatives creating the relevant enabling factors for the transition to green economy.

Institutional support to green economy agenda require:

4.5.1 Sustainable public procurement as government is a major consumer of goods and services;

4.5.2 Capacity development and awareness campaigns within academic, private sector and government institutions to enable all levels to grasp the green economy concept;

4.5.3 Monitoring and evaluation of green economy policies in the identified sectors through the application of economic, environmental and social indicators for tracking progress;

4.5.4 Strong and sustainable institutional collaboration among all academic, government and private sector institutions involved in the transition to a green economy;

4.5.5 Good governance and strong political will to pave the way to success.

There is also the need to recognize the importance of bilateral, regional and multilateral cooperation in the protection and management of the environment. Differences between countries in terms of socio-economic development, institutional arrangements

[28] Green Economy Assessment Report 2014

infrastructure and political orientation may represent coordination challenges to effectively manage and address trans-boundary environmental challenges.

Institutional strengthening would be crucial to building sustainability of Switch Africa Green (SAG); by strengthening the capacity of Ghana National Cleaner Production Centre (GNCPC) and related organizations in specialized areas. The organizations may include Energy Foundation, Energy Center, KNUST and Industrial Research Institute, Energy Commission, Biogas Technologies West Africa and other service providers, which would work in the proposed areas of Sustainable Consumption and Production and Resource Efficient Cleaner Production; to improve the transition processes greening the economy and stimulating Research and Innovation contributing to leveraging partnerships and private sector engagement.

A crucial institutional capacity relates to the development of metrics, monitoring and evaluation scheme responding to performance gap and continuous improvement demands.

5.0 THE SWITCH AFRICA GREEN PROGAMME

The SWITCH Africa Green Programme is designed to provide support to selected pilot countries, including Ghana to achieve sustainable development; engaging in transition towards an inclusive green economy. The programme which supports private sector led inclusive green growth aims to generate economic growth, create jobs and reduce poverty.

5.1 Programme Objectives

The specific objective of the programme is to support the development of green business entrepreneurship and use of sustainable consumption and production practices by having in place:

5.1.1 Micro, Small and Medium Enterprises (M&SMEs) and business service providers that are better equipped to seize opportunities for green business development;

5.1.2 Better informed public and private consumers, and

5.1.3 Enabling conditions in the form of clear policies, sound regulatory frameworks, incentives structures, tax and other fiscal and market-based instruments influencing the key sector(s) in the country.

Consequently, the Switch Africa Green Programme targets micro and macro-levels support to private sector green business development processes and initiatives. The programme would therefore support MSMEs through intermediary business organizations that facilitate changes in practices and choices in production and consumption. Additionally, the programme would also provide support to influencing policies issues, which affect investment choices.

Again the programme is further intended to seek linking on-going bilateral projects supported by the EU and its Member States, which support green business development and Sustainable Consumption and Production practices, and also build on experience in other similar EU-funded programmes such as SWITCH Asia and SWITCH Med.

5.2 Components of the Programme

The Programme has three main components:

5.2.1 *Policy support*, which will build on and scale up activities to better inform and equip policy actors with strengthened institutions and appropriate tools and instruments such as policies, regulatory framework, incentives struictures, tax and market-based instruments; creating relevant environment enabling private sector led inclusive green growth through green business

development, eco-innovation and sustainable production and consumption actions

5.2.2 *Green business development providing grants to* enable Micro, Small and Medium Enterprises (M&SMEs) start and develop green business or apply sustainable consumption and production practices; and

5.2.3 *Networking Facility* to enable dissemination of knowledge, lessons learned and good practices from the projects in various countries through national and regional Africa networks and programmes; creating broader awareness and increased understanding and uptake of GE and SCP ideas among the key stakeholders in private sector, government and consumers.

5.3 Country Implementation Strategy

For Ghana to meet the objectives of the SAG programme, the country adopted a transparent process, which informs the key project partners on the scope and objectives of the project, and more specifically to refine and finalize the modalities and mechanisms for implementation as well as organization and engagement of the project team and key stakeholders and actors.

In this regard, the inception phase of the SAG programme in Ghana conducted series of stakeholder consultations and engagements from the programme preparation stages to formulate implementation strategy.

The initial stakeholder consultation workshop identified three priority sectors for consideration namely Manufacturing, Tourism and Integrated Waste Management. In addition cross cutting issues listed to include energy efficiency, labeling and standards, water efficiency, eco-innovation and sustainable trade were adopted.

Consequently, the implementation of SWITCH Africa Green in Ghana would focus on the three identified priority sectors, which would also remain the basis for the implementation planning and development strategy.

Ghana's strategy for implementation of SAG in Ghana seeks to ensure country ownership of the programme and therefore has engaged identified stakeholders comprehensively throughout the formulation process. In this regard, the Country Implementation Document has been developed through the consultations and participatory processes including series of validation of the implementation strategy. The strategy entails:

5.3.1 Programme Strategic Goal

Enabling conditions for green business development and greening business processes created by private sector led investments in enhanced resource efficiency and sustainable consumption and production, reduced carbon emission and pollution, diminished loss of biodiversity and ensuring reduced poverty, especially among the poorest segments of the society. (employment)

5.3.2 Programme Strategic Focus

The strategic focus primarily targets the MSMEs in Ghana, which form over 90% of private sector businesses in Ghana, especially in the three target sectors.

5.3.2.1 Manufacturing Sector

5.3.2.1.1 Promoting resource efficiency and sustainable consumption and production;
5.3.2.1.2 Exploring increased value addition of manufactured products and expanded industrial uses;
5.3.2.1.3 Promotion of renewable energy sources
5.3.2.1.4 Exploring improved markets for green good and services and facilitating competitiveness and expanded markets;
5.3.2.1.5 Promoting green finance to ensure that the manufacturing sector meets trends emerging from global environmental norms and standards;
5.3.2.1.6 Promoting awareness and capacity building among key stakeholders, especially the private sector and the public sector ;
5.3.2.1.7 Promoting implementation of green policies and fiscal incentives;

5.3.2.2 Tourism Sector

5.3.2.2.1 Promoting resource efficiency and sustainable consumption and production to ensure conservation of environmental resources in cost efficient manner;
5.3.2.2.2 Promotion of sustainable and responsible tourism to preserve historical, cultural and natural heritage; and developing sustainable ecotourism, cultural and historical sites and

eliminating incidence of sex abuse and spread of sexually transmitted diseases.

5.3.2.2.3 Promoting pollution prevention at attraction sites

5.3.2.2.4 Promoting green finance to ensure that the tourism sector meets trends emerging from global environmental norms and standards;

5.3.2.2.5 Promoting awareness and capacity building among key stakeholders ;

5.3.2.2.6 Promoting implementation of green policies and fiscal incentives;

5.3.2.3 Integrated Waste Management Sector

5.3.2.3.1 Promotion of green energy development and investments

5.3.2.3.2 Promoting mainstream adoption of waste to energy practices and initiatives

5.3.2.3.3 Promotion of efficient waste management to minimize contamination and impact on water quality and public health;

5.3.2.3.4 Promoting green finance to ensure that the investments in the waste sector meets trends emerging from global environmental norms and standards;

5.3.2.3.5 Promoting awareness and capacity building among key stakeholders ;

5.3.2.3.6 Promoting implementation of green policies and fiscal incentives;

5.3.2.4 Cross Cutting Themes

5.3.2.4.1 Promotion of the cross-cutting theme providing broader opportunities for environmental sustainability in all the three target sectors;

5.3.2.4.2 Promotion of enhanced energy efficiency through advancing RECP implementation and practices;

5.3.2.4.3 Promotion of labeling and standards to promote green products and create relevant consumer awareness; expanding market share or access to international markets for sustainable products;

5.3.2.4.4 Promotion of water efficiency and water saving initiatives;

5.3.2.4.5 Promotion of eco-innovation to stimulate development and implementation of RECP and resource efficient technologies.

5.3.2.4.6 Promotion of sustainable trade opportunities and identification of market opportunities to support enhanced environmental goods and services;

5.3.2.4.7 Promotion of enhanced domestic and international market opportunities for resource efficient, green goods and services and eco-entrepreneurship;

5.3.2.4.8 Promotion of policy reforms creating enabling conditions for sustainable consumption and production practices by addressing existing market failures, promoting investment and spending in areas stimulating green economy and sound regulatory framework;

5.3.2.4.9 Promotion of environmental fiscal reforms in alignment with sustainable development priorities, supporting taxation measures and target incentives to encourage green business development especially promoting SCP and RECP and Eco-entrepreneurship.

5.3.2.4.10 Promotion of green economy learning and building knowledge and capacities in green economy modeling and assessment, valuing natural capital, ecosystem services and RECP.

5.3.3 Programme Strategic Initiatives

Following the consultations, the stakeholders identified and recommended strategic initiatives centred on building relevant competences at all levels of industry operating structure to better equip all actors, especially business owners, staffing and business service providers. The main focus directed at seeking to achieve relevant behavourial change especially the lower ranking staff and workers at the enterprise.

The transition to green economy through better equipped micro, small and medium enterprises and business service providers is therefore at the core of the country implementation programme. The stakeholders reckon that a vision of sustainable transition can be possible through well strengthened service support platform and network, sharing knowledge, skills and demonstrable benefits.

Key considerations have been given to the following:

5.3.3.1 Feasibility of implementation of Green Economy interventions in view of funds limitations and magnitude (value) of investment

demands in green business development and implementing SCP and RECP practices;

5.3.3.2 The potential environmental impact and implications of activities and outputs opportunities of the sector particularly relating Resource Efficiency and Sustainable Consumption and Production interventions and practices; however, the absence of baseline data or quantitative indications of the existing status presents significant challenges to monitoring and evaluation of influence of the SAG programme;

5.3.3.3 Policy areas and priority intervention that remove barriers to greening business activities and eco-entrepreneurship;

5.3.3.4 Special considerations have been given to opportunities for long-term systemic changes that promote sustainable green business activities and eco-entrepreneurship.

In general, the country strategy is proposed to seek deploying a model that optimizes the transition opportunities for sustainable greening of especially the business processes and future investment patterns driven by the private sector.

Consequently, it is recommended that the SWITCH Africa Green Programme in Ghana consist of three components; the components are specified as following;

5.3.3.5 An initiative aiming to significantly sensitize and educate all levels of stakeholders and practitioners

Primary focus on education of all Stakeholders, Operatives and Practitioners at all level ranking to improve understanding and appreciation of green business processes and outcomes within the MSME structures.

The training should including green financing opportunities and options to enable both MSMEs and their Financial Institutions develop the relevant appreciation of green investment prospects and opportunities; hence enhancing MSMEs access to finance.

The training should particularly address the need to build the capacity of national learning institutions to support relevant training activities beyond project driven learning to facilitate building capacity of MSMEs; and deepening understanding in especially crucial areas like green business entrepreneurship modeling and assessment; use of green economy and

advancing resource efficiency and SCP practices; and valuing natural capital and ecosystem services.

5.3.3.6 An initiative seeking to publicize the programme creating full public awareness and consciousness

Mainstreaming SCP and RECP practices through comprehensive sensitization and awareness of all stakeholders including private and public consuming population.

5.3.3.7 An initiative seeking to strengthen adoption of SCP practices and creating demonstrable benefits and validated models for dissemination

Strengthening interlinkages and leveraging other key related programmes and efforts; recognizing the vast scope and challenges involving transition to green business economy and the benefits of shared responsibilities and partnerships to build the needed momentum of sustained efforts to accelerate and optimize the transition progress and impacts.

Additionally, the programme implementation would further seek to build constructive collaborations and partnerships between public and private sector actors, through coordination of delivery of various programmes in the country; aiming at providing opportunities for strengthening integration of programme activities of similar programmes and avoiding duplication of efforts and initiatives.

Among such programmes identified are Partnership for Action on Green Economy (PAGE) seeking to develop and implement national green economy strategies and created by International Labour Organization (ILO), the United Nations Environmental Programme (UNEP), the United Nations Industrial Development Organization (UNIDO), the United Nations Development Programme (UNDP) and the United Nations Institute for Training and Research (UNITAR); Biogas Technology and Business for Sustainable Growth (BTBSG) implemented by UNIDO; Solar Export Potential (SEP) Project undertaken by Energy Centre (KNUST); China Ghana South-South Cooperation on Renewable Energy Technology Transfer (CGSSCRETT) Programme; Low Emission Capacity Building programme (LECBP) implemented by UNDP; Collaborative Action for Sustainable Tourism Project (COAST); Sustainable Public Procurement (SPP) implemented by Public Procurement Authority and financed by Swiss Government; Sustainable Business Forum (SBF) implemented by PricewaterhouseCoopers (PwC).

The others are Sustainable Energy for All (SE4ALL) by UNDP and Energy Commission in Ghana; Institutional Sopport to Integrate Climate Change into National Development Plan (ISICCNDP) by UNDP; Green Climate Fund (GCF) Readiness Project, an initiative of UNEP, UNDP and WRI yet to be implemented; Ghana National Low Carbon Development (GNLCD) Strategy implemented by MESTI on behalf of Government of Ghana; Ghana Climate Innovation Centre (GCIC) supported by the Danish International Development Cooperation Agency (DANIDA) and Youth in Action on Climate Change Mitigation (YACCM) by United Nations Joint framework Initiatives on Children.

Furthermore, the programme implementation would pursue promoting shared learning through matrices, monitoring and evaluation of outputs to promote and support accelerated research and innovation; placing significant importance to results, outcome and impact based approach to develop evidence and indicators.

SWITCH Africa Green Project identifies key priorities for specific action that could be undertaken under the thematic areas and are listed to include:

5.3.3.8 Strengthening the capacity of the Ghana National Cleaner Production Centre in Sustainable Consumption and Production and Resource Efficient Cleaner Production approaches, tools and practices;

5.3.3.9 Improved market structure and organization for sustainable goods and services to stimulate competitiveness of sustainable products in Ghana.

5.3.3.10 Continued exploring opportunities for collaboration with relevant programmes to generate synergy and enhanced results.

Generally, sector overall operative structure and performance data are non-existent; therefore quantitative indications of baseline and projected targets for Green Economy scenarios has been challenging.

Stakeholders have stressed on the absence of relevant data to establish appropriate baseline situation and have also indicated strong concerns in facilitating the development of realistic targets for effective monitoring and review mechanisms. Furthermore, the implications and challenges to programme performance dissemination efforts.

Nonetheless, the programme implementation is proposed to consider indications and trends for baseline assessment on the basis of business as usual and indicators for targets based on Green Economy for each sector and sub-sector activities. The indicators and quantitative review can be estimated on discussions and conclusions with the key stakeholders at the validation and implementation strategic review workshops.

Consideration is given to establishing a Green Economy based on Low Carbon, Resource Efficient and Sustainable Consumption and Production scenarios. Consequently, the baseline may consider the following parameters for the targeted sectors:

5.3.3.11 Characteristics of the industry structure of the sector
5.3.3.12 Overall performance
5.3.3.13 Trends in growth
5.3.3.14 Trends in resource demand and consumption, resource efficiency and low carbon investment.
5.3.3.15 Resource use characteristics
5.3.3.16 Trends in revenue generation / revenue streams/profitability
5.3.3.17 Trends in jobs and employment generation

5.4 Sector Strategic Initiatives

5.4.1 Manufacturing Sector

For the Manufacturing Sector, the proposed focal areas and activities include:

5.4.1.1 Promotion of simple technologies for energy use reduction and efficiency;
5.4.1.2 Promotion and investment in renewable energy technologies including solar and wind;
5.4.1.3 Mainstream development of local capacities in the installation, operation and maintenance of renewable energy technologies;
5.4.1.4 Promotion and enforcement of energy management standards, guidelines and codes. Further building capacity of energy auditors;
5.4.1.5 Provision of toolkits on SCP and development of sector specific technical services to support eco-entrepreneurship;
5.4.1.6 Integration and mainstreaming RECP and Renewable energy programmes into Engineering courses at the universities and polytechnics .

In order to implement the strategy effectively, the Stakeholders within the manufacturing sector emphasized the need for the following actions:

5.4.1.7 Demonstration of physical benefits
5.4.1.8 Intensive education and sensitization
5.4.1.9 Development of Energy Technology List (ETL)
5.4.1.10 Advocacy and promotion of Investment Tax credit
5.4.1.11 Industry standards on Energy Intensity have to be conducted
5.4.1.12 Introduction of annual energy audit practice
5.4.1.13 Development of voluntary compliance award scheme.

5.4.2 Tourism Sector

Under the Tourism Sector, the proposed focal areas and activities include:

5.4.2.1 Promotion of the use of renewable energy and energy efficient technologies;
5.4.2.2 Promotion and implementation of biogas technologies;
5.4.2.3 Provision of toolkits on SCP and RECP and mainstreaming RECP practices.

Accordingly stakeholders emphasized on actions taking into account the following key considerations:

5.4.2.4 Size of hotels should be the key determinant for engaging participation in the programme initiatives as opposed to star rating;
5.4.2.5 A framework developed which takes into consideration actual consumption of resources and efficiency of usage;
5.4.2.6 Education and intense awareness creation of all staff rankings , based on established benefits to ensure comprehensive and effective engagement of the entire organization; to overcome characteristic apathy among especially lower rank;
5.4.2.7 Proper documentation of demonstrable outputs and benefits to the sector
5.4.2.8 Transition of systems and processes should be based on business case with appropriate consideration to cost control of implementation;
5.4.2.9 Providing effective system support structures to enhancing productivity

Principally, the strategic approach adopted for the Tourism Sector focuses on four key areas, which are identified as following:

5.4.2.10 Initial intervention focusing on education at all levels of staffing creating the relevant awareness and competences in the application of toolkits. Recognizing distinction between owners and managers.

5.4.2.11 Subsequently, the intervention should stimulate changes in the fundamental processes of the sector operations; putting in place the structures and systems necessary to implement greening initiatives eg: waste segregation and collection.

5.4.2.12 Thirdly, creating the platform for operatives and practitioners to have ready access to information and data.

5.4.2.13 Fourthly, an intervention focusing on developing and implementing environmental standard and compliance as well as green branding and grading scheme. Further creating wider awareness and sensitization of the standards including site visit to demonstration projects.

5.4.3 Integrated Waste Management

The proposed focal areas and activities are identified to include:

5.4.3.1 Promotion and investment in waste to energy technologies (biogas);

5.4.3.2 Promotion and development of green business including plastic waste recycling, wood waste and electronic waste processing;

5.4.3.3 Development of sector specific technical services to support eco-entrepreneurship;

5.4.3.4 Promotion of research and development in eco-innovation and green business development;

Furthermore, stakeholders emphasized the following actions for key considerations:

5.4.3.5 Capacity building of institutions and MSMEs in electronic waste management and processes

5.4.3.6 Pursuing policy support and incentive for handling the waste

5.4.3.7 Promotion the adoption of waste to energy practices and initiatives.

5.4.3.8 Development of green finance mechanism to ensure that the investments in the waste sector meets trends emerging from global environmental norms and standards;

5.4.3.9 Institute key stakeholders awareness and sensitization especially the consuming public; and where necessary build technical capacity in green product operation and maintenance eg biogas digesters

5.5 Institutional arrangements

Additionally, institutional arrangement facilitating sharing of lessons learned from implementation of green businesses and informing the general public on SCP practices through symposiums, durbars, etc at country and regional levels is essential for mainstreaming green economy practices. The arrangement may involve:

5.5.1 Establishing a process/system of regular policy and legal support meetings for grantees and project implementation partners; reviewing policy implications of the projects and providing framework to analyze and isolate the successes and challenges emerging from the implementation of green businesses by MSMEs as bases for policy and legislative reforms.

5.5.2 Development of legal and policy overviews to support government and grantees in the implementation of green businesses including development of a compendium of environmental legislation to provide a one-stop handy instrument on policies and laws in the environment sector in relation to the green economy.

5.5.3 Instituting specialized capacity building in critical institutions including GNCPC, Energy Foundation, Energy Commission, Biogas Technologies West Africa and other service providers to deliver the relevant energy interventions.

5.5.4 Development of training modules based on tools developed in sustainable consumption and production practices to build the capacities, especially the competencies, of both MSMEs and the regulatory agencies.

5.5.5 Development of training modules and capacity of grantees in project management and project monitoring and evaluation

Furthermore, the SAG programme recognizes that the programme implementation would be in close coordination and cooperation with other UN Agencies, including UNDP, UNOPS and other regional partners.

5.6 **Success Indicators**

Indicators of successful programme implementation are proposed to include the following:

5.6.1 Widespread adoption and deployment of SCP and RECP toolkits and practices;
5.6.2 Changes in Resource Use Efficiency (Matrices)
5.6.3 Access and utilization of technical services including research and innovation
5.6.4 Increased Green initiatives and Eco-entrepreneurship
5.6.5 Relation to the baseline

6.0 PROGRAMME IMPLEMENTATION MANAGEMENT AND ORGANIZATION

Switch Africa Green Project involves supporting private sector led inclusive growth in Ghana, among five other countries to attain sustainable development through transition toward an inclusive green economy, based on sustainable consumption and production patterns.

However, SAG is structured along:

6.1 Supporting MSMEs through intermediary business organizations to promote green business initiatives and adoption of SCP practices; facilitating change in practices and choices by producers and consumers;

6.2 Linking on-going bilateral projects and programmes supported by the EU and its member states, which support green business development and SCP practices; developing synergies with on-going and upcoming Green Economy and SCP initiatives in the region, including the global 10YFP and the EU-supported African Green Economy Initiative being implemented by UNEP.

Consequently, the implementation management of SAG Programme would involve guiding and coordinating the implementation strategies defined under the three main components of the programme to achieve the relevant transparency and stakeholder engagement and ownership.

The Programme therefore offers establishing a National Technical Coordination Committee (NTCC) to be responsible for providing guidance and coordination direction for the effective implementation of the project at the national level. The project also provides for National Project Coordinator responsible for coordination of the project implementation activities and reporting to the UN Resident Coordinator through UNDP and the Project Manager of SWITCH Africa Green.

In particular, the NTCC will serve to guide the strategic implementation of the components on policy support and green business development, and will serve as the primary body assessing needs and defining priorities at the national level. The NTCC will also provide recommendations and information to the Joint Steering Committee (JSC).

The National Technical Coordination Committee membership is composed of core key stakeholders including a National Project Focal Point from Ghana Government (Chairing the Committee), the National Coordinator (from UNRCO) for SWITCH Africa Green (secretary), the EU country Delegation and other as appropriate.

The composition of the National Technical Coordination Committee is provided in annex 3.

7.0 PROGRAMME MONITORING, REVIEW AND REPORTING

The National Technical Coordination Committee would work to guide the strategic implementation of the SAG programme and further coordinate delivery with other related programmes in the country in a manner that strengthens and supports Ghana's Green Economy initiatives and strategies.

In this regard the overall monitoring, review and reporting on the programme implementation and strategic directions would form an integral part of the Committees work; particularly, the NTCC would work with the key agencies and stakeholders to identify critical areas where intervention can be intensified and synergies created with related on-going programme initiatives to promote accelerated transition to Green Economy.

The key assumptions and risks relate to the following:

7.1 NTCC is adequately resourced to conduct its planning, monitoring, review and reporting activities.

7.2 MSMEs have significant fiscal scope to finance green initiatives and efficient technologies.

7.3 Domestic market mechanisms recognize opportunities for green business development and can accommodate sustainable goods and services.

7.4 Advocacy initiatives and interventions could be process involving and resource demanding.

7.5 Intermediary Business Organizations have requisite capacities and are adequately resourced to develop green business programmes and organization.

7.6 Identified related programmes have elements that are in sync with the objectives of SAG and can boost Ghana's transition to Green Economy.

7.7 Linkages with the various on-going programmes would be feasible and gain the needed cooperation with the implementing agency to attain the expected synergy and enhanced output to boost the country's transition to Green Economy.

7.8 Need for a comprehensive framework for M&E for the SAG programme.

ANNEX 1

LIST OF CLIMATE AND ENVIRONMENT PROTECTION RELATED ACTIVITIES IN GHANA

ACTIVITY DESCRIPTION OR TITLE	IMPLEMENTING AGENCY	FUNDING INSTITUTION	STATUS OR DURATION
CARE Adaptation Learning for Africa	CARE	DFID, Ministry of Foreign affairs, Netherlands, Danida Copenhagen	Ongoing
Innovative insurance products for adaptation to climate change	GTZ	Federal Ministry of Environment, Germany	Ongoing
Land Use and Climate Centre	Energy Centre, KNUST	Government of Germany	Ongoing
Solar Export Potential (SEP) Project	Energy Centre, KNUST	UNEP	Ongoing
Climate change adaptation in Northern Ghana	Water Resources Commission	Danida	Ongoing
Climate Change and Human Health in Ghana	RIPS	IDRC, Canada and DFID	Ongoing
Climate and Environment Platform	Building Stronger Universities U of G and KNUST	Danida, Copenhagen	Ongoing
Hydrochloroflourocarbon HCFC Phase Out Management Plan (HPMP)	Energy Commission	UNDP	Ongoing
Pilot Demonstration Project on ozone depleting substances (ODS), waste management and disposal	EPA, Energy Commission and Centre for Rural and Industrial Research	UNDP	Ongoing
Ghana Energy Development and Access Project (GEDAP)	Ministry of Energy	GEF	Ongoing

Solar PV Systems to increase access to Electricity Services in Ghana	GoG (part of GEDAP)	GEF	Ongoing
Forestry Improvement Programme	GoG	World Bank and AfdB	Ongoing
Natural Resources and Environmental Governance programme (NREG) and the NREG development policy operation	GoG	EU, IDA, Dutch, Embassy, Danida	Ongoing
Transformation of lighting market from incandescent to CFL bulbs	ECG	GoG	Completed
Moving towards emission neutral development	Ecosecurities Ltd	DFID	Completed
Photovoltaic systems installation	DENG Ltd	Private Sector initiative	Ongoing
Waste to Energy	Zoomlion	Private Sector initiative	Ongoing
Biogas Technologies	Pheebe's Company Ltd Biogas Technologies WA	Private Sector initiative	Ongoing
Green Growth Fund	TBD	Danida	Planned
Climate Innovation Centre	TBD	World Bank	Planned
National Climate Change Policy Framework	MEST	GoG	Ongoing
CC – DARE Climate Change and Development Adapting by reducing vulnerability	UNDP / EPA	DANIDA, UNDP, UNEP	Completed
Volta Basin Water Resource Management project	WRC	Governments of Ghana and Burkina Faso	Ongoing

ANNEX 2

Ministries & Stakeholders

1. Ministry of Environment, Science, Technology and Innovation
2. Ministry of Energy and Petroleum
3. Ministry of Trade and Industry
4. Ministry of Tourism and Culture
5. Ministry of Finance and Economic Planning
6. Ministry of Works and Housing
7. Ministry of Food and Agriculture
8. Environmental Protection Agency
9. Energy Commission
10. Energy Foundation
11. Ghana Tourism Authority
12. Ghana Tourism Development Company
13. Ghana Investment Promotion Centre
14. Association of Ghana Industries (AGI)
15. Private Enterprise Foundation (PEF)
16. Ghana Institute of Planners, Architects and Engineers
17. Ghana Hoteliers Association
18. Association of Hotels Operators
19. Ghana Real Estate Development Authority
20. Association of Solar Promoters
21. Waste-to-Energy Technology Promoters
22. IAIA (Ghana Chapter)
23. Association of Pineapple Growers and Exporters
24. Mango and Pawpaw Growers Association
25. Cashew Nut Growers' Union
26. Palm Oil Millers Association

ANNEX – 3

Membership of the National Technical Coordination Committee

	Name	Institution/Organization
1.	Fredua Agyeman (Represented by Peter Dery)	MESTI
2.	Lambert Faabeluon (Chairman)	EPA/GNCPC-
3.	Kofi Afresah Nuhu	MoTI
4.	Zakaria Yakubu	KASA/CARE Int.
5.	Felix Quansar	PRC
6.	Stephen Djaba	AGI
7.	Seth Mahu Agbeve	MoEP
8.	Simon Bawakyillenuo	ISSER
9.	Wisdom Adongo	PEF
10.	Daniel Digber	GNCPC
11.	Letitia Abra-Kom Nyaaba	GNCPC
12.	Augustus Kwasi Adu	MOF
13.	John Tettey	MWRWH
14.	Jane Mensah Onumah	MoTI
15.	Reuben Kwasi Kwadzofio	MoTCCA
16.	Masahudu Fuseini	CSIR-STEPRI
17.	Felix Addo-Yobo	NDPC
18.	David N. Anim	Ghatof