



Energy research Centre of the Netherlands

Initiatives related to climate change in Ghana

Towards coordinating efforts

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Acknowledgement/Preface

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This report is intended to support the Ghana Ministry of Finance and Economic Planning (MoFEP) and the Ministry of Environment, Science and Technology (MEST) in their efforts to coordinate and harmonize climate change related initiatives in the country. The report is part of the technical assistance to the process for the development of a National Climate Change Policy Framework (NCCPF) in Ghana, jointly carried out by a team of Ghanaian partners led by Prof. Chris Gordon (University of Ghana/Legon) and the Energy research Centre of the Netherlands (ECN).

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Abstract

To support the development of a National Climate Change Policy Framework (NCCPF) and a further harmonization of climate change related activities in Ghana, the Ministry of Finance and Economic Planning (MoFEP) and the Ministry of Environment, Science and Technology (MEST) expressed demand for a mapping of the most important past and current climate change related initiatives in the country, and of international climate change related funding opportunities, that Ghana might be able to access. The initiatives mapping demonstrates Ghana's longstanding engagement with climate change, dating back to more than 15 years ago. The report shows a multitude of activities including a number of large (5 mln. USD to > 100 mln. USD), GEF or World Bank financed projects, and a range of smaller projects (in the order of 100 000 - 500 000 USD). The majority of current initiatives are related to forestry and REDD. This report concludes with a discussion on observed trends, such as a broadening involvement of MDAs in adaptation initiatives and a focus on low carbon growth, and of points for attention, such as a need for coordination, for private sector involvement and supporting systems (such as institutional capacity, governance and monitoring systems).

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Glossary

AfDB	African Development Bank
CDKN	Climate and Development Knowledge Network
CDM	Clean Development Mechanism
CFL	Compact fluorescent lamps
DANIDA	Danish International Development Agency
DFID	Department for International Development
EC	Energy Commission
ECN	Energy research Centre of the Netherlands
EPA	Environmental Protection Agency
FC	Forestry Commission
FCPF	Forest Carbon Partnership Facility
FDA	French Development Agency
FIP	Forest Investment Program
GEF	Global Environment Facility
GFP	Growing Forest Partnership
GHG	Greenhouse gas
GoG	Government of Ghana
GTZ	German Society for Technical Cooperation
IDA	International Development Association
IUCN	International Union for Conservation of Nature
JICA	Japan International Cooperation Agency
MDAs	Ministries, Departments and Agencies
MEST	Ministry of Environment, Science and Technology
MLNR	Ministry of Lands and Natural Resources
MoFEP	Ministry of Finance and Economic Planning
MRH	Ministry of Roads and Highways
MoH	Ministry of Health
NADMO	National Disaster Management Organisation
NCAP	Netherlands Climate Assistance Programme
NCCC	National Climate Change Committee
NCCPF	National Climate Change Policy Framework
NCRC	Nature Conservation Research Centre
NREG	Natural Resources and Environmental Governance Program
REDD	Reducing Emissions from Deforestation and Forest Degradation
UNFCCC	United Nations Framework Convention on Climate Change
VPA	Voluntary Partnership Agreement
WRC	Water Resources Commission

duction, agriculture and to social development and health, which have significant co-benefits in terms of adapting to climate change.

The first initiatives related to adaptation and climate change vulnerability assessment were started by Ghana about 15 years ago, under the '*Netherlands Climate Change Study Assistance Programme*' (NCCSAP). This program, and its successor '*NCAP*', gained visibility and laid foundations for the sector budget support under NREG (see below). Further studies on climate change adaptation include the UNDP supported '*CC-Dare*' project which aims to finalize a National Climate Change Adaptation Strategy. The World Bank study '*Economics of Adaptation to Climate Change*' is the most recent assessment of the impacts of climate change on Ghana. Moreover, programs that focus on improving the capacity of particularly rural citizens to alleviate the impacts of climate change are carried out, for example, under the '*Africa Adaptation Programme*' and the '*Adaptation Learning Programme*'. In terms of national disaster risk management, a focus is on strengthening overall national capacity and the National Disaster Management Organisation (NADMO). A large GEF funded project on '*Integrating Climate Change into the Management of Priority Health Risks*' has recently started, and another large project on '*Promoting a Value Chain Approach to Adaptation in Agriculture*' is planned to start soon.

Low carbon growth

This initiatives mapping includes projects focusing on energy efficiency, renewable energy, transport, environmental governance, forestry and climate strategy.

The largest number of current initiatives in the area of low carbon growth are related to forestry and REDD (Reducing Emissions from Deforestation and Forest Degradation). REDD has gained attention in the country as Ghana was selected as a pilot program for the World Bank's '*Forest Investment Program*' (FIP), and submitted its '*Readiness preparation proposal*' to the *World Bank Forest Carbon Partnership (FCP)*. Sector budget support under the '*Natural Resources and Environmental Governance Program*' (NREG) provides additional funds to strengthen forest governance. Initiatives promoting renewable energy date back to the mid 90's and earlier, and included the GEF sponsored program '*Renewable Energy-Based Electricity for Rural, Social and Economic Development in Ghana (RESPRO)*' which is now being followed by the '*Ghana Energy Development and Access Project (GEDAP)*'. Moreover, efforts are ongoing in the areas of energy efficiency (focusing on lighting and electric appliances) and urban transport. Ghana is a party to the United National Framework Convention on Climate Change (UNFCCC), and has actively participated in the international climate negotiations for years. The country is currently working on further detailing its National Appropriate Mitigation Actions (NAMAs). Despite several capacity building programmes on CDM, there have not been any successful CDM projects in Ghana.

Climate finance opportunities

Globally, the largest multilateral climate finance initiatives include the GEF and World Bank funded programs. Ghana has a relatively good track record in accessing funding for these. While Ghana's track record in accessing carbon market financing has been weak. The largest bilateral climate change initiative is Japan's *Hatoyama Initiative*. Ghana is currently receiving funding from this global initiative in the frame of regional projects, such as the *Africa Adaptation Programme* implemented by UNDP. Ghana also has close ties of bilateral cooperation with a number of donor countries with active representation in the country itself.

Analysis and discussion

The initiatives mapping demonstrates Ghana's long standing engagement with climate change, dating back more than 15 years. Considering Ghana's size, population and level of development, the number of climate change related initiatives undertaken in Ghana seems much larger than in comparable countries. This may be related to Ghana's political and economic stability, which makes the country an attractive partner for donor organisations. In addition, Ghana has always been a visible actor in the international climate negotiations.

Despite Ghana's long standing engagement with climate change, there are some gaps, and points for attention. In most cases it was difficult to get access to project evaluations or overviews of concrete project results. Although it was not the aim of this study to evaluate specific projects, the difficulty in accessing information on project results did make it difficult to identify overlaps and gaps in the current climate change initiatives. Greater transparency would improve effectiveness of climate change initiatives as it could avoid the duplication of efforts and enable subsequent initiatives to build on each other. Similarly, it became clear from the stakeholder interviews, that initiatives are not always coordinated well, which may lead to overlapping activities.

Private sector involvement in the climate change initiatives covered in this report is limited. This may be considered a weakness in Ghana's overall profile of climate change activities, especially in the area of low carbon growth, as a number of interventions would ideally require private sector participation, if only because large investments are required. Involving private sector participants in project design from the start may also help to identify barriers at an early stage.

In the area of adaptation, currently a larger number of MDAs seem to get involved than in the past, including MDAs which previously did not explicitly address climate change in their programs. This may indicate an emerging trend towards mainstreaming climate change into sectoral development planning and objectives, in line with international best-practice and with the stated intention of the Government of Ghana (see foreword to MEST, 2010). To be able to access large scale and long term financial support for the implementation of climate change related programs, it will also be crucial to build supporting systems as outlined in the seven supporting pillars¹ for the National Climate Change Policy Framework (MEST, 2010) and to integrate such efforts into future program design.

¹ The discussion document for a National Climate Change Policy Framework (MEST, 2010) includes the following seven supporting pillars: governance and coordination, capacity building, research and knowledge management, finance, international cooperation, communication, monitoring and reporting

1. Introduction

1.1 Background on climate change initiatives in Ghana

Since the 1990s, climate change has increasingly been recognized as one of the world's most threatening environmental issues. Poor communities and economies depending on climate-sensitive resources such as agriculture are especially vulnerable to climate change (IPCC, 2007).

Ghana has demonstrated impressive economic development over the past decades, but future growth is threatened by its high vulnerability to climate change. Although according to the latest government statistics, the country has recently acquired lower middle-income country status, but a majority of its society still depends on small-scale agriculture and other key economic assets threatened by climate change, such as the coastal zone and water resources. Already today, there is an observed rise in temperatures across all ecological zones in Ghana whereas rainfall patterns are becoming less predictable (MEST, 2010). In the northern regions, where high average temperatures and low rainfall predominate, the incidence of poverty is currently highest. Projected climate pressure (higher temperatures and changing rainfall patterns) is expected to exacerbate the poverty issues. In addition, an increased number of floods in recent years threaten settlements near the coastline (e.g. Keta, near to border to Togo) (MEST, 2010).

While climate resilient development (i.e. adaptation) is expected to be Ghana's main priority in terms of addressing climate change, low carbon growth options present additional opportunities, such as direct economic and social benefits of these options, and increased access to available international support (financial, technical and capacity building).

The Government of Ghana (GoG) recognizes the social and economic impacts, and the development challenge arising from climate change. It is committed to mainstreaming climate change into key planning processes on the national, regional and local level (MEST, 2010). Ghana is politically stable with relatively good governance structures, and has shown stable growth rates over the past years. Real GDP growth was 5.8% annually between 2003 and 2008 (Rabobank 2009). Consequently, Ghana is an attractive country for international donor activities, including climate change related initiatives. In addition, for years Ghana has had an influential position in the international climate negotiations as an opinion maker within the G77 group, which raised Ghana's international profile.

Over the last 10 years, Ghana has hosted numerous climate change related activities, initiated by international donors or research organisations, or by representatives of the Ghanaian government, academia or civil society. However, many of these initiatives have been relatively small-scale, and coordination across sectors, ministries or regions has often been lacking. Today, there is an urgent need to harmonize and upscale these efforts. Ghana's economy is at a crossroads with the advent of oil and gas production from the recently discovered Jubilee oil field off its coast. Also, there is increasing pressure on the country's natural resource and energy system due to economic growth and a growing population which lead to increased demand for both traditional woodfuels and for electricity.

As a result of the 2008 elections and resulting change in government, the Ministry of Environment, Science and Technology (MEST) was reconstituted and endowed with greater responsibility for coordinating climate change activities across Ministries, Departments and Agencies (MDAs). Also, the Ministry of Finance and Economic Planning (MoFEP) has become more strongly involved in overseeing climate related finance flows, driven partly by participation in international REDD initiatives, which have started to attract significant international funding. With the reconstitution of MEST, the National Climate Change Committee (NCCC) was also strengthened and given the mandate to advise MEST on climate policy related questions. In early 2010,

the NCCC was given the mandate to initiate the process of developing a National Climate Change Policy Framework (NCCPF), which aims to:

- Raise awareness among decision-makers about climate change impacts and their management.
- Create a policy framework for climate resilient and low carbon economic growth that is compatible with, and integrated into, national development plans and budgeting processes.
- Provide a mechanism for implementing and financing the policy framework.
- Create the foundations for the development of detailed sector specific implementation plans.
- Link and harmonise existing climate change initiatives and opportunities.

This process resulted in the publication of a discussion document by MEST in advance of the international climate conference in Cancun in November 2010 (MEST, 2010). The discussion document lays the foundations for the detailed development of the NCCPF. Its production was supported by the Climate and Development Knowledge Network (CDKN).

Against this background, to support the development of the NCCPF and a further harmonization of climate change related activities in the country, this report answers to the request of MEST and MoFEP for a mapping of the most important past and current climate change related activities in the country, including international climate change related funding for which Ghana may be eligible.

1.2 Objectives and scope of the study

The objectives of this initiatives mapping is to provide an overview of the existing and ongoing initiatives related to climate change. In addition, the mapping includes information on climate finance initiatives and funding opportunities for which Ghana may be eligible.

In the absence of a centrally available register for climate change related projects, the data in the current study is collected from project documentation and stakeholders (i.e. funders, project/programme staff, and recipient organisations). The mapping does not have the aim to be exhaustive, but it does aim to cover most relevant and significant initiatives of the past 15 years. Various small and micro initiatives at local level - most of them executed by national or international NGOs - fell outside of the scope of the mapping. Detailed analysis of specific projects or comprehensive assessments of projects’ output is not included in the scope of this report.

1.3 Methodology

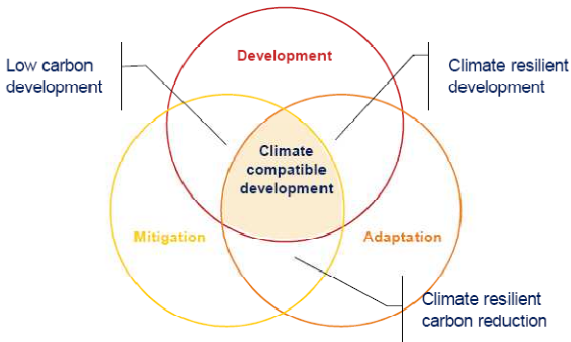


Figure 1.1 *Climate compatible development*
Source: CDKN.

For the purpose of this study, ‘climate compatible development’ is defined as economic and social development in a ‘climate compatible’ and ‘low carbon’ manner (see Figure 1.1). A climate change initiative is defined as a project or program which aims at climate adaptation, mitigation, or low carbon, climate resilient or climate compatible development (see Figure 1.1), encompassing projects and programs that aim at direct impacts or which focus on building technical or institutional capacity or an improved information base. The initiative mapping does not include initiatives with a pure development focus. In practice, given that Ghana’s main aim is economic and social

development, almost all climate change related activities have a development component, with a few exceptions such as the National Greenhouse Gas (GHG) Inventory which focuses exclusively on GHG emissions. Also, given the traditional focus of climate change related initiatives on either adaptation or mitigation, few activities in Ghana focus on the overarching concept of climate compatible development. For practical reasons, this study therefore distinguishes only between climate resilient and low carbon development related climate change initiatives, and uses the terms ‘low carbon growth’ and ‘adaptation’ in line with the MEST discussion document on the NCCPF (MEST, 2010).

Climate change initiatives were collected by extensive literature and internet research, by requesting information from a wide range of stakeholders in government, donor agencies and civil society, and by conducting interviews with the most important stakeholders (see Appendix B for a list of interview partners). An initial comprehensive list of initiatives was discussed with experts from the Environmental Protection Agency (EPA) and DFID in Ghana, where necessary complemented and narrowed down to a final list with the most relevant and recent initiatives. Initiatives that were identified as being of little relevance, too old, or for which no concrete information could be found, were removed from the list.

Although the initiatives can be attributed to different and sometimes overlapping focus areas according to their objectives, initiatives are primarily categorised as related to adaptation or low carbon growth. The following shows which focus areas are grouped under the main headings:

Adaptation:

- Adaptation (general).
- Agriculture and food security.
- Disaster risk management.
- Social Development and Health.
- Water management.

Low Carbon Growth:

- Carbon finance.
- Climate strategy.
- Energy efficiency.
- Renewable energy.
- Transport.
- Forestry & REDD.

Each initiative has been documented in a database, and the following information has been provided on each:

- | | |
|------------------|----------------------------------|
| • Name | • Ghanaian recipient institution |
| • Thematic focus | • Donor Institution |
| • Description | • Start and end dates |
| • Objective | • Funding value |

For easier use, the information contained in the database has also been made available in Excel. In addition to national initiatives, the database also includes local and regional initiatives as well as large programs taking place across the ECOWAS region or pan-African projects, in which Ghana is involved. The present version of the database entails a fairly comprehensive list of initiatives, but it should not be considered exhaustive.

Information on climate finance initiatives and funding opportunities was collected based on publicly available information sources and on interviews with representatives of the most important donor countries and multilateral agencies present in Ghana.

1.4 Report Structure

This report is structured as follows:

- **Chapter 2:** Provides an overview of the main initiatives across all sectors, followed by a more detailed description of the initiatives within adaptation and low-carbon growth.
- **Chapter 3:** Provides an overview of climate-financing initiatives and potential funding sources available to developing countries such as Ghana.
- **Chapter 4:** Provides a discussion of observed trends and points for attention.
- **Chapter 5:** Contains a short conclusion.
- **Appendix A:** Provides a full list of the climate change related initiatives contained in this report
- **Appendix B:** Lists the interviews held in Ghana to gather the data contained in this report

2. Initiatives on climate change

2.1 Overview

The initiative mapping shows that a multitude of initiatives related to climate change have taken place in Ghana over the past decade. Tables A.1 and A.2 in the appendix present a full overview of the initiatives that have been analysed. Generally, the initiatives are executed by international donor institutions in cooperation with the Ghanaian government or local partners. Some Ghanaian MDAs started to explore the topic of climate change as early as the mid 1990s. Important projects include the Africa Adaptation Programme, the Natural Resources and Environmental Governance Program (NREG), the REDD Readiness Proposal, the Forest Investment Program (FIP), the first and second communication to the UNFCCC, the Ghana Urban Transport Project, and the Ghana Energy Development and Access project (GEDAP).

Figure 2.1 summarize the total level of funding for the climate change related initiatives covered in this report. The data only includes initiatives with a specific climate change focus. Funding levels are only indicative as it was not possible to obtain information on funding for some of the smaller initiatives covered here. The NREG sector budget support is listed separately as it includes elements of climate change adaptation and low carbon growth, but also addresses a variety of other issues related to the environment and natural resources.

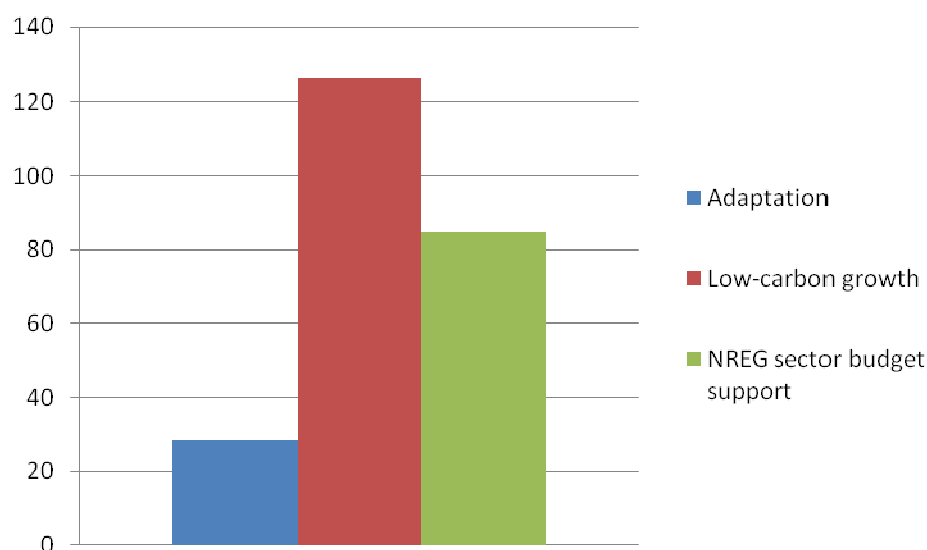


Figure 2.1 *Funding for the climate change initiatives Ghana covered in this report for which data was available from 1995 to 2010 (in mln. USD)*

Total funding for climate change related activities equates to 240 mln. USD, of which 28.5 mln. USD for adaptation related activities and 126.4 mln. USD for low carbon growth related initiatives. Figure 2.2 and 2.3 show funding levels per thematic area.

Adaptation

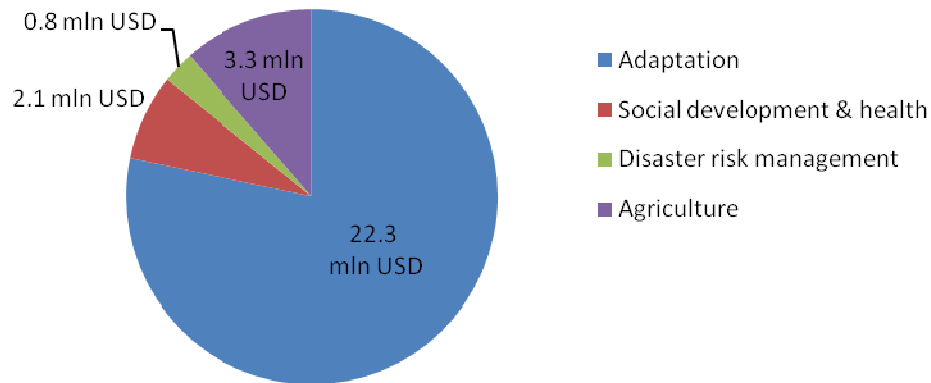


Figure 2.2 *Adaptation: Funding per thematic area from 1995 to 2010 for the initiatives for which data was available*

Low-carbon growth

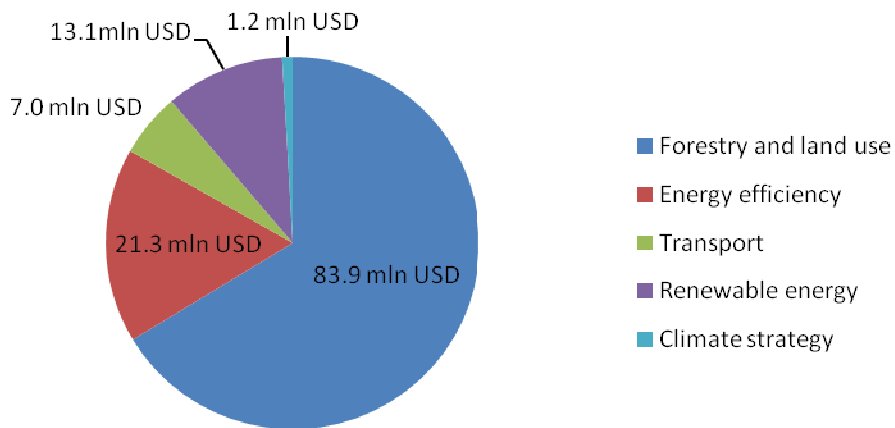


Figure 2.3 *Low Carbon Growth: Funding per thematic area from 1995 to 2010 for the initiatives for which data was available*

2.2 Adaptation

Table A.1 in the appendix shows the adaptation related initiatives covered in this report. The table includes projects which have climate change adaptation as a primary objective, and also projects related to water and land management, disaster risk reduction and to social development and health care, which have significant adaptation co-benefits.

2.2.1 Major initiatives related to adaptation

Adaptation (general)

Activities related to adaptation in Ghana started more than 15 years ago. As early as 1996, the first phase of the '*Netherlands Climate Change Studies Assistance Programme*' (NCCSAP) started, under coordination of the Institute of Environmental Studies (IVM) at the Free University of Amsterdam and funded by the Dutch Ministry of Foreign Affairs. During the first phase, NCCSAP supported a group of 13 non-Annex one countries, among them Ghana, to enhance their capacity to formulate and implement climate change national policies to fulfil their commitments to UNFCCC. NCCSAP assisted in preparing national reports, in comparing national situations in different contexts, and contributed to an overall learning process by all concerned parties. The focus of the first phase was on sectoral vulnerability and adaptation assessments. These studies explored vulnerability in relation to a set of climate change scenarios (changes in temperature, precipitation etc.), and proposed adaptation strategies to build resilience against threats associated with climatic variability and change. In Ghana, the study was prepared with support of the EPA.

In 2003, the second phase, now called '*Netherlands Climate Assistance Programme*' (NCAP), started and involved eight countries from the first phase and six new countries. Similar to the first phase, the project aimed to support the countries in their efforts to formulate and implement effective policies to combat climate change. Under the NCAP, the emphasis of the programme was on studies in the area of adaptation, with a specific focus on examining the linkages between poverty and climate change and the consequences of climate change on the livelihood systems of poor communities. The ultimate objective of the Ghanaian project was to formulate climate change policies consistent with the Ghana poverty reduction strategy, thus facilitating the mainstreaming of these policies into district as well as national development plans. The research brought insight into the vulnerability of several key economic sectors such as cocoa and fisheries. The NCAP was implemented between 2004 and 2007 by ETC International with local support by the EPA and NDPC. Financial support of €180,000 from the Dutch Foreign Ministry was received.

The *Climate Change Adaptation and Development Programme Initiative* (CC-DARE) is a joint program by UNEP, UNDP, the UNEP Risø Centre for Energy, Climate and Sustainable Development (URC) and the UNEP Centre for Water and Environment. CC-DARE was undertaken in 11 African countries, including Ghana. CC-DARE began in mid 2009 and completed in November 2010. EPA and CC-DARE are currently finalizing a national climate change adaptation strategy for presentation to Parliament and Cabinet. Development partners were asked to complement the activities under the already ongoing Natural Resources and Environment Governance (NREG) sector support program (see environmental and forest governance on page 21). The Danish International Development Organisation (DANIDA) supported the effort with 6 mln. USD, of which 150 000 USD was earmarked for Ghana. In Ghana, the project was implemented through UNEP and UNDP.

The most recent major study on adaptation in Ghana was completed as part of the World Bank led study on the '*Economics of Adaptation to Climate Change*' (EACC). In 2007 the UNFCCC agreed to allocate financial resources to developing countries for adaptation. At the time, the estimated cost of adaptation globally varied widely, from 4 to 109 bln. USD a year. The EACC study aimed to address this knowledge gap by analysing the predicted climate impacts and robustly estimating the costs of adaptation in nine country case studies, of which Ghana was one. Jointly

funded by the governments of the Netherlands, Switzerland and the UK, the EACC study also aimed to help countries to develop national plans that incorporate adaptation measures. The World Bank published the final synthesis report in spring 2010. Country case study reports presented findings from national level sector analyses of three to five sectors. The Ghana country case study was published at the end of 2010.

Several adaptation related efforts are currently ongoing in Ghana (as of March 2011). The UNDP's Africa Adaptation Programme runs their '*Supporting Integrated and Comprehensive Approaches to Climate Change Adaptation in Africa*' project in Ghana, along with 19 other African countries. The project aims to assist countries to introduce dynamic and long-term planning mechanisms to manage uncertainties related to the expected impacts of climate change. Countries are also encouraged to build leadership capacities and develop institutional frameworks to manage risk at local and national level. Of the 92 mln. USD funding that the initiative receives from the Japan International Cooperation Agency (JICA), 2.7 mln. USD is earmarked for Ghana. The project runs from December 2008 to December 2011.

In early 2010, CARE, an international NGO focussing on fighting global poverty, launched the '*Adaptation Learning Programme (ALP)*' for Africa. The program will run for five years finishing in 2014. The programme objective is to increase the capacity of vulnerable households in sub-Saharan Africa to adapt to climate change, focusing on communities in two districts in Ghana, Niger, Mozambique and Kenya. ALP hopes to develop innovative approaches to community-based adaptation (CBA), compile best practices, and empower local communities to have a voice in decision making on adaptation. ALP seeks to influence adaptation policies on all levels and has a particular emphasis on gender equality and diversity. Activities will target the most vulnerable socio-economic groups, which will be identified through participatory analysis. The programme is supported by the United Kingdom's Department for International Development (DFID), The Ministry of Foreign Affairs of Denmark and The Ministry of Foreign Affairs of Finland. Ghanaian implementation takes place through the local CARE office in cooperation with the local communities.

Disaster risk management

In 2008 UNDP started a short project together with the National Disaster Management Organisation of Ghana (NADMO) on '*Enhancing National Strategies for Effective Disaster Risk Reduction in Ghana*'. The project lasted 12 months and financial support of 140'000 USD was provided via UNDP.

The *Ghana North Sustainable Development, Disaster Prevention and Water Resources Management (GFDRR)* will be implemented between 2008-2013 with 600'000 USD funded by the World Bank. The programme aims to prepare a Comprehensive Disaster Risk Management and Climate Adaptation Program for Ghana in close collaboration with the government and development partners. The first phase is intended to take stock of the overall DRM situation in the country, flesh out its main Disaster Risk Management needs and present indicative new program areas and projects for GFDRR funding for 2010-2012. The programme has not materialised yet.

In addition, the Government of Japan has committed 700 mln. Yen (about 8,5 mln. USD) to a new initiative called '*Programme for the Improvement of Capabilities to Cope with Natural Disasters Caused by Climate Change*'.

The Vodafone Ghana funded '*Raising awareness for climate change*' project is a example of the otherwise limited private sector involvement in adaption in Ghana. The two-year (2010-2012), 95'000 USD project is part of a wider strategy to establish an early warning system for disaster prevention and recovery in Ghana. The project is implemented through the EPA, together with the Ghana Meteorological Agency, NADMO and the Ministries of Health and Food and Agriculture.

Agriculture

Agriculture is expected to be significantly affected by climate change in Ghana through increased variability in precipitation, temperature and extreme weather events. Thus, the livelihoods of many of Ghana's rural population are also likely to be affected. To help address this, the '*Innovative Insurance Products for Adaptation to Climate Change*' (IIPAC) project has been developed to enable the insurance sector in Ghana to offer innovative and economically sustainable insurance products against the financial risks caused by extreme weather events and variable temperatures and precipitation. It is hoped that the interventions will improve income security, food security, credit availability and employment opportunities for Ghana's rural population. Ghana could serve as a pilot country for the project, therefore the lessons learnt will be collected and shared to facilitate the transfer of the approach to other countries. The project runs from 2009 to 2013 and receives financial support of 2.25 mln. EUR from the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). It is implemented by GTZ in cooperation with the National Insurance Commission (NIC) and the MoFEP.

Water management

Land degradation and poor water management threaten the traditional pillar of Ghana's economy which is based on small scale subsistence farming, especially in the northern region of the country. Although not directly focused on climate change adaptation, many water management projects have adaptation co-benefits. Two examples of water management projects are the '*Ghana Urban Water project*' and the '*Ghana Sustainable Rural Water and Sanitation Project*'.

The *Ghana Urban Water Project* aims at improving the amount of water distributed in Ghana's urban centres and further extending water supply to poor neighbourhoods. Project duration is 8 years, with a total budget of 120 mln. USD, the majority of which comes from the International Development Association (IDA, the World Bank's fund for the poorest countries) and the Ghanaian Northern Development Fund. Ghana Water Company is managing the project. The project has four major aims: System Expansion and Rehabilitation; Public-Private Partnership Development; Capacity-Building and Project Management and Severance Programme. The project is also planned to contribute to the reform of the country's urban water sector.

The '*Ghana Sustainable Rural Water and Sanitation Project*' is a further project looking into the improvement of the water supply and sanitation situation, especially in rural areas and small town communities. The project aims to serve three purposes: First, improving the access to water supply through the construction and rehabilitation of onsite and piped water supply systems; second, contributing to reach the millennium development goals for sanitation by targeting whole communities and small towns within the project area; and third, strengthening institutions and building project management capabilities. Project duration is from 2010 to 2016, financed with 75 mln USD from the World Bank. The two projects mentioned above do not have an explicit focus on climate change.

Social Development and Health

Climate change is likely to negatively impact the health situation of Ghana's population. It is estimated that a large percentage of the country's health issues are a result of climate sensitive diseases such as malaria, diarrhoea and meningitis, i.e. diseases which may change prevalence with changing temperature and rainfall patterns. '*Integrating climate change into the management of priority health risks*' is funded by the GEF Special Climate Change Fund. It aims to develop and implement a national strategy to streamline climate change risks into health sector policies and programmes. Specific action points beyond the three key diseases are planned to be identified and included in the five year work plans of the Ministry of Health (MoH). The project commenced in 2010 and is due to be completed at the end of 2013.

Many development projects, such as those focusing on rural development and income generation, have co-benefits in terms of climate change adaptation. The 'Community based rural develop-

ment project (CBRDP) which is described below is an example of such a project. However it would go beyond the scope of this study to list all such projects.

The '*Community Based Rural Development Project (CBRDP)*' was developed by the Government of Ghana in 2004 as part of its strategy for poverty alleviation. The project is a large initiative by the Ghanaian Government to alleviate rural poverty and lift income levels of the productive poor. It aims to:

- Provide facilities and resources to enhance agricultural and commercial in the communities activities to increase the income of beneficiaries.
- Develop skills and create employment in rural communities by assisting rural enterprises to properly manage agricultural value chains.
- Provide a conducive environment for learning and health, by rehabilitating existing but run-down school facilities and constructing community health and nutrition centres.
- Strengthen the capacities of environmental and sanitation sub-committees and community level organizations to enhance environmental governance and integrated management of land and water resources.

However, the '*Community Based Rural Development Project (CBRDP)*' has no explicit climate change focus. The project runs until mid 2011 and has a total budget of approx. 74 mln. USD, of which the majority comes from the World Bank's IDA, supplemented by in-kind contributions from the GoG and local communities and districts.

2.3 Low carbon growth

Ghana's economy is expected to continue to grow fast; as the first revenues from oil exploration start to come in, the Economist (2011) expects Ghana to be among the world's countries with the highest growth rates in 2011. And the most recent government statistics indicate that Ghana has reached lower middle income status. Ongoing economic growth and development could be expected to lead to increased GHG emissions. However, it has been recognised that pursuing a low carbon development pathway may present opportunities such as significant development co-benefits, cost savings and access to international funding (MEST, 2010). Low carbon growth options in Ghana include increased energy efficiency, higher penetration of renewable energy, improved public transport and waste management systems and sustainable forest management. The link between climate mitigation and forest management has for example recently gained attention in Ghana through the international climate instrument of 'Reducing Emissions from Deforestation and forest Degradation (REDD)'.

Table A.2 in the appendix shows the initiatives related to low carbon growth covered in this report. The table includes initiatives focusing on energy efficiency, renewable energy, transport, forestry and land use, carbon finance and climate strategy.

2.3.1 Major initiatives related to low carbon growth

Energy efficiency

A number of energy efficiency related initiatives have been undertaken in Ghana by the Ministry of Energy, the Energy Commission (EC) and the Energy Foundation in cooperation with donor agencies. Most energy efficiency initiatives have taken place over the last couple of years.

In 2007, the Ghanaian Parliament passed a bill which banned the sale of incandescent bulbs and instead mandated the introduction of *compact-fluorescent lamp (CFL) bulbs*. This measure was aimed at reducing energy consumption particularly amongst residential consumers. In support of the new legislation, the government also started a free nationwide exchange and installation programme, which was implemented and overseen by the EC. In total, the program resulted in the distribution of 6 mln. CFLs, and is estimated to have led to a total CO₂ savings of more than

100'000 t CO₂e in 2008/2009 compared with earlier years. The estimated cost of the program was about 15 mln. USD.

Refrigerators are another area with substantial potential for energy efficiency improvements. Ghana is working on the program '*Promoting of Appliance Energy Efficiency and Transformation of the Refrigerating Appliances Market in Ghana*' whereby people can turn in their old refrigerator and receive a coupon that can either be cashed in or used to purchase a new fridge. Additional loans are planned to be provided to finance the premium and enable the purchase of new, energy efficient fridges. The program will commence in January 2011 and will run until the end of 2013, implemented by the EC in cooperation with UNDP Ghana. The budget is expected to be 5.7 mln. USD (awaiting final approval by GEF). In addition, the Government of Ghana is currently preparing a new law that would introduce standards that have to be met for new fridges.

Renewable energy

Activities aiming at supporting renewable and clean energy in Ghana have been undertaken since the 1990's. The GEF funded project *Renewable energy-based electricity for rural, social and economic development in Ghana (RESPRO)* for example was initiated in the mid-1990's and started implementation in early 1999. Currently, discussions are ongoing to move the promotion of renewable energy from project level to a more systematic approach, as the cabinet is reviewing a draft renewable energy bill. The bill proposes a fixed feed-in tariff and would require 'bulk customers' with high energy demand to purchase a minimum share of renewable energy. To finance the feed-in premium, the project '*Integration of renewable energy sources into the national energy grid mix*' is currently under discussion with the GEF. On the Ghanaian side, the EC has the lead for renewable energy initiatives. Additional discussions are ongoing on involving private-sector partners from the financial sector that have expressed interest to participate in the scheme.

The ongoing *Ghana Energy Development and Access Project (GEDAP)* aims at expanding electricity access through off-grid renewable energy solutions. To achieve this aim, the project intends to introduce new financing systems and to encourage the development of small, private energy businesses. Smaller initiatives on renewable energy include a project which develops '*Geographic information system (GIS) tools to support renewable energy planning in Ghana*' funded by REEEP.

Transport

With increasing levels of wealth and mobility, urban transport has become an issue in many major city centres in Ghana, especially in Accra. Today, transport in urban and suburban areas in Ghana is widely based on a system of taxis and shared mini buses, 'Tro-Tros'. In order to achieve greater efficiency, the '*Ghana Urban Transport*' project was developed, with the aim to improve mobility through a combination of traffic engineering measures, regulation of the public transport industry and implementation of a bus-rapid-transport (BRT) system. It is expected that the project increases the use of lower emission transport along the pilot BRT corridor in Accra. The BRT is also expected to increase the average travel speed for all traffic (due to the avoided number of vehicles). The project started in mid 2007 and will run until the end of 2012. Financing of 90 mln. USD has been allocated from a consortium of partners, with contributions from the World Bank's International Development Association (IDA), the French Development Agency (FDA), the GEF and in-kind contributions from the Government of Ghana. To date, the Urban Transport project faces delays due to discussions with local stakeholders from the public transport sector over the question if the new system will lead to the loss of jobs and business opportunities for small-scale public transport operators.

Succeeding an earlier program (the *Road Sector Development Programme*) the Ghanaian government has developed the *Transport Sector Development Programme* that sets out an integrated concept of activities for Ghana's Transport Sector in the period 2008-2012. The program aims to improve the mobility of goods and passengers by reducing travel time, vehicle operating cost and by implementing a safety strategy. This objective is planned to be achieved through strengthening

the capacity of transport-related institutions in planning, regulation, operations and maintenance. In total, 225 mln. USD have been earmarked as project budget provided by the IDA. The project is implemented by the Ministry of Roads and Highways (MRH). However, the *Transport Sector Development Programme* has no explicit focus on climate change.

Forestry and land use

Early efforts on reducing deforestation in Ghana were relatively unlinked to the climate change agenda. But since 2008 when the concept of REDD (Reducing Emissions from Deforestation and Forest Degradation) started to gain increasing importance in international discussions on climate change mitigation, Ghana has also increased its activities on REDD. The two largest efforts are the World Bank’s ‘*Forest Investment Program (FIP)*’ and preparations for participation in the World Bank’s ‘*Forest Carbon Partnership Facility (FCPF)*’. In addition to these two major efforts, a number of supporting programs and smaller projects on the national, regional and community level are currently ongoing.

Ghana has submitted its ‘*Readiness Preparation Proposal*’ (R-PP) to the FCCPF ² in January 2010. The R-PP aims to assist Ghana to prepare itself for REDD, and become ‘ready’ for the implementation of REDD as an international climate instrument. The R-PP is coordinated by the Forestry Commission (FC). To be eligible for larger scale REDD funding through the FCPF, Ghana has to go through different phases of preparation, see Figure 2.3. Ghana now plans to continue with the implementation of the R-PP, coordinated by the Forestry Commission. The ‘*REDD+ R-PP Implementation*’ program started in 2010 and will complete in 2013. The R-PP Implementation has a total budget of 7.4 mln. USD, of which 3.6 mln. USD is from the FCPF, 1.7 mln. USD is from the Government of Ghana and USD 2 mln. USD is provided by a second development partner. The initiative has been approved but has not yet materialised.

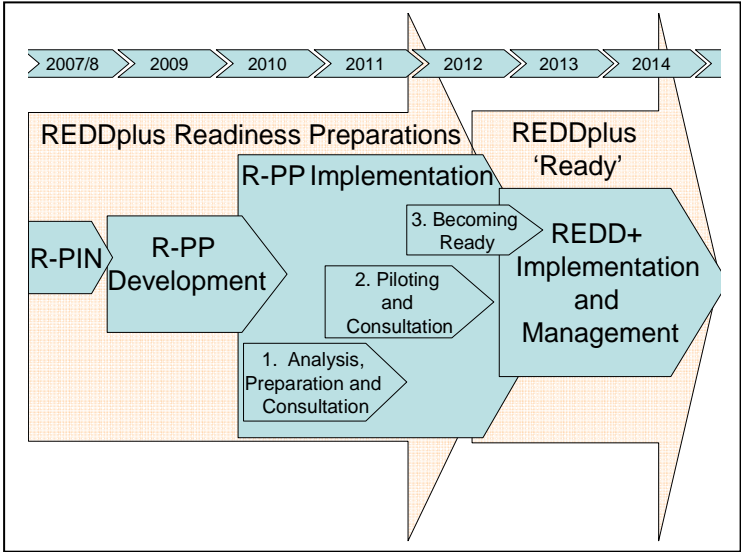


Figure 2.4 *Phasing of Ghana’s progress towards being ‘Ready’ for REDD+*
 Source: Forestry Commission, 2010.

Ghana has also been selected as pilot country in the ‘*Forest Investment Program*’ (FIP). Countries selected for the FIP can expect financial support for REDD related efforts including activities which build enhanced institutional capacity for forest governance, concrete investments in forest mitigation, and investments outside the forest sector which help to reduce the pressure on

² The FCPF is a global partnership focused on reducing emissions from deforestation and forest degradation. The FCPF assists tropical and subtropical forest countries develop the systems and policies for REDD+ and provides them with performance-based payments for emission reductions. The FCPF complements the UNFCCC negotiations on REDD+ by demonstrating how REDD+ can be applied at the country level. Funding for the FCPF comes from 14 financial contributors having in total allocated USD 165 million.

forests. 70 mln. USD has been earmarked for Ghana. The allocation and spending of this money will be overseen by the Ministry of Finance.

The '*Natural Resources and Environmental Governance Programme*' (NREG) seeks to address governance issues concerning natural resources and environment. It provides annual sector budget support to the respective ministries. NREG has the objective of ensuring sustainable economic growth, poverty reduction, increasing revenues and improving environmental protection. The specific aims of the programme are to:

- Improve the management of government revenues and finances in the forestry and mining sectors through the provision of annual budgeting support to these sectors.
- Reduce illegal logging.
- Reduce social conflicts in forestry and mining communities.
- Integrate environmental considerations (including climate change) into policy formulation and implementation across Government.

In addition to a focus on forest governance and other environmental and natural resources related issues, NREG includes annual targets on climate policy. NREG has been developed jointly by the Government of Ghana, the French Development Agency (FDA), DFID, the European Commission, the Dutch government and the World Bank's IDA. The programme started in 2008 and runs until October 2012. The total budget allocated for 2008-2010 was 85 mln. USD. Allocations for 2011 and 2012 are yet to be made and the continuation of NREG beyond 2012 is currently under discussion.

Climate strategy

The Government of Ghana is a party to the United Nations Framework Convention on Climate Change (UNFCCC), and has played an active role in the international climate negotiations for many years, including the role of opinion maker in the G77 group. As a consequence, Ghana has been active in national activities relating to the international climate regime since the mid-1990's. Ghana published its *first national communication to the UNFCCC* in 2001, entailing its first national GHG inventory. The country is currently finishing its second national communication including an update of the GHG inventory. Ghana has also published a *Technology Needs Assessment (TNA)* in 2003. In 2011-2012 the TNA is being updated focusing on adaptation. In 2010, Ghana associated itself with the Copenhagen Accord and submitted a list of Nationally Appropriate Mitigation Actions (NAMAs) to the UNFCCC. With the support of UNDP, the Government of Ghana, represented by MEST and EPA plans to continue to work on the detailing and operationalization of the NAMAs. Funding for the UNFCCC related work comes partly from the UNDP Annual Workplan, but also from World Bank/GEF. Until 2009, work related to the international climate negotiations has primarily been coordinated and undertaken by a climate change unit within EPA. With the reinstatement of MEST, this responsibility is now shared between MEST and EPA.

There have also been various efforts on building capacity for the carbon market and Clean Development Mechanism (CDM) in Ghana. However, these efforts have not yet resulted in a registered CDM project.

3. Climate finance sources available to developing countries

The following section describes some of the major funding sources for climate finance currently available to developing countries³, and a short explanation of Ghana's position in terms of accessing these funds.

The Global Environment Facility (GEF)

The GEF is among the largest funders of projects to improve the global environment by providing grants to developing countries and countries with economies in transition. Established in 1991, it is an independent institution acting as a financial mechanism for international environmental treaties including the UNFCCC. GEF agencies (UNDO, UNEP, the World Bank, FAO, UNIDO, AfDB, ADB, EBRD, IADB, and IFAD) assist eligible governments and NGOs in the development, implementation and management of GEF projects. Within the focus area of climate change, GEF supports mitigation, adaptation, technology transfer and enabling activities such as National Communications. Funding of projects and programs is done mostly in phases. The previous phase, Phase 4, received pledges of 1,02 bln. USD and ended in 2010. For Phase 5, 1,36 bln. USD is pledged. In addition, there are two smaller, targeted funds: the Least Developed Countries Fund (LDCF); and the Special Climate Change Fund (SCCF) (148 bln. USD pledged) (GEF, 2010).

Ghana has a good track record in accessing GEF funding and according to the GEF project database⁴ has received 21 mln. USD of grants for climate change related activities since 1991. This compares to 32 mln. USD for Uganda, 19 mln. USD for Tanzania, 11 mln. USD for Nigeria and only 0,25 mln. USD for Cameroon. The project '*Promoting Value Chain Approach to Adaptation in Agriculture*' is the latest GEF project in Ghana and was approved in November 2010 under the Special Climate Change Fund.

The World Bank Climate Funds

The World Bank is a major provider of climate finance, running various climate change related funds and programs, including its Climate Investment Funds. This comprises two funds, the *Clean Technology Fund (CTF)* and the *Strategic Climate Fund (SCF)*

The *SCF* serves as an umbrella fund for 3 programs with dedicated funding to support low carbon and climate resilient development by piloting new approaches that have the potential for scaling up and transforming specific sectors. The three associated programmes are:

- *Pilot Program for Climate Resilience (PPCR)* which was approved in 2008 and has pledged funds of 972 mln. USD. It pilots and demonstrates ways to integrate climate risk and resilience into core development planning, while complementing other ongoing activities. The program focuses on 9 pilot countries from Least Developed Countries (LDCs) and Small Island Developing States (SIDS) and two pilot regions. Ghana is not a focus country of the PPCR.
- *Forest Investment Program (FIP)* which was approved in 2009 to support developing countries in reducing emissions from deforestation and forest degradation. The program finances efforts to address the underlying causes of deforestation and forest degradation and to overcome barriers that have hindered past initiatives. This includes investments in:
 - Institutional capacity, forest governance and information.
 - Forest mitigation efforts, including forest ecosystem services.
 - Measures outside of the forest sector which are needed to reduce the pressure on forests.

³ Additional information on many of the funding sources can be found at <http://www.climatefundsupdate.org/>

⁴ See <http://www.gefonline.org/>

Ghana is one of the eight FIP pilot countries.

- *Scaling Up Renewable Energy in Low Income Countries (SREP)* was approved in 2009 and has pledged funds of 300 mln. USD. It aims to demonstrate the social, economic, and environmental viability of low carbon options in the energy sector. It seeks to create new economic opportunities and increase energy access through the production and use of renewable energy. SREP is being piloted in six countries. Ghana applied to the program but was not selected (World Bank, 2010).

Other multilateral funds and programs

The *Adaptation Fund* was established as a financial instrument under the UNFCCC with the aim to finance concrete adaptation projects and programs in developing countries that were particularly vulnerable to climate change. Financing for the Adaptation Fund comes mostly from a 2% share of the sale of Certified Emission Reductions (CERs) issued by the CDM market, and from additional voluntary pledges by donor countries. As of December 2010, about 216 mln. USD were pledged to the fund, but only two projects in Senegal and Honduras were approved for funding (Heinrich Boell Stiftung, 2010). Ghana would be eligible to submit project proposals to the fund.

The various UN organizations also have a number of climate change related programs, most of which are executed as part of their country programs, such as the CC-DARE initiative on adaptation where Ghana is one of the focal countries (UNEP, 2009).

Bilateral initiatives and cooperation

In terms of funds pledged and deposited, the largest bilateral climate change initiative is Japan's *Hatoyama Initiative*, which was announced at the Copenhagen Climate Conference (COP15) in December 2009 and replaces Japan's previous Cool Earth Partnership. The major focus of the initiative is on mitigation. The aim of the Hatoyama Initiative is to provide assistance to developing countries which are already active in reducing greenhouse gas emissions and to enable these countries to achieve climate-friendly economic growth. Pledges to the initiatives are done by public and private sources and amount to 15 bln. USD Funds are disbursed after bilateral consultations and based on a common understanding on climate mitigation policies (Heinrich Boell Stiftung, 2010). Currently, Ghana is receiving funding from the Hatoyama Initiative in the frame of regional projects, e.g. on photovoltaics and adaptation. The UNDP *Africa Adaptation Programme* is for example financed through the Hatoyama Initiative. There is no indication of a memorandum of understanding between the two governments for heightened activities.

In addition, there are also climate finance initiatives for which Ghana is not eligible, e.g. because it is not a Least Developed Country, or where Ghana is not on the list of focus countries, such as for the Environment and Climate Change thematic window of the MDG Achievement Fund by the Government of Spain and UNDP.

However, Ghana has close ties of bilateral cooperation with a number of donor countries who have active representation in the country itself. Development partners active in the broader area of environment and natural resources in Ghana include the US, Denmark, UK, the Netherlands, Germany and Switzerland. All of these also countries also support, or have supported climate change related initiatives in Ghana. The focus of these initiatives is mostly decided by bilateral consultations, however, increasingly also by broader coordination among development partners and representatives of the Government of Ghana.

4. Analysis and discussion

The analysis undertaken in this study demonstrates Ghana's longstanding engagement with climate change, dating back more than 15 years. The results show a multitude of activities related to both adaptation and low carbon growth, undertaken by government agencies cooperating with civil society organizations, academic and private sector stakeholders, and funded by different international development partners and other donor organizations. Due to the large number of activities from regional to sub national level, and by governments, donors, NGOs and the private sector, the analysis presented here should not be considered exhaustive. However, the study does list the largest climate change initiatives at a national level during the past decade.

Currently the largest, directly climate change related activities are taking place in the forestry sector (related to REDD), on general aspects of adaptation and on energy efficiency and urban transport.

Track record in attracting initiatives and financing

Although the authors are not aware of similar mapping exercises for other African or developing countries, it seems that considering Ghana's size, population and level of development, the number of climate change related initiatives being undertaken in Ghana is much larger than in comparable countries. This may be related to Ghana's political and economic stability, which makes the country an attractive partner for international donors and to Ghana's active engagement in the international climate negotiations.

Equally, Ghana has a relatively strong track record in accessing international financing for such initiatives. Ghana has been awarded a relatively large number of projects by the GEF, and has been selected as a pilot country for the World Bank's REDD related activities. However, Ghana's track record in accessing carbon market financing has been weak, which may partly be due to lacking private sector involvement in climate change related activities (see below).

Coordination

Despite Ghana's successful track record, there are points for attention. From the stakeholder interviews conducted for this study, it emerged that initiatives are not always coordinated well, which may lead to overlapping and duplication of activities. There are opportunities for improvement by ensuring that initiatives build on each other and make use of insights gained from earlier efforts. Coordination of REDD related activities is a challenge due to the large number of recent initiatives, and stretched human capacity at the relevant government agencies and in-country experts. Coordination of efforts becomes even more important as Ghana moves from the planning and analysis stage to increased implementation of programs for low carbon growth and adaptation.

The NREG sector budget support program is an innovative example of coordination and governance, although it is too early to tell if it is successful. NREG bundles funding from the development partners which are active in the natural resources and environment sector in Ghana, and the funds are fully merged with government budget, and thus aligned with national development priorities.

Transparency

In most cases it was difficult to get access to project evaluations or to an overview of concrete project results. In some cases, even access to program details was not possible (it has for example not been possible to get first hand information on UNDP related efforts). Although it was not the aim of this study to evaluate specific projects, the difficulty in accessing information on project results did make it difficult to identify overlaps and gaps in the current climate change agenda.

Greater transparency might improve effectiveness of climate change initiatives as it could avoid the duplication of efforts and enable subsequent initiatives to build on each other. Today, it appears that a few individual Ghanaian experts do have a good overview of activities in their field of expertise. However, the information seems to be concentrated with these individuals, and not be accessible to a wider group of stakeholders. During the interviews conducted for this study, some government and donor representatives explicitly expressed concern that they were not sufficiently informed about the climate change initiatives relevant to them.

Judging from the information available, some projects have resulted in tangible outcomes. The CFL program, for example, has led to an almost complete replacement of incandescent light bulbs in the country. However, the outcomes of most initiatives are more difficult to assess, especially when they relate to capacity building.

Private sector involvement

Private sector involvement in the climate change initiatives covered here is limited. The only programs with strong private sector involvement are a relatively small project initiated by Vodafone Ghana on raising awareness for disaster risk management, and the Cocoa Carbon Initiative involving Cadbury. This lack of private sector involvement may be considered a weakness in Ghana's overall profile of climate change activities, especially in the area of low carbon growth. Whilst the implementation of some initiatives relies exclusively on public sector interventions, such as setting and enforcing energy efficiency standards, a number of other interventions would ideally require private sector participation, if only because large investments are required. Involving private sector participants into project design from the start may also help to identify barriers at an early stage. In the case of the large World Bank supported urban transport project for example, private sector resistance to the project set up has led to delays in project implementation⁵. Renewable energy is a further area where private sector participation and investments are important for large scale implementation. However, despite a number of initiatives in this area, electricity market regulation and energy subsidies, which keep the cost of energy for consumers low,⁶ are cited as one of the reasons for the slow uptake of renewable energy technologies in the country.

Mainstreaming of climate into development planning

In the area of adaptation, a larger number of MDAs seem to get involved than in the past, including MDAs which previously did not explicitly address climate change in their programs. Whilst earlier efforts such as the NCAP, the NCCSAP and the '*Economics of Adaptation to Climate Change*' Study involved mainly EPA on the side of the Ghanaian government, more recent programs such as the '*Innovative Insurance Products for Adaptation to Climate Change*' (IIPAC) and the '*Integrating Climate Change into the Management of Priority Health Risks*' explicitly work with ministries and stakeholders from the relevant sector. This indicates an emerging trend towards mainstreaming climate change into sectoral development planning and objectives. Such a trend would be in line with international best-practice and with the stated intention of the Government of Ghana (see foreword to MEST, 2010)

Thematic focus

The development of a National Climate Change Policy Framework (NCCPF) as pursued by MEST and the National Climate Change Committee (NCCC) is a step towards better coordination and harmonization of initiatives, towards aligning climate change and development objectives, and towards mainstreaming climate change considerations into decision making by the government. Both the Minister of MEST and the Vice President of Ghana have stated that the country's priority in terms of responding to climate change lies in effective adaptation (see foreword to MEST (2010)). Currently however, Figure 2.1 shows a significantly larger amount of funding

⁵ See for example online news coverage [\[link\]](#) and [\[link\]](#)

⁶ See for example the GEF evaluation document for the project 'Renewable Energy-Based Electricity for Rural, Social and Economic Development in Ghana' [\[link\]](#) and project documentation for the project 'Energy Development and Access Project' [\[link\]](#)

for low carbon growth related activities (126.4 mln. USD) than for adaptation related activities (28.5 mln. USD). Even when excluding the 70 mln. USD *Forest Investment Program* from low carbon growth, for which disbursement of funds hasn't started, yet, the difference remains large. Moreover, the present report includes more low carbon growth than adaptation related activities. The focus on low carbon growth may be a reflection of the strong international interest in climate mitigation and low carbon development. This imbalance in funding levels for adaptation versus mitigation should be taken in to account when planning future climate change related activities.

Building supporting systems

Mapping existing initiatives against the seven supporting pillars suggested in MEST's discussion document (MEST, 2010) is more challenging than against thematic areas. Few projects have an exclusive focus on building supporting systems, although many initiatives address some of the seven pillars, such as capacity building and communication, as part of their program of activities. A few recent initiatives such as a program to improve GIS capabilities for monitoring developments of forest cover do focus on building supporting systems.

Large-scale financial support for climate change initiatives is typically related to relatively high requirements for transparency, accountability and governance, and therefore requires this type of supporting systems. Such requirements may become stricter in the future, as is indicated by the discussions on Monitoring, Reporting and Verification (MRV) in the international climate negotiations. Strengthening these systems will therefore be crucial in accessing significant amounts of further funding.

5. Recommendations

The present initiatives mapping illustrates Ghana's longstanding engagement with climate change, and shows some positive trends such as Ghana's relatively successful track record in acquiring funding for climate change related activities, and an emerging trend towards mainstreaming climate change into sectoral development planning and objectives.

However, in order to access significant amounts of funding for climate change related initiatives in the future, and to ensure that the support is deployed effectively, the initiatives mapping hints at a number of points of attention:

- Attention should be paid to improve the balance between funding adaptation versus initiatives focusing on low carbon growth. An improved balance would better reflect Ghana's vulnerability to climate change and its stated political intention to address this vulnerability.
- Private sector involvement in climate change needs to be stepped up.
- Strengthening supporting systems for institutional capacity, governance and monitoring is crucial for an effective deployment of climate finance.
- Greater transparency and better coordination among initiatives (without aiming to centrally control all activities) could improve their effectiveness as it could avoid duplication of efforts and enable subsequent initiatives to build on each other. A publicly available registry of climate change initiatives in Ghana maintained by a government institutions such as MEST or EPA or by third-party actor such as a university could support the coordination of efforts.

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Appendix A Climate change related initiatives in Ghana

Table A.1 Overview of the initiatives related to adaptation in Ghana considered in this report

Keyword	Name	Recipient or implementing organization	start date	end date	Initiative sponsor	Amount	Currency	
ongoing	Adaptation	Sustainable Land Management in Ghana (no specific climate change focus)	MEST	Jun-10	Oct-15	AfDB, IDA, GoG	129.2 mln.	USD
		CARE Adaptation learning programme for Africa (ALP)	CARE	Jan-10	Dec-14	DFID, DANIDA, Ministry of Foreign Affairs Finland,	5 mln.	GBP
		Innovative Insurance Products for Adaptation to Climate Change (IIPAC)	GTZ	Dec-09	Jun-13	German Federal Ministry of the Environment	2.25 mln.	EUR
		Vodafone - Raising awareness for climate change	EPA	Jul-10	Jul-12	Vodafone Ghana	150 000	GHC
		Regional Science Service Centres (RSSC)	Unknown	Jul-10	Jun-12	German Federal Ministry of Education and Research	2.9 mln.	EUR
		URAdapt: Managing water in the urban-rural interface for climate change resilient cities	CSIR/ WRI	2009	2012	International Development Research Centre (IDRC) of Canada, DFID	480 000	USD
		Climate Change Adaptation in Northern Ghana	WRC	Jan-08	Dec-11	DANIDA	884 000	USD
		Africa Adaptation Programme	UNDP	Dec-08	Dec-11	JICA	2.7 mln.	USD
		Climate Airwaves	Ghana Community Radio Network					

	Keyword	Name	Recipient or implementing organization	start date	end date	Initiative sponsor	Amount	Currency
completed	Adaptation	CC DARE – Climate Change and Development Adapting by Reducing Vulnerability	UNDP/EPA	Aug-09	Nov-10	DANIDA, UNDP, UNEP	150 000	USD
		Economics of Adaptation to Climate Change	World Bank	Dec-07	Mar-10	DFID, Switzerland, NL	4.4 mln.	EUR
		Netherlands Climate Assistant Programme (NCAP) Ghana Phase Two	ETC International	Jan-04	Dec-07	Dutch Ministry of Foreign Affairs	180 000	EUR
		Netherlands Climate Change Studies Assistant Programme (NCCSAP) Ghana Phase One	IVM	Jan-96	Dec-00	Dutch Ministry of Foreign Affairs		
ongoing	Disaster risk management	Ghana North- Sustainable Development, Disaster Prevention, and Water Resources Management (GFDRR)	NADMO	Jan-08	Dec-11	World Bank	660 000	USD
completed	Disaster risk management	Enhancing National Strategies for Effective Disaster Risk Reduction in Ghana	Unknown	Jan-08	Dec-08	UNDP	140 000	USD
ongoing	Social development and health	Integrating Climate Change into the Management of Priority Health Risks	MoH	Oct-10	Dec-13	GEF (co-financing of 55.8 mln. USD through general health sector funding, e.g. by DANIDA)	1.8 mln.	USD
		Climate Change and Human Health in Accra, Ghana	Regional Institute for Population Studies	Sep-09	Jun-12	International Development Research Centre (IDRC) of Canada, DFID	340 000	USD
		Ghana Community-Based Rural development (no specific climate change focus)	MLGRD - Ministry of local government and rural development	Jul-04	Jun-11	IDA, GoG, Local governments	74 mln.	USD

	Keyword	Name	Recipient or implementing organization	start date	end date	Initiative sponsor	Amount	Currency
ongoing	Water management	Ghana Sustainable Rural Water and Sanitation Project (no specific climate change focus)	Community Water and Sanitation Agency (CWSA)	Jun-10	Jun-16	World Bank, GoG	77.3 mln.	USD
		Ghana Urban Water Project (no specific climate change focus)	Ghana Water Corporation	Jul-04	Dec-12	IDA, GoG, Nordic Development Fund	120 mln.	USD
completed	Water management	Sustainable Development of Research Capacity in West Africa based on the GLOWA Volta Project (no specific climate change focus)	Unknown	Jun-09	Nov-10	German Federal Ministry of Education and Research	566 000	EUR
		GLOWA Volta Project (no specific climate change focus)	University of Bonn	May-00	May-09	German Federal Ministry of Education and Research	11 mln.	EUR
		Water resource management principles	WRC	Jan-01	Dec-07	DANIDA		

Table A.2 Overview of the initiatives related to low carbon growth in Ghana considered in this report

	Keyword	Name	Recipient or implementing organization	Start date	End date	Initiative sponsor	Amount	Currency
ongoing	Carbon finance	Ghana Cocoa Carbon Initiative	NCRC			Moore Foundation, Rainforest Foundation, Cadbury		
completed		Capacity building for CDM in Ghana	Unknown		Aug-09	UNDP		
	Carbon finance	MEND - Moving towards emission neutral development	Ecosecurities Ltd	Aug-00	May-02	DFID	206 000	GBP
ongoing	Climate strategy	Climate Change Enabling Activity (Additional Financing for Capacity Building in Priority Areas)	EPA			UNDP	100 000	USD
		Technology Needs Assessment (TNA) update	EPA	Nov-09	Apr-12	UNDP	200 000	USD
		UNDP Annual Workplan Ghana	EPA			UNDP		
		Ghana Environmental Conventions Coordinating Authority (GECCA)	MEST			UNDP, GEF		
completed	Climate strategy	Second National Communication to UNFCCC	EPA		Dec-2010	UNDP	420 000	USD
		National Mitigation Strategies for Forestry and Agriculture	EPA		2010	UNDP		
		Initial National Communication (INC)	UNDP	Dec-97	Jan-01	UNDP	95 000	USD
Ongoing	Energy efficiency	Promoting of Appliance Energy Efficiency and Transformation of the Refrigerating Appliances Market in Ghana	EC, Ministry of Energy	Jan-11	Dec-13	GEF, UNDP, GoG	6.1 mln.	USD

	Keyword	Name	Recipient or implementing organization	Start date	End date	Initiative sponsor	Amount	Currency
completed	Energy efficiency	Transformation of lighting market from incandescent to CFL bulbs	Electricity Company of Ghana	Jan-07	Dec-07	GoG	15.2 mln.	USD
planned	Renewable energy	Integration of renewable energy sources into the national energy grid mix (in preparation)	Unknown	2011		World Bank		
ongoing	Renewable energy	Ghana Energy Development and Access Project GEDAP (formerly Development of Renewable Energy and Energy Efficiency)	Ministry of Energy	Jul-07	Nov-13	GEF	5.5 mln.	USD
						(total program costs of 46.77 mln. USD including not directly renewable energy related project components)		
		Solar PV Systems to Increase Access to Electricity Services in Ghana (part of GEDAP)	GoG	Oct-08	Dec-11	Global Partnership on output based aid	4.35 mln.	USD
		Geographic information system (GIS) tools to support RE planning in Ghana	REEEP	2009	2011	Energy Commission (EC)	130 000	USD
completed	Renewable energy	Renewable Energy-Based Electricity for Rural, Social and Economic Development in Ghana (RESPRO)	Ministry of Energy	Feb-99	Mar-01	GoG, GEF	3.1 mln.	USD
ongoing	Transport	Transport Sector Project (no specific climate focus)	GoG	Jun-09	Jun-15	IDA	225 mln.	USD
		Ghana Urban Transport Project	MRH	Jun-07	Dec-12	GEF	7 mln.	USD
						(plus 83mio USD of co-financing by other institutions)		
completed	Transport	Vehicle emissions programme (part of the Transport Sector Program support (TSPS) II funded by DANIDA)	EPA	Jun-05	2008	DANIDA		

	Keyword	Name	Recipient or implementing organization	Start date	End date	Initiative sponsor	Amount	Currency
ongoing	Forestry & land use	Forest Investment Program (FIP)	GoG	Jul-09		World Bank/AfDB/development partners	70 mln.	USD
		REDD+ R-PP Implementation	Forestry Commission	Jan-10	Dec-13	FCPF	4.4 mln.	USD
		Towards Pro-Poor REDD	IUCN	Jan-09	Dec-13	DANIDA		
ongoing	Forestry and land use / Climate strategy	Natural Resources and Environmental Governance Program (NREG) and the NREG development policy operation (DPO)	GoG	Sep-08	Sep-12	FDA	4.1 mln.	USD
						EU	5.5 mln.	USD
						IDA	40 mln.	USD
						Dutch Embassy	28.7 mln.	USD
						DFID	6.2 mln.	GBP
						Total Funding:	84.8 mln.	USD
	Forestry & land use	Chainsaw Milling Project	Forestry Commission	Jan-07	Dec-12	Tropenbos International, EU	600 000	EUR
		National Forestation Plantation Development Program (NFPDP) (no specific climate change focus)	Forestry Commission	Jan-10		GoG	40 mln.	GHC
Voluntary Partnership Agreement (VPA) (no specific climate focus)		MLNR	Jan-09		DFID, EU, Dutch Embassy			
Afforestation schemes (no specific climate change focus)		Unknown			AfDB, GoG			

Keyword	Name	Recipient or implementing organization	Start date	End date	Initiative sponsor	Amount	Currency	
completed	Forestry & land use	Ghana REDD Readiness Preparation Proposal (R-PP)	Forestry Commission	Jan 10	FCPF	790 000	USD	
		Non-legally Binding Instruments on all types of forest in Ghana (UNFF/NLBI)	Forestry Commission	Dec-08	Nov-10	BMZ	400 000	USD
		Peoples' Diagnostic Study	IUCN	May-09	Jul-09	GFP		
		Wildlife Sustainable Financing Study	Forestry Commission		Dec-09	EU		
		Forest Resources Use Management Project (FORUM) (no specific climate change focus)	GoG		Dec-08	GTZ	12.5 mln.	EUR
		ODA-KOTOAMSO COMMUNITY AGROFORESTRY PROJECT (OCAP)	Local community	Jan-07		GTZ, Samartex		
		Community Forest Management Project (CFMP)	MLNR	Dec-03		AfDB		
		Forest Conservation with emphasis on Mitigation and Adaptation to Climate Change	Forestry Commission			JICA	7.8 mln.	USD
		Forest trends Incubator Project	NCRC			Moore Foundation, US Aid		
		Sustainable Charcoal Production	NCRC			EU		
	Review of Forestry and Wildlife Policies and Laws	Forestry Commission, MLNR			NREG			
	Forestry & land use	Legal and Institutional Review - with regard to carbon projects	Forest trends (FT)			Moore Foundation		
		Community Resource Management Areas (CREMA)	Forestry Commission			NREG		
		CREMAs	Forestry Commission			NREG		
		Conservation of Forest Reserves	Forestry Commission			NREG		
		Benefits of REDD on cocoa farming	IUCN			Unknown		
		Growing Forest Partnership (GFP)	IUCN			World Bank		
		Dedicated Forests	Forestry Commission			DFID		
		KASA Forum	Local community					
Production Reserves		Forestry Commission			GoG			
Amanzouri Ecotourism Project	Unknown			Dutch Embassy				

Appendix B List of interview partners

Table B.1 *Persons interviewed in Ghana in order to obtain information on climate change initiatives in the country*

Organisation	Name	Position
Dutch Embassy	Ton van der Zon	Adviser
IUCN	Wale Adeleke	Ghana GPF coordinator
Energy Commission	Kofi Agyarko	Programme Officer
EPA	Daniel Tutu Benefor	Project officer
Forestry commission	Robert Bamfo	Head Climate Change
MOFEP	Freddua Agyman	
Dutch Embassy/DFID	Sean Doolan	
KITE	Frank O. Atta-Owusu	Senior Project Manager
KNUST	Abekuu Brew-Hammond	
EPA	Winfred Nelson	
DANIDA	Lars Moeller Larsen	
GTZ	Evy von Pfeil	