



Republic of Ghana
Ministry of Finance

CLIMATE CHANGE FINANCE TRACKING TOOLS

Manual for Ghana

June 2016



Empowered lives.
Resilient nations.



Republic of Ghana
Ministry of Finance

CLIMATE CHANGE FINANCE TRACKING TOOLS

Manual for Ghana

June 2016



*Empowered lives.
Resilient nations.*

TABLE OF CONTENTS

List of Abbreviations and acronyms	iii
Acknowledgement	iv
Executive Summary	v
1. Overview of Climate Change Finance Tracking Tools	1
2. Climate Change Finance Tracking Tool 1	4
3. Climate Change Finance Tracking Tool 2	24
4. Climate Change Finance Tracking Tool 3	34
References	42

ABBREVIATIONS AND ACRONYMS

BoG	Bank of Ghana
CSIR	Council for Scientific and Industrial Research
DSW	Department of Social Welfare
EC	Energy Commission
EPA	Environmental Protection Agency
GDP	Gross Domestic Product
GMet	Ghana Meteorological Services Agency
GSS	Ghana Statistical Service
GWCL	Ghana Water Company Limited
ISSER	Institute of Statistical, Social and Economic Research
LGS	Local Government Service
MDAs	Ministries, Departments and Agencies
MESTI	Ministry of Environment, Science, Technology and Innovation
MGCSP	Ministry of Gender, Children and Social Protection
MIMR	Ministry of Information and Media Relations
MLGRD	Ministry of Local Government and Rural Development
MLNR	Ministry of Lands and Natural Resources
MMDAs	Metropolitan, Municipal and District Assemblies
MoE	Ministry of Education
MoEP	Ministry of Energy and Petroleum
MoF	Ministry of Finance
MoFA	Ministry of Food and Agriculture
MoFAD	Ministry of Fisheries and Aquaculture Development
MoH	Ministry of Health
MoP	Ministry of Power
MoRH	Ministry of Roads and Highways
MoT	Ministry of Transport
MoTI	Ministry of Trade and Industry
MRV	Monitoring, Reporting and Verification (of GHG emissions)
MTEF	Medium Term Expenditure Framework
MWRWH	Ministry of Water Resources, Works and Housing
NADMO	National Disaster Management Organization
NCCC	National Climate Change Committee
NCCP	National Climate Change Policy
NDPC	National Development Planning Commission
NGO	Non -Governmental Organization
NRECC	Natural Resources, Environment and Climate Change Unit of the Ministry of Finance
ODI	Overseas Development Institute
ODA	Official Development Assistance
REDD+	Reduced Emissions from Deforestation and Forest Degradation
UN	United Nations
UNDP	UN Development Programme
UNEP	UN Environment Programme
UNFCCC	UN Framework Convention on Climate Change
WRC	Water Resources Commission
WRI	World Resources institute

ACKNOWLEDGEMENTS

This manual was prepared under the UNDP/UNEP/WRI GCF Readiness Programme on behalf of the Government of Ghana over the period January to June 2016.

Neil Bird from the Overseas Development Institute, UK, together with Professor Felix Ankomah Asante and Dr Simon Bawakyillenuo from the Institute of Statistical, Social and Economic Research at the University of Ghana drafted the climate change finance tools, supported by the Natural Resources, Environment and Climate Change Unit of the Real Division, Ministry of Finance.

The development of the climate change finance tools was overseen by a committee chaired by the Director of the Real Sector Division, Ministry of Finance. The support and guidance of the committee members is much appreciated:

Mr. Kwabena Boadu Oku-Afari, Real Sector Division, Ministry of Finance (Chair)

Mr. Robert Mensah, Ministry of Finance

Mr. Ebenezer Nortey, Ministry of Finance

Mrs. Evelyn Arthur, Ministry of Finance

Mr. Minta Botwe, Ministry of Finance

Mr. Peter Dery, MESTI

Mr. Daniel Benefor, EPA

Dr. Felix Addo-Yobo, NDPC

Mr. William Toffa, MLNR

Mr. Kingsley Amoako, MoFA

Mr. Patrick Affum Asumadu, MLGRD

Mr. Frederick Addae, MWRWH

Mr. Ebenezer Ashie, MoP

Mr. Stephen Kansuk, UNDP

Mr. Ayirebi Frimpong, GCF Readiness Coordinator, UNDP/UNEP/WRI

Additional insights into financial monitoring were provided by staff from a number of ministries.

EXECUTIVE SUMMARY

This manual has been developed to support the oversight, coordination and management of public finance that supports climate change activities in Ghana. It consists of four sections.

The first section provides an oversight of the planned climate change finance tracking architecture and in that context introduces the three climate change finance tracking tools.

Section two describes the first tool: the climate change actions manual for sector officers. This has been designed to assist sector planning and budget officers identify actions that are consistent with the 2014 national climate change policy. Spending on these actions can be considered as being climate change relevant.

Section three describes the second tool: the climate change budget code fact sheet. This fact sheet lists the 30 policy objective budget codes that collectively make up the national climate change budget for the planning period 2015-2017. All climate change relevant actions should be allocated one of these codes in budget reporting.

Section four describes the third tool: the international funds listing, which collates all international public funding that supports climate change projects in Ghana. This list can be used to identify off-budget spending as well as validate the source of on-budget funds.

Strengthening the monitoring processes associated with these public expenditures will allow for the development of a strategic overview of climate change finance in Ghana. This will assist in managing the implementation of the national climate change policy and strengthen Government's international reporting on climate change finance.

Section 1. Overview of Climate Change Finance Tracking Tools

The Ministry of Finance established the Natural Resources, Environment and Climate Change (NRECC) Unit in 2010 to oversee, coordinate and manage the financing of climate change activities. However, this leadership role is constrained at present as the Unit has no mechanism to track the financial resources generated for climate change actions originating within the country or from external sources. In response to this situation a set of Climate Change Finance Tracking Tools have been developed to assist the NRECC Unit fulfil its mandate.

The national climate change finance tracking architecture

The Climate Change Finance Tracking Tools are intended to help implement the national architecture for climate change finance in Ghana. This architecture was considered in Ghana's First Biennial Update Report to the UN Framework Convention on Climate Change (UNFCCC) in 2015. This has been reviewed and developed further.

Figure 1 shows the overall architecture of climate change finance flows, separating the actual flows of public finance from the monitoring and reporting of the finance. Figure 2 then goes into more detail over the system design of the national monitoring system.

Figure 1: Planned architecture of finance flows and associated monitoring and reporting

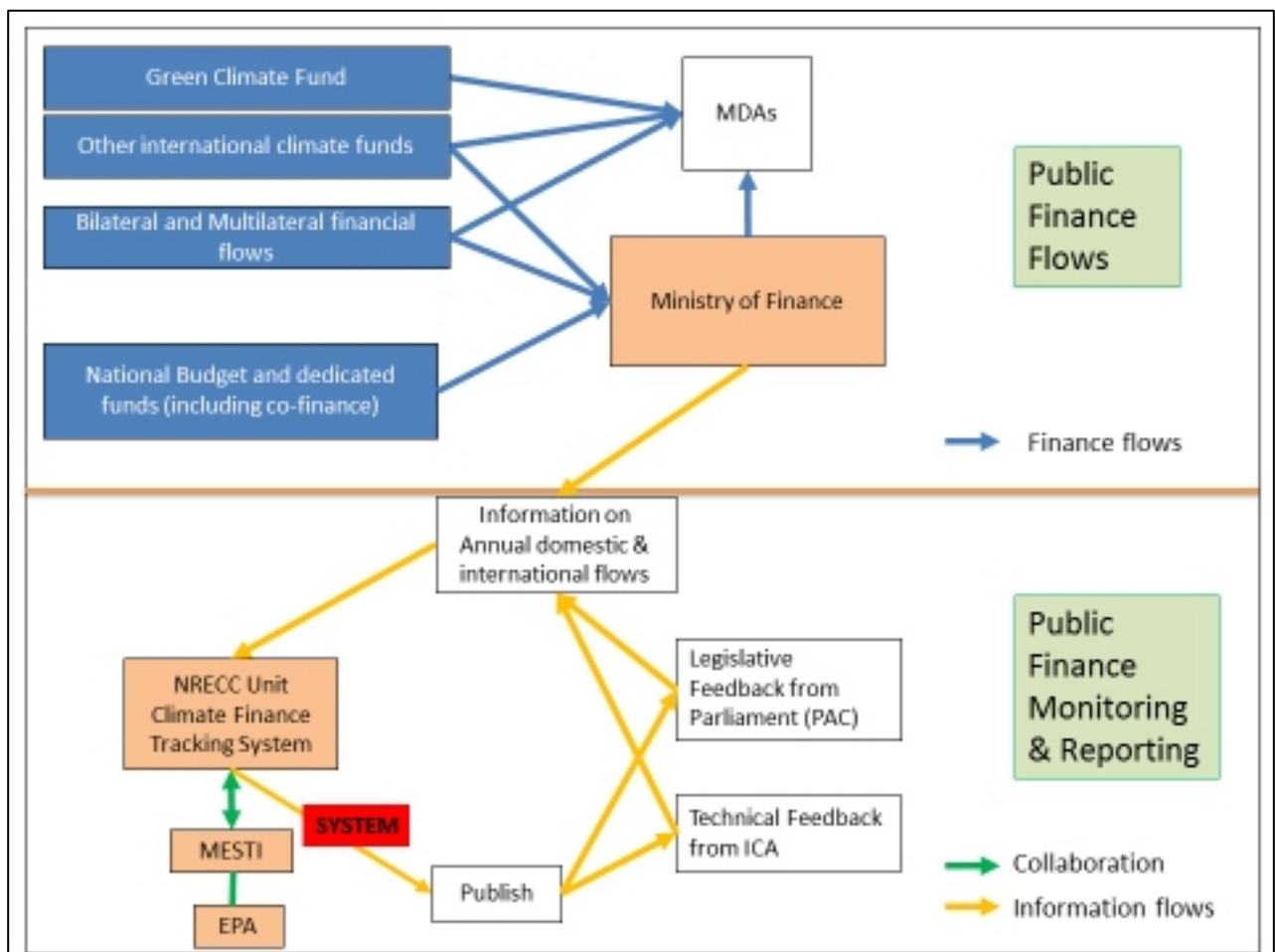
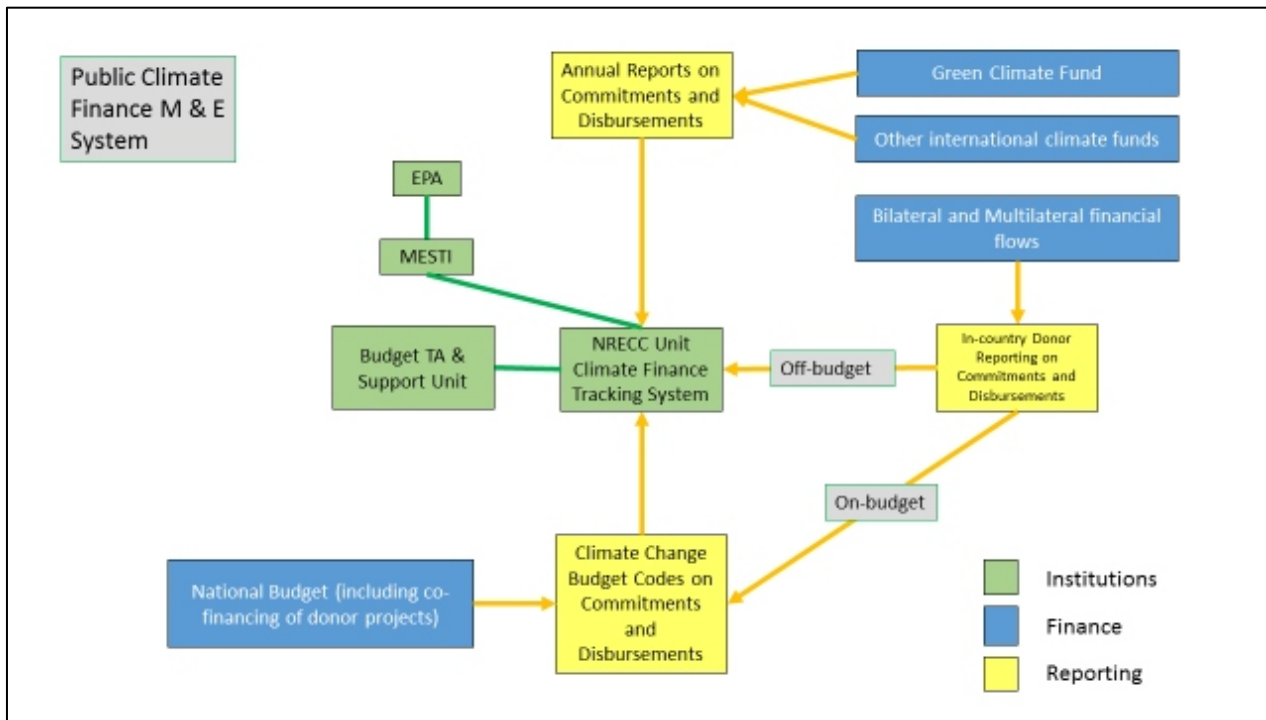


Figure 2: System design of the national monitoring system



Three channels of finance need to be monitored to maintain an overview of public climate change finance. These are indicated in the yellow boxes in Figure 2. The Climate Change Finance Tracking Tools have been developed to assist the collation of information on two of those channels:

- Climate Change Budget Codes on commitments and disbursements
- In-country donor reporting on commitment and disbursements

The financial information on future disbursements from the Green Climate Fund and other international climate funds can be secured by the NRECC Unit from the funds' published Annual Reports.

The Climate Finance Tracking Tools, which are described in the following pages, are:

Tool 1: Climate Change Actions Manual for Sector Officers

Tool 2: Climate Change Budget Code Fact Sheet

Tool 3: International Funds Listing

Implementation of the proposed tools will allow the NRECC Unit to monitor:

- The level of budgeted expenditure that is supporting climate change actions
- The MDAs that are committing this expenditure
- The policy objectives that are being supported

This information can then inform further policy development and its funding.

Implementation of the tools will require the following institutional support:

- Extraction of budget data by the Budget Division, MoF
- Analysis of budget data by the NRECC Unit, Real Division, MoF
- Notification of international climate change projects by EPA/MESTI

Note: Economic Decision Making Tools

An additional consideration is to assess the extent to which economic analysis contributes to project selection of public climate change-related actions. Or, in other words, how are priorities determined for government investment projects that address climate change?

The World Bank identifies scope for three economic decision making tools: multi-criteria analysis, cost-effectiveness analysis and cost-benefit analysis, emphasising that 'the selection of the appropriate tool to use in any given context will depend on judgements regarding the integrity of the methods, the quality of information available, and the time and resources available to conduct the analysis.' (World Bank, 2014, p.103).

- **Multi-criteria analysis**, which is typically undertaken by multiple stakeholders through a participatory process, identifies criteria by which to score alternative public investments. This is a highly subjective approach that can help to increase understanding of complex actions by a range of stakeholders.
- **Cost-effectiveness analysis** has been used to rank activities in terms of the costs of achieving a particular objective. This has been developed for climate change mitigation actions through the preparation of marginal cost abatement (MAC) curves. However, the interpretation of the MAC curves requires considerable care, as the costs indicated will depend on the choice of data and the assumptions used (including the discount rate).
- **Cost-benefit analysis** identifies those investments where the present value to society as a whole exceed the present value of the social costs incurred. A continuing constraint to the application of CBA, particularly for climate-related public investments, is how to cost non-monetary goods and services. For climate change investments this requires the cost of carbon to be estimated, something that has been difficult to achieve. In addition, there is little academic consensus over the choice of discount rate to be used in the context of climate change.

These considerations point to the fact that the use of economic tools to aid decision making over alternative public investments that address climate change remain at an early stage globally. At the present time, such tools appear to be undeveloped in Ghana. Therefore, following the analytical work of the multilateral development banks in their use of investment decision making models may be the most prudent early approach to follow.

Section 2

CLIMATE CHANGE FINANCE TRACKING TOOL 1

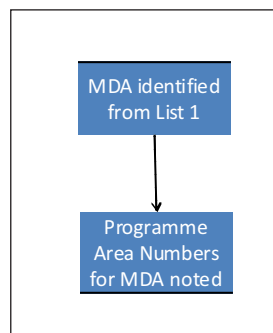
Climate Change Actions Manual
for Sector Officers

INTRODUCTION

This manual has been prepared to assist sector planners, budget officers, and research, statistics and information management officers identify climate change relevant expenditures in the budget documentation. The intention is to identify and track climate change relevant interventions and associated expenditure to secure better programming of publicly-funded climate change actions. The following steps should be followed to determine whether any planned spending is a climate change relevant expenditure or not:

List 1: List of Lead Agencies and Programme Area Numbers of NCCP Master Plan.

Go to page seven and identify your Ministry, Department or Agency (MDA) from the list. If your MDA is present in List 1, record all the programme area codes listed for the MDA. If the MDA is not on this list please refer to the Natural Resources, Environment and Climate Change (NRECC) Unit at the Ministry of Finance for further guidance, but assume no relevant expenditure will be present.

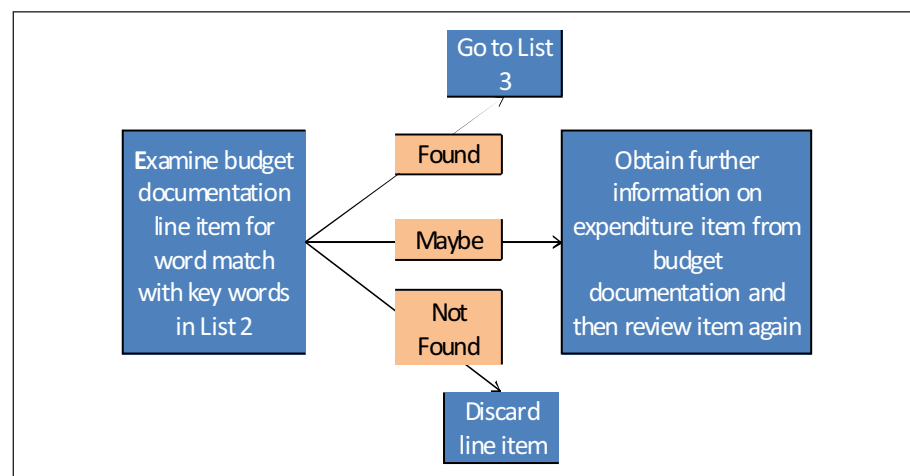


List 2: List of Key Words by Policy Theme.

Go to page nine and review List 2 to identify words or phrases that are related to climate change. Use the programme area number codes from List 1 to select the appropriate policy theme.

If any of these words/phrases are found in the budget documentation then climate change relevant expenditure is likely, and further examination is required. Proceed to step 3.

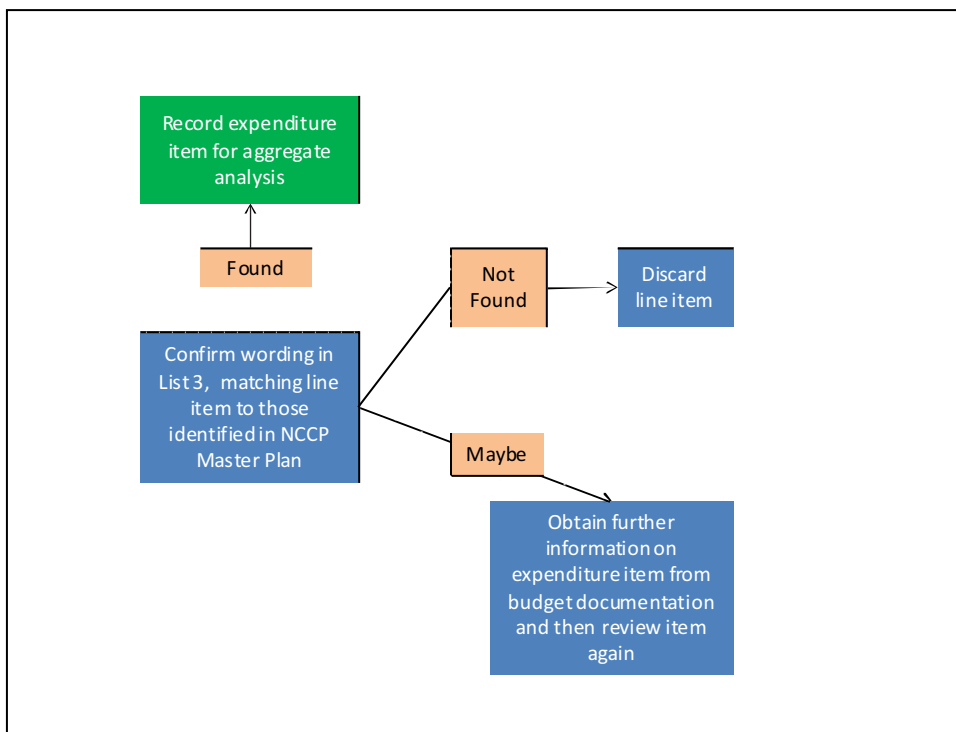
If these words/phrases do not appear in the budget documentation no relevant expenditure will be present.



1. List 3: List of Climate Change Actions by Policy Theme and Programme Area.

Go to page 12 and review the following Tables to assess the intention of the planned expenditure, using the programme area numbers to select the appropriate tables for your MDA.

- If the expenditure contributes to the climate change relevant actions listed in the Tables then the expenditure is climate change relevant.
- If the expenditure is not consistent with the description in the Tables then the expenditure is not a climate change relevant expenditure.
- If there is any doubt, obtain further information from budget documentation before making a final decision.



2. For expenditure items identified as being climate change relevant, please then check with the Climate Change Finance Tracking Tool 2: Climate Change Relevant Budget Codes.

- If the item Policy Objective budget code is listed no further action is required.
- If the item Policy Objective budget code is not listed, please contact the NRECC Unit to report the expenditure item as containing climate change relevant actions.

List 1: List of Lead Agencies and Programme Area Numbers of NCCP Master Plan

Identify your MDA in the following table and record the Programme Area Number(s) listed for your MDA.

Acronym	Name	Programme Area Number
CSIR	Council for Scientific and Industrial Research	1.1, 1.6, 1.7, 7.3
DSW	Department of Social Welfare	9.1, 9.2
EC	Energy Commission	10.5, 10.6, 10.7
EPA	Environmental Protection Agency	2.7, 3.2, 3.6, 8.1
FORIG	Forestry Research Institute of Ghana	10.5
GHS	Ghana Health Service	6.6
GMet	Ghana Meteorological Agency	2.2, 3.1
GNPC	Ghana National Petroleum Corporation	10.7
GSS	Ghana Statistical Service	8.2, 8.3
GWCL	Ghana Water Company Limited	7.2
LGS	Local Government Service	2.4, 7.1, 7.5, 7.6
MESTI	Ministry of Environment, Science, Technology and Innovation	3.2, 5.1, 5.4, 10.1
MMDAs	Metropolitan, Municipal and District Assemblies	1.5, 3.4, 7.8, 9.2, 9.6
MIMR	Ministry of Information and Media Relations	8.4, 8.5
MLGRD	Ministry of Local Government and Rural Development	2.1, 5.2, 6.4, 7.1, 7.5, 7.6, 7.7, 7.8
MLNR	Ministry of Lands and Natural Resources	4.1, 4.2, 4.3, 4.4, 4.5, 5.2, 5.3, 8.3
MoE	Ministry of Education	9.4
MoEP	Ministry of Energy and Power	4.3, 10.2, 10.5
MoFA	Ministry of Food and Agriculture	1.2, 1.3, 1.6, 1.7, 4.5, 9.5
MoFAD	Ministry of Fisheries and Aquaculture Development	1.4, 5.1
MoGSP	Ministry of Gender, Children and Social Protection	8.1, 8.2, 8.4, 8.5, 9.2
MoH	Ministry of Health	6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 9.4
MoRH	Ministry of Roads and Highways	6.4
MoTI	Ministry of Trade and Industry	1.8, 5.3

MWRWH	Ministry of Water Resources, Works and Housing	2.1, 2.3, 2.5, 2.6, 7.2
NADMO	National Disaster Management Organisation	2.4, 2.5, 2.7, 3.1, 3.3, 3.4, 3.5, 3.6, 8.5
NCCC	National Climate Change Committee	10.3, 10.4
NDPC	National Development Planning Commission	2.3
WRC	Water Resources Commission	7.4, 7.9
WRI	Water Research Institute	7.3

List 2: List of Key Words by Policy Theme

The inclusion of the following key words in budget documentation indicates the likelihood of climate change relevant expenditure. Should any of these words appear in relation to a planned activity, then please refer to the next section (**List 3: Climate Change Actions by Policy Focus Area and Programme Area**) to determine whether or not it is appropriate to label the expenditure as climate change relevant.

Take care when conducting key word searches to look out for any abbreviations contained in the budget documentation, e.g. '**Enhance cap'ty to m'gate impact of nat. disasters, risk & vuln'ty**' for 'Enhance capacity to mitigate impact of natural disasters, risk and vulnerability'.

Also check for the 'across sectors' key words first, which apply to all relevant spending, before looking at the relevant policy theme key words.

0. Across sectors

- a. climate change
- b. adaptation
- c. resilience
- d. mitigation
- e. green economy

1. Agriculture and Food Security

- a. climate-proof transportation
- b. climate-resilient cropping systems
- c. climate-resilient livestock production systems
- d. climate-smart agriculture
- e. food security
- f. post-harvest management.
- g. risk transfer
- h. small-scale irrigation
- i. water harvesting

2. Infrastructure

- a. climate proofing
- b. coastal management
- c. disaster risk reduction
- d. disaster risk management
- e. early warning systems
- f. flood
- g. monitoring climate events
- h. storm water

- 3. Disaster Preparedness**
 - a. natural disasters
 - b. early warning systems
 - c. climate change adaptation
 - d. disaster risk management
 - e. disaster risk reduction
 - f. social safety nets
 - g. social support systems

- 4. Forests and Carbon sinks**
 - a. afforestation
 - b. agro-forestry
 - c. biofuels
 - d. carbon rights
 - e. carbon stocks
 - f. forest restoration
 - g. plantation development
 - h. reforestation
 - i. sustainable use

- 5. Ecosystem Management**
 - a. coastal resilience
 - b. community-based adaptation
 - c. ecosystem-based adaptation

- 6. Climate Change and Health**
 - a. climate
 - b. weather
 - c. drainage
 - d. sanitation
 - e. social protection

- 7. Water and Sanitation**
 - a. catchment protection
 - b. flood mitigation
 - c. Sanitation management
 - d. waste recycling
 - e. water conservation
 - f. water storage systems

- 8. Climate change and gender**
 - a. gender and climate change
 - b. impact assessment of climate change

- 9. Climate change and migration**
 - a. alternative livelihoods
 - b. climate change adaptation
 - c. social protection

10. Energy and infrastructural development

- a. clean energy
- b. energy efficiency
- c. energy conservation
- d. green economy
- e. greenhouse gas emissions
- f. greenhouse gas inventories
- g. low carbon development
- h. low emissions
- i. renewable energy
- j. sustainable waste management

List 3: Climate Change Actions by Policy Focus Area and Programme Area

Go through each relevant table below to find matches in the wording of the budget documentation with what is contained in the table. If a match is found then the planned expenditure can be treated as a climate change relevant expenditure. If no match is found, discard the activity as being not relevant.

Some discretion is necessary: if the planned expenditure clearly describes actions that are a part of the climate change relevant actions in the table, then such expenditures should be considered as being climate change relevant.

The lead agency column indicates the MDA(s) where relevant expenditure is most likely to be found, based on the National Climate Change Master Plan, 2015-2020. However, this is not an exclusive list as other MDAs may also be involved in the relevant actions, and therefore commit relevant expenditures.

Policy Focus Area 1. Development of climate resilient agriculture and food security systems

Programme Area	Climate change relevant actions	Lead Agency
1.1. Institutional capacity development for research and dissemination	Improving and harmonizing research activities for climate-smart agriculture Building institutional capacity to enhance research and development to support climate-smart agriculture Increase support for climate-smart agricultural research and development Supporting the dissemination of technologies for climate-smart agriculture and sustainable fisheries	CSIR
1.2. Development and promotion of climate-resilient cropping systems	Research into climate-resilient cropping systems Documenting and promoting appropriate indigenous knowledge and best practices Promoting sustainable land management, including enhanced adoption of conservation agriculture and agro-forestry	MoFA
1.3. Adaptation of livestock production systems	Research and development of climate-resilient livestock production systems including improved breeds, and pest and diseases management Developing improved and nutritious feed including pastures and fodder bank Establishing community-based livestock extension system	MoFA
1.4. Support to adaptation in the fisheries sub-sector	Research and development into improving capture and culture fisheries management Supporting enforcement of regulations within the fisheries environments Promoting upscaling of the adoption of aqua-culture technologies Supporting the provision of post-harvest fish management infrastructure and other systems.	MOFAD
1.5. Support to water conservation and irrigation systems	Developing multi-purpose water harvesting and storage facilities Promoting in-field water harvesting and conservation Expanding small-scale irrigation development Enhancing extension support for small-scale irrigated agriculture operation	MMDAs (departments of agriculture)
1.6. Risk transfer and alternative livelihood systems	Supporting the development and establishment of agriculture and fisheries based insurance schemes Supporting alternative livelihood programmes	MoFA
1.7. Improved post-harvest management	Supporting the provision of processing and storage infrastructure (e.g. Cassava) Promoting value addition to perishable commodities (e.g. tomatoes)	MoFA
1.8. Improved marketing policies	Developing climate-proof transportation between production and consumption centres Establishing mechanisms for special food commodities in response to climate change	MoTI
Key words	<i>climate-smart agriculture ; climate-resilient cropping systems; climate-resilient livestock production systems; water harvesting; small-scale irrigation; climate-proof transportation; food security; risk transfer; post-harvest management.</i>	

Policy Focus Area 2. Build climate-resilient infrastructure

Programme Area	Actions	Lead Agency
2.1. Build capacity to design climate resilient infrastructure	<p>Ensure that design standards, relevant codes (e.g. Building Code, Highway Code and Electrical Code) and spatial planning include climate parameters, its variability and future scenarios</p> <p>Strengthen administrative and technical capacity of stakeholder organizations in the designing, building and construction industry to integrate CCA/DRR in their development agenda</p> <p>Support research into appropriate infrastructure design standards for climate related events</p>	MWRWH / MLGRD
2.2. Knowledge management and coordination	<p>Improve on institutional coordination in hydro-meteorological networks to provide climate data/information for easy public access</p> <p>Use of ICT in monitoring climate events and providing an early warning system</p> <p>Support the establishment of Community of Practice as a knowledge management tool at all levels (National, Regional, District)</p> <p>Develop mechanisms for effective coordination of CCA/DRR at National, Regional and Local levels.</p>	GMet
2.3. Climate resilient sectoral and local development planning	<p>Develop/strengthen inter-sectoral linkages and collaboration for effective climate change adaptation and mitigation</p> <p>Provide enabling policy environment to include and enforce climate resilience in land use planning, construction and codes</p> <p>Develop competencies of local authorities on hazard/ vulnerability/risk assessment</p> <p>Encourage private sector participation in climate change adaptation and mitigation at the local government level</p>	NDPC/ MWRWH
2.4. Ensure that existing key infrastructure is climate-proof	<p>Ensure that the vulnerabilities of existing infrastructure, especially those that provide key services, are properly assessed</p> <p>Ensure the retrofitting of existing key infrastructure based on their order of priority</p> <p>Establish appropriate reward/motivation scheme for good retrofitting/ maintenance practice.</p>	LGS/ NADMO
2.5. Flood prevention activities	<p>Support relocation of settlements and economic activities to non-flood areas</p> <p>Construct adequate storm drainage system, buffer zone, riverbank protection, afforestation along embankments, and de-silt waterways to reduce flooding</p> <p>Construct channels, water collecting reservoirs and dams to contain floods and store water for the dry season</p>	NADMO/ MWRWH
2.6. Development of climate-resilient infrastructure for key services	<p>Support the development of climate proof infrastructure that provide key services to increase resilience of communities during extreme climate events</p> <p>Ensure safe and constant water supply during times of floods and droughts</p> <p>Ensure that rural communities have access to all weather roads and reliable access to markets and key services</p>	MWRWH
2.7. Protection of coastal resources and communities.	<p>Collect relevant data on coastal zone geomorphology, surface water flows and ground water for modelling coastal flooding and sea water intrusion</p> <p>Improve legislation and institutional framework for effective coastal management</p> <p>Construct climate resilient key coastal infrastructure to protect the communities from storm surges, coastal flooding, sea level rise and ecosystem degradation (e.g. deforestation)</p> <p>Promote an enabling environment for coastal dwellers to adopt best practice.</p>	NADMO/ EPA
Key words	<i>climate resilient infrastructure; early warning systems; monitoring climate events; climate proofing; flood prevention; disaster risk reduction; storm drainage systems; coastal management</i>	

Policy Focus Area 3. Increase resilience of vulnerable communities to climate-related risks

Programme Area	Actions	Lead Agency
3.1. Early warning mechanisms	Document and disseminate appropriate community-based indigenous early warning systems on climate related disasters Establish effective hazard monitoring and early warning systems with sound scientific and technological basis Enhance the technical capacity of GMet and other related institutions such as Water Resources Commission, the Universities and the Geological Survey Department	NADMO/ GMet
3.2. Public education on adaptation skills	Promote the use of ICT and information systems to enhance access to public information on climate change adaptation Build capacity of the media and establish clear working relationships and links to ensure the media is well placed to support climate change adaptation Increase public awareness on climate change adaption and provide skill training to ensure preparedness on climate change and adaptation strategies Develop appropriate public relation strategies in the key stakeholder institutions to highlight the need for climate change a daptation Mainstream climate change adaptation, disaster risk reduction and environmental sustainability in the school curricula at all levels	MESTI / EPA
3.3. Rapid response and disaster management	Strengthen the institutional framework for disaster risk response and management Enhance institutional capacity of agencies in disaster risk management especially NADMO Improve technical capacity and facilities to communities for rapid response to disasters and disaster management Review, update, adopt and disseminate National Disaster Management Strategy and Emergency Preparedness/Response Policy and Framework (e.g. Emergency Response Plans for Floods)	NADMO
3.4. Improved Key Public Social Services	Ensure that the key Public Social Services are able to recover after climate related disasters Review and increase investments in existing Social Services, which can also be supported by Public – Private Partnership in service provision (NGOs)	NADMO/ MMDAs
3.5. Financial Support and Insurance Schemes	Enhance awareness of the potential of financial instruments to protect investments and assets in disaster prone areas Provide supporting social safety nets, especially for the vulnerable communities Mobilize adequate financial resources for climate change adaptation, emergency services and disaster management	NADMO
3.6. Social support systems	Improve public climate change adaptation strategies Create and support livelihood empowerment programmes in rural and urban areas to improve productivity and income of vulnerable communities Rationalize a system of incentives, deterrents and alternatives for behavioural change Strengthen traditional Social Support Systems	EPA / NADMO
Keys words	<i>Early warning systems; climate change adaptation; disaster risk reduction; disaster risk management; social safety nets; social support systems; indigenous early warning systems</i>	

Policy Focus Area 4. Increase carbon sinks

Programme Area	Actions	Lead Agency
4.1. Improved governance, capacity and regulatory systems	<p>Review and strengthen legislation to effectively address land use rights carbon rights and tenure systems, and equitable benefit sharing mechanisms</p> <p>Support existing forest and natural resource governance initiatives and reforms such as the Forest Law Enforcement, Governance and Trade (FLEGT) initiative and the multi-donor Natural Resources and Environmental Governance Program</p> <p>Promote effective integration, consultation education and participation at all levels of decision making process to reduce conflicts</p> <p>Promote access to and increase knowledge of legislation to lowest level actors through translation of legislation into local languages. Integrate indigenous governance to conventional resource governance</p>	MLNR
4.2. Secure integrity of forest and natural ecosystems	<p>Improve Protected Area and Bio-reserves management and traditional Protected Areas, for example, CREMAs and Sacred Groves for biodiversity conservation</p> <p>Enhance sustainable management and monitoring of forests and other natural ecosystems</p> <p>Implement measures to address desertification in Ghana</p> <p>Reduce pressure on forest and other natural ecosystems whilst optimizing fiscal revenue</p> <p>Support research on impacts on climate change on biodiversity and natural resources</p>	MLNR
4.3. Sustainable wood fuel production	<p>Support and promote research into the production and development of alternative biofuels (such as bamboo charcoal, logging, sawmill and agricultural residues, wood pellets, biogas etc.)</p> <p>Build capacity of fuel wood producing communities, NGOs, CBOs, women groups and other identifiable groups to establish and effectively manage wood fuel plantations (including bamboo)</p> <p>Develop efficient technologies for full utilization of wood residue for energy/technology transfer</p> <p>Efficient technology for the carbonization process</p>	MLNR / MOEP
4.4. Plantation development	<p>Promote, through increased incentive packages (e.g. policy, funding, carbon credit schemes) and opportunities for plantation development and management in off-reserve areas through private and public-private partnerships</p> <p>Support the rehabilitation of degraded forest landscapes through enrichment planting and reforestation</p>	MLNR
4.5. Conservation of trees	<p>Support agro-forestry programmes.</p> <p>Provide incentives and strengthening of extension services for farmers and land owners to conserve trees on their farm and fallow lands for economic benefit and enhancement of carbon stocks</p> <p>Promote urban and rural community greening</p>	MLNR / MoFA
Key words	<i>carbon rights; carbon stocks; sustainable management; plantation development; afforestation; forest restoration; reforestation; agro-forestry; biofuels</i>	

Policy Focus Area 5. Improve management and resilience of terrestrial and aquatic ecosystems

Programme Area	Actions	Lead Agency
5.1. Improved marine and coastal ecosystem management	<ul style="list-style-type: none"> Develop marine and coastal zone sustainable management and development policy Operationalise existing policies and strategies Establish marine protected areas Promote and empower communities to utilise marine and coastal resources in a climate responsive manner and within sustainable limits Strengthen effective monitoring of activities of industrial fishing activities and coastal and marine pollution Protection of coastal wetlands and mangroves including RAMSAR sites to enhance coastal resilience 	MOFAD / MESTI
5.2. Community-based natural resources management	<ul style="list-style-type: none"> Improve collaboration between local communities, civil society groups and relevant government organizations for effective participation in planning and management of natural resources and ownership, security and benefit sharing of these resources Promote capacity building activities for local communities to engage fully in sustainable community based ecosystem management and climate change mitigation and adaption actions 	MLGRD / MLNR
5.3. Economic incentive measures	<ul style="list-style-type: none"> Promote local enterprises/alternative livelihood and marketing/enabling environment programs for activities to improve incomes and reduce pressure on the natural resources Promote public and private sector investments in eco-tourism and support for community-based ecotourism programs Ensure natural resources valuation, for example determination of costs of environmental degradation in various sectors, within the national accounting system 	MTI / MLNR
5.4. Ecosystem-based adaptation	<ul style="list-style-type: none"> Create adaptation funds to promote targeted research, knowledge management and transfer, capacity building and local adaptation projects using the ecosystem-based adaptation approach Promote multi-stakeholder approaches in planning and implementation of adaptation interventions Learn and upscale best practices on ecosystem-based adaptation strategies such as the community based adaptation model 	MESTI
Key words	<i>ecosystem-based adaptation; community-based adaptation; coastal resilience</i>	

Policy focus area 6: Address impacts of climate change on human health

Policy focus area 6: Address impacts of climate change on human health		
Programme Area	Actions	Lead Agency
6.1 Capacity building of health providers and groups associated with climate change	Develop and strengthen individual, institutional and systemic capacity in climate change related health issues across the health sector. Enhance technical capacity in data collection, management, reporting and storage.	MoH
6.2 Climate-related Health Research	Development of research programmes to address gaps in health and climate change issues.	MoH
6.3 Strengthen Climate-sensitive Disease Surveillance and Response Systems	Integrate environment and health surveillance systems	MoH
6.4 Improve Public Health Measures (immunization, drainage, sanitation and hygiene), especially in climate-vulnerable communities	Establish collaboration and partnerships for improved drainage, sanitation and hygiene services Establish collaboration and partnerships for improved public health-care delivery and immunization coverage	MoH/ MLGRD/ MoRH
6.5 Emergency Health Preparedness and Climate-proof health Infrastructure	Put mechanisms in place to reduce the number of casualties resulting from the health consequences of extreme weather events and to strengthen curative interventions to manage the acute health impacts of climate change.	MoH
6.6 Collaboration and Partnership for Improved Nutrition, Water and Sanitation	Develop or strengthen platforms for intersectoral collaboration and policy dialogue with relevant ministries and institutions working on the availability of food and the management of water and sanitation. Develop or strengthen platforms for collaboration and coordination with other countries and with international bodies	MoH / GHS
6.7 Social Protection and Improved Access to Health Care	Establish and strengthen universal, comprehensive social protection policies and strategies	MoH
6.8 Indigenous traditional knowledge and practices in health	Adopt and integrate indigenous knowledge and practices concerning human health into national health care policies and strategies.	MoH
Key words	<i>Climate-related health issues; public health measures; social protection</i>	

Policy focus area 7: Minimise impacts of climate change on access to water and sanitation

Programme Area	Actions	Lead Agency
7.1 Environmental Sanitation, Education and Hygiene Education	Promote safe water, sanitation and hygiene practices by strengthening the existing WASH awareness-raising modules for vulnerable communities Strengthen the education and training of stakeholders in water and environment facilities at all levels. Reinvigorate the schools sanitation and hygiene education (SSHE) programmes as part of the School Health Education Programme (SHEP).	MLGRD / LGS
7.2 Improved Access to Safe Drinking Water	Strengthen the institutional management capacity of key institutions (GWCL and CWSA) to ensure efficient delivery of water services at all times. Mainstream climate dimensions in the rehabilitation, operation and maintenance of existing water systems and for water conservation. Plan for investment in minor repairs as well as major renewal, replacement, and expansion of water supply services to peri-urban settlements and small towns. Develop and make operational a nationwide potable water quantity and quality monitoring and site surveillance programme to minimize possible sources of pollution.	MWRWH / GWCL
7.3 Climate-related Research	Improve the climate observation and monitoring system and set up a database on water and sanitation schemes, drawing on traditional knowledge and modern information technology to support forecasting and evidence-based decision-making. Investigate opportunities for alternatives to wastewater treatment, processing and uses. Promote scientific investigations and research in water resources assessment, management and development	CSIR / Water Research Institute
7.4 Construction of Water Storage Systems	Promote multi-stakeholder participation in the selection and management of water storage systems through participatory tools. Review and establish a framework for the construction, operation and regulation of dams and reservoirs Promote the development of water storage systems and flood protection measures in the peri-urban settlements and small towns for agriculture and energy production.	WRC
7.5 Improved drainage in urban areas	Improve hydro-meteorological observational networks and provide access to data to facilitate drainage planning and decision-making. Undertake topographic surveys and develop physical plans, incorporating drainage development plans for all regional and district capitals. Build capacity, create awareness and enforce by-laws and regulations in MMDAs on the operation and maintenance of urban drains.	MLGRD / LGS
7.6 Recycling of Solid Waste	Carry out a comprehensive waste audit in selected MMDAs to obtain categories and volume of waste, together with a technology needs assessment. Identify and select, with multi-stakeholder participation, and make available appropriately zoned and serviced land to accommodate waste recovery and recycling infrastructure Encourage MMDAs and the private sector to establish waste material recovery, recycling and reduction strategies (including waste separation schemes in communities). Strengthen human and institutional capacity to implement waste recycling technologies. Develop and implement programmes in education and awareness-raising on the benefits of alternative uses of waste	MLGRD / LGS
7.7 Wastewater Reduction,	Promote multi-stakeholder participation in the identification and selection waste treatment sites.	MLGRD

Treatment and Reuse	Strengthen human and institutional capacity to implement waste reuse technologies	
7.8 Improved Access to Sanitation	<p>Improve appropriate sanitation facilities and management practices.</p> <p>Ensure adequate financing of sanitation services.</p> <p>Strengthen the institutional and human capacity of key institutions to ensure coordination and effective and efficient delivery of sanitation services</p>	MLGRD / MMDAs
7.9 Water and Land Management	<p>Promote the conservation of water and ecosystem health through effective protection and regulation of land and water resources.</p> <p>Reduce the vulnerability of and economic loss suffered by communities through the provision of alternative non-agriculture livelihood schemes and access to markets.</p> <p>Strengthen human and institutional capacity to carry out key IWRM mandates including transboundary cooperation in the management of shared river basins</p>	WRC
Key words	<i>Catchment protection; water storage systems; waste recycling; water conservation; flood mitigation</i>	

Policy Focus Area 8: Addressing gender issues in climate change

Programme Area	Actions	Lead Agency
8.1 Gender-responsive Climate Change Research	<p>Identify key gender- and climate change-related themes for research, and design research methodology through participatory approaches (e.g. vulnerability to hazards and long-term climate change).</p> <p>Build capacity in gender and climate change research.</p> <p>Undertake research, including fieldwork and sex-disaggregated data analysis.</p> <p>Develop strategies for the dissemination and implementation of gender-sensitive data by organizing validation workshops.</p> <p>Disseminate research results.</p>	MGCSP / EPA
8.2 Livelihood Protection, Alternative and Sustainable Livelihoods and Poverty Reduction	<p>Develop criteria to identify and map gender-specific vulnerable groups and individuals who are likely to be worst affected by climate change.</p> <p>Identify and register nature of vulnerability, and livelihood needs, gaps and interventions, according to gender.</p> <p>Develop new interventions and improve and scale up existing ones, through gender-responsive consultations and approaches to address identified needs to build resilience and sustainability.</p> <p>Implement interventions, including continuous monitoring and evaluation and also the impact assessment of climate change from a gender perspective</p>	MGCSP / GSS
8.3 Gender Responsiveness in Natural Resource Management	<p>Create a sex-disaggregated database on access to and control over natural resources.</p> <p>Scale up existing initiatives that promote women's access to and control over natural resources.</p> <p>Harness and use the knowledge of both women and men, including traditional knowledge on the management of natural resources.</p> <p>Initiate and build new programmes to enhance and safeguard women's interest in, access to and control over natural resources.</p>	MLNR / GSS
8.4 Education, Training and Capacity-building on Gender and Climate Change	<p>Conduct gender-sensitive education, training and capacity-building for women, men, girls and boys on climate change adaptation, finance, mitigation, technology, and regulatory frameworks, and for institutions that deal directly with women and their groups.</p> <p>Educate the general public and train and build the capacities of institutions in the area of gender and climate change.</p>	MGCSP / MIMR
8.5 Gender-responsive Disaster Risk Reduction and Management	<p>Review existing policies, programmes and projects on gender and climate-related disaster risks.</p> <p>Implement interventions that address gender-specific resource use patterns that can degrade the environment.</p> <p>Invest in training and capacity-building programmes on gender and disaster risk management and reduction at all levels.</p> <p>Implement a gender-sensitive community education initiative on early warning systems and hazard management.</p> <p>Address social, legal, cultural and economic inequalities that increase the risks and impacts of disasters</p>	NADMO, MGCSP, MIMR
Key words	<i>Gender and climate change; impact assessment of climate change</i>	

Policy Focus Area 9: Addressing climate change and migration

Programme Area	Actions	Lead Agency
9.1 Alternative Livelihoods	Raise awareness of alternative livelihood sources Provide skills training Provide microcredit support Build institutional capacity to manage migration	MGCSF
9.2 Social Protection for the Migrant Poor	Collect and disseminate information relevant to migrants Promote education on citizenship rights with emphasis on migrants Facilitate and provide cash transfers	MGCSF / DSW / MMDAs
9.3 Structures for Dialogue between Migrants and Host Communities to prevent conflicts	Promote the establishment of migrant representative committees Facilitate dialogue between all social groups Promote peace and conflict resolution at the community level	Traditional authorities and security services
9.4 Improve Access to Health and Education	Improve health education Promote quality health care in rural areas and migrant communities Enforce compulsory education of children	MoH / MoE
9.5 Measures to Enhance Existing Livelihoods	Promote and introduce other sound agricultural practices Improve the quality of and access to modern agricultural inputs Promote improved access to markets Develop non-agricultural small businesses Build the capacities of rural development partners	MoFA
9.6 Measures to Enhance Remittance Flows	Improve rural banking services using low-cost products and methodologies in financial service delivery Improve the knowledge of rural people about the use of banking services Enhance the use of mobile money transfer systems Improve transport services to rural areas	MMDAs / BoG
Key words	<i>Climate change adaptation; alternative livelihoods; social protection</i>	

Policy Focus Area 10: Appropriate energy and infrastructure development (minimizing greenhouse gas emissions)

Programme Area	Actions	Lead Agency
10.1 National Institutional Framework for Greenhouse Gas Inventory	Institutionalize the roles, procedures and legal arrangements used to collect and archive data for national greenhouse gas inventories. Build the technical capacity and competence of selected institutions in data collection in required data sets and formats, and in documentation systems for the inventories and reporting of greenhouse gas emissions	MESTI
10.2 Improve the capacity of relevant sectors (public and private) for the reduction of national greenhouse gas emissions	Build the capacity of relevant actors in the public and private sectors in low-carbon development policy and measures and low emissions development strategies for dominant sectoral emission source categories Build technical and financial capacities of research and other relevant institutions in sectoral emission trends and projections to support the public and private sectors with sustainability impact analysis of LEDS and low-carbon development policies and measures, and MRV	MoEP
10.3 Low emission and clean energy technology research, development, diffusion, deployment and transfer	Build national capacity and support research into and development and transfer of low-emission technologies for energy production and consumption, transport and waste handling	NCCC
10.4 Improve energy efficiency in production and consumption of energy	Support the transfer, uptake and monitoring, reporting and verification of low emission technologies deployment, such as natural gas combined cycle, combined heat and power, in natural gas thermal power generation and natural gas distribution system Promote infrastructure energy efficiency and management activities in power transmission and distribution, and energy consumption in manufacturing industries and the construction, residential and commercial sectors, petroleum distribution and agriculture Promote energy efficiency in the transport sector (railways, vehicles, navigation) to reduce mobile emissions	NCCC
10.5 Renewable Energy Development	Promote the use and more efficient production of solid and liquid biomass fuels with lower net greenhouse gas emissions potential Promote the production and use of zero-carbon emissions sources of renewable energy (solar, wind, geothermal and mini-hydro)	EC / MOEP / FORIG
10.6 Comprehensive Waste (solid, liquid and human) Management for renewable energy production	Promote sustainable waste management technologies for recovery of residual energy in municipal solid waste at designated landfill sites to reduce emissions from solid waste handling Promote sustainable endogenous waste management technologies that prevent methane emissions or capture methane for energy use to reduce net emissions from septic tank handling systems for sewage in domestic and community wastewater management	EC
10.7 Minimize Gas Flaring and fugitive emissions	Establish efficient natural gas infrastructure and mechanisms for the processing and use of by-products from oil fields to prevent gas flaring and minimize venting Promote the use of natural gas as a cleaner and low-carbon source of energy for thermal power production	EC / GNPC
Key words	<i>greenhouse gas emissions; greenhouse gas inventories; low-carbon development; low-emission technologies; clean energy; energy efficiency; renewable energy; sustainable waste management</i>	

Section 3

CLIMATE CHANGE FINANCE TRACKING TOOL 2

Climate Change Budget Code Fact Sheet

CLIMATE CHANGE BUDGET CODE FACT SHEET (2015-2017)

Introduction

This fact sheet lists the Policy Objective Budget Codes that identify climate change relevant expenditures. These Budget Codes define **the National Climate Change Budget** for the present 3-year planning period, 2015-2017.

Three categories are identified: high, medium and low relevant Budget Codes. The level of relevance is determined by the extent to which the expenditure supports an action identified in the National Climate Change Policy and its associated 5-year Master Plan; and is identified as a climate change response in the present national development plan, the Ghana Shared Growth and Development Agenda (GSGDA) II, 2014-2017.

Thirty Budget Codes have been identified in this way (Table 1); collectively they add up to the national climate change budget.

Table 1. The three categories of climate change relevant expenditure

Category	Number of Budget Codes	Weight to apply to gross expenditure (%)
High	4	100
Medium	14	50
Low	12	20

For each category of climate change relevance, a percentage weight is applied to the gross expenditure to determine the climate change relevant component. The rationale for this approach is that if only part of the intended impact of a budget line activity is relevant to climate change, then only a commensurate part of the expenditure should be recorded as climate change relevant. Table 1 lists the percentage weights applied to each Policy Objective budget code. It is acknowledged that this element of the classification is necessarily subjective. There is no objectively correct percentage of spending to attribute to climate change expenditure, so this approach should be viewed as providing a 'best estimate'. The weights also distinguish between the two main climate change strategies of adaptation and mitigation for each budget code.

(i) High Relevant Budget Codes

Definition: the Budget Codes listed in Table 2 identify actions that have a clear focus on climate change adaptation or mitigation. The stated primary objective of the expenditure is to deliver specific outcomes that are climate change related.

All high relevant Budget Codes have 100 per cent of the funding classified as being climate change relevant for the purpose of determining the overall climate change budget.

Table 2: High relevant budget codes

Budget Code	Policy Objective	Context underpinning policy objective(s) at stated in the GSGDA II	Adaptation weight	Mitigation weight
031601	Enhance capacity to adapt to climate change impacts	Assessments in Ghana have clearly demonstrated the country's susceptibility to climate variability and change. The challenge is to turn climate change into an opportunity to expand national output and productivity and embark on systemic protection programmes.	1	
031602	Mitigate the impacts of climate variability and change	Climate variability and change constitute a major threat to national development. From a decline in precipitation to floods, climate change imposes a limitation on national development efforts. Climate change also manifests in increasing levels of desertification in the northern savannah, and undermines the agriculture potential and the economic viability of the northern ecological zone and its capacity to contribute to national development.		1
031603	Promote green economy	These changes have led to increased financial cost of provision of economic and social infrastructure, as well as the resettlement of people living in coastal areas.		1
031701	Enhance capacity to mitigate and reduce natural disasters and reduce risk and vulnerability	Ghana has limited capacity to manage the impacts of natural disasters and climate change. The implementation of medium-term priority policy interventions will aim at enhancing this national capacity to mitigate and reduce the impact of natural disasters, risks and vulnerability.	1	

(ii) Medium Relevant Budget Codes

Definition: The Budget Codes listed in Table 3 identify actions as those that can be readily linked to actions listed under one or more programme and focus areas of the 2015-2020 National Climate Change Policy Master Plan. In addition, the policy objective, as stated in the Ghana Shared Growth and Development Agenda (GSGDA) II, 2014-2017, refers to climate change.

All medium relevant line items have 50 per cent of the funding classified as being climate change relevant for the purpose of determining the overall climate change budget.

Table 3: Medium relevant budget codes

Budget Code	Policy Objective	Context underpinning policy objective(s) as stated in the GSGDA II	Adaptation weight	Mitigation weight
030103	Promote seed and planting material development	Spending will support the development and introduction of climate resilient, high-yielding, disease and pest-resistant, short duration crop varieties taking into account consumer health and safety.	0.5	
030403	Promote sustainable environment, land and water management	Low productivity and output due to over-dependence on rainfall, low application of technology and high levels of environmental degradation continue to undermine the viability of the agriculture sector. The unpredictability in food supply due to climate variability negatively impacts on food security.	0.25	0.25
030802	Ensure sustainable management of natural resources	Ghana is endowed with abundant natural resources, comprising agriculture, forestry, minerals, and oil and gas. This constitutes an essential foundation for industrialisation as envisaged under the agenda for structural transformation. However, the uncontrolled exploitation of these natural resources is gradually and systematically emerging as a major national development issue. The increasing over-exploitation of the country's natural resources and the resultant degradation of the environment has the potential of compromising the ecosystems and subsequently undermining the long-term socio-economic transformation of the country.	0.25	0.25
030901	Reduce loss of biodiversity		0.25	0.25
031101	Reverse forest and land degradation	Ghana's fast growing population and urbanisation continue to exert immense pressure on natural resources and the environment. Available estimates indicate that Ghana's forest cover declined from 33% of the total land surface area in 1990 to 22% in 2010. The menace of small-scale mining, otherwise known as "galamsey", has also become the single most important source of environmental and natural resource degradation, and constitutes a major economic, social, and national security concern that requires swift policy action. A great deal of mining activity takes place in forest areas, thereby affecting the environment significantly, including the land, forest and water bodies.	0.25	0.25

031301	Ensure sustainable use of wetlands and water resources	Current evidence suggests that continued population growth and urbanisation, and rapidly growing and diversified demands, including water for irrigation, hydropower generation, industrial processes, fisheries and aquatic ecosystem protection, are gradually exerting pressure on water resources, leading to non-optimal and unsustainable use of the resource. The medium-term policy interventions are therefore aimed at ensuring an integrated water resources management approach so that water does not become a constraint to national development.	0.5	
050102	Create efficient and effective transport system that meets user needs	Ghana's transport system includes an estimated national road network of 68,067 km in 2012, a limited rail network in the southern half of the country, and an underdeveloped inland water transport system. Medium-term strategies to be implemented will include promoting a road-based mass transport system, including accelerated implementation of BRT under the Ghana Urban Transport Project	0.25	0.25
050502	Increase renewable energy in the national energy supply mix	Ghana has an abundance of untapped potential in renewable sources of energy such as rivers and waterfalls, wind and sun, biomass (wood fuels and charcoal) and bio-fuel for generation of power. These have strong potential to replace fossil fuel energy production.		0.5
050503	Promote the conversion of waste to energy	Waste-to-energy also provides an important mechanism for the management of the growing sanitation problems facing urban communities as well as a means of contributing to clean energy supply and security.		0.5
050504	Explore the options for nuclear, geothermal and tidal wave energy	The main sources of energy in the country are biomass in the form of firewood and charcoal, petroleum products and electricity. Current electricity generation capacity barely meets demand, which is estimated to be growing at 10% to 15% per annum. The country will therefore require additional generation capacity of about 200MW per annum over the next 20 years to meet its long-term power needs. The potential for non-fossil fuel supply needs to be assessed.		0.5
050507	Ensure that energy is produced & utilised in environmentally sound manner	At present, there is inadequate capacity to adapt and mitigate the impact of climate change on energy supply. Hence, one action planned is to support and actively participate in international efforts to ensure sustainable delivery of energy and mitigate negative		0.5

		environmental impacts and climate change.		
051101	Promote proactive planning to prevent and mitigate disasters	Disasters cause severe damage, resulting in huge economic and human losses. In many situations, information about disasters is not readily available and the response to emergency situations is often slow.	0.5	
051301	Improve management of water resources	Increased access to adequate, safe and affordable water, improved environmental sanitation and hygiene education constitute critical components of policy to ensure a favourable state of health of the general population. A healthy population facilitates sustained poverty reduction and socioeconomic growth of the country.	0.5	
060105	Ensure continued provision of life skills training and management for managing personal hygiene, fire safety, environment, sanitation and climate change	At present, there is inadequate knowledge and life skills for managing personal hygiene, fire safety, environment, sanitation and climate change. Spending will equip community members with life skills to manage personal hygiene, fire safety, environment, sanitation and climate change.	0.5	

(iii) Low Relevant Budget Codes

Definition: The Budget Codes listed in table 4 identify actions as those that can be linked to actions listed under one or more programme and focus areas of the 2015 – 2020 National Climate Change Policy Master Plan. However, they do not refer to climate change under their policy objective description in the Ghana Shared Growth and Development Agenda (GSGDA) II, 2014-2017.

All low relevant line items have 20 per cent of the funding classified as being climate change relevant for the purpose of determining the overall climate change budget.

Table 4: Low relevance budget codes

Budget Code	Policy Objective	Context underpinning policy objective(s) as stated in the GSGDA II	Adaptation weight	Mitigation weight
030401	Promote irrigation development	Low productivity and output due to over-dependence on rainfall, low application of technology, high cost of production, inadequate access to appropriate financial products, high levels of environmental degradation, limited insurance products targeted at the agriculture sector, and absence of national agriculture land use policy continue to undermine the viability of the agriculture sector.	0.2	

030803	Strengthen institutional and regulatory framework for management of natural resources	The increasing over-exploitation of the country's natural resources and the resultant degradation of the environment has the potential of compromising the ecosystems and subsequently undermining the long-term socio-economic transformation of the country.	0.1	0.1
031001	Maintain and enhance ecological integrity of protected areas	Ghana is endowed with abundant natural resources, comprising agriculture, forestry, minerals, and oil and gas. This constitutes an essential foundation for industrialisation as envisaged under the agenda for structural transformation. However, the uncontrolled exploitation of these natural resources is gradually and systematically emerging as a major national development issue.	0.1	0.1
031102	Promote efficient land use and management systems	Ghana's fast growing population and urbanisation continue to exert immense pressure on natural resources and the environment, as well as create waste management concerns in the major cities and towns.	0.1	0.1
031203	Improve knowledge and awareness on appropriate coastal resources management	Wetlands ecosystems in Ghana constitute about 10% of the country's total land surface. They provide a range of socio-economic, cultural and ecological values for wetlands communities in particular and the nation as a whole.	0.2	
050101	Establish Ghana as transportation hub in West Africa region	The overall goal of transport policy is to make Ghana a transport hub and gateway to the West Africa sub-region. This will be achieved by improving and developing the physical infrastructure across all modes of transport.		0.2
050202	Strengthen the institutional framework to promote research development & its application	Actions will facilitate the use of the platform of the annual "Ghana Science Congress" for development of relevant technologies to support agriculture, small and medium scale enterprises and climate change mitigation		0.2
050802	Facilitate the sustainable use and management of natural resources that support rural livelihoods	Ghana is endowed with abundant natural resources, comprising agriculture, forestry, minerals, and oil and gas. This constitutes an essential foundation for industrialisation as envisaged under the agenda for structural transformation.	0.1	0.1
051201	Increase resilience of settlements and	The coastal zone poses peculiar hazards as places to site infrastructure and for settlement development. In the medium-term, policy	0.2	

	infrastructure along the coasts and floodplains	interventions to be implemented will aim at increasing the resilience of coastal settlements and infrastructure.		
051302	Accelerate provision of adequate, safe and affordable water	Increased access to adequate, safe and affordable water, improved environmental sanitation and hygiene education constitute critical components of policy to ensure a favourable state of health of the general population.	0.2	
051303	Accelerate provision of improved environmental sanitation facilities	Improved environmental sanitation contributes significantly to the reduction and prevention of water and sanitation-related diseases such as malaria, typhoid and dysentery. Implementation of appropriate health and hygiene promotion activities in communities leads to reduction in communicable diseases.	0.2	
060406	Intensify prevention and control of non-communicable and other communicable diseases	There is a need to formulate national strategy to mitigate the effect of climate change-related diseases.	0.2	

EXCEL FILE TEMPLATE

An Excel spreadsheet has been developed to assist the NRECC Unit compile data summaries quickly on climate change relevant expenditures using data from the national budget system. This spreadsheet file consists of four sheets:

1. Data entry – budget by MDA
2. Data summary – total budget
3. Data entry – expenditure by MDA
4. Data summary – total expenditure

In the two data entry sheets (for budget estimates and end-of-year outturns), cells where data entry is required are highlighted in grey. All calculations are completed automatically, with those cells providing the data outputs highlighted in orange (a screen shot of the second sheet [Data summary – total budget] follows to show the structure, using 2015 Budget Estimates).

The following information is required from the national budget system to populate the spreadsheet:

Budget estimates for the 30 climate change relevant Policy Objective budget codes by MDA, broken down by source of budget (i.e. GoG, IGF, Donor, Other Funds).

The end-of-year outturn expenditures for the same 30 Policy Objective budget codes, again broken down by MDA and source.

Compilation of the spreadsheet will assist the NRECC Unit answer the following policy relevant questions:

- (i) **How much public expenditure is being directed at climate change?**
Total Climate Change Relevant Budget Expenditure
- (ii) **What climate change strategy is being supported?**
Adaptation Budget Expenditure
Mitigation Budget Expenditure
- (iii) **Where across the policy objectives of the national development plan is spending directed?**
Adaptation Budget expenditure by Policy Objective
Mitigation Budget Expenditure by Policy Objective
- (iv) **Who is committing and making the expenditure?**
Adaptation Budget Expenditure by MDA
Mitigation Budget Expenditure by MDA
- (v) **Where is the funding coming from?**
Adaptation Budget Expenditure by Source (GoG, IGF, Donor)
Mitigation Budget Expenditure by Source (GoG, IGF, Donor)

Annex. Sheet 2: Climate Change Relevant Budget Estimates (2015 Budget Estimates)

GSDA 2 Policy Objective Description	Level of Climate Change Relevance	Climate Change Spending		Source of Funding					Adaptation Other Funds	Mitigation Other Funds								
		Gross Budget	Climate Change Relevant Budget	Gross	CoG	IGF	Gross Donor	Gross Other Funds			Adaptation CoG	Mitigation CoG	Adaptation IGF	Mitigation IGF	Adaptation Donor	Mitigation Donor		
930103 1.3. Promote seed and planting material development	Medium	220,280	110,140	103,200	117,080	-	-	-	51,000	-	-	-	-	-	-	-	-	-
930401 4.1. Promote irrigation development	Low	62,415,639	12,483,128	200,000	13,727,785	48,642,854	-	-	40,000	-	-	2,714,557	-	9,728,571	-	-	-	-
930403 4.3. Promote sustainable environment, land and water management	Medium	1,377,352	688,076	344,338	612,780	700,000	-	15,893	153,445	-	-	42,500	-	175,000	-	-	-	-
930802 8.2. Ensure sustainable management of natural resources	Medium	4,844,204	1,332,800	666,400	2,318,315	170,000	-	8,456	579,579	579,579	42,500	42,500	-	35,865	-	-	-	-
930803 8.3. Strengthen national and regional framework for mg of natural res.	Low	221,066,706	24,652,882	12,326,291	37,740,395	58,644,679	-	474,763	3,774,040	3,774,040	5,864,488	5,864,488	-	2,213,000	-	-	-	-
930901 9.1. Reduce loss of biodiversity	Medium	484,000	163,500	81,750	157,000	120,000	-	12,500	39,250	39,250	30,000	30,000	-	-	-	-	-	-
931001 10.1. Maintain and enhance ecological integrity of protected areas	Low	4,939,000	493,800	246,900	2,069,000	400,000	-	40,000	206,900	206,900	-	-	-	-	-	-	-	-
931101 11.1. Reverse forest and land degradation	Medium	11,724,666	2,931,167	1,465,583	3,338,333	450,000	-	2,074,000	112,500	834,583	834,583	-	-	518,500	-	-	-	-
931102 11.2. Promote efficient land use and management systems	Low	16,178,896	1,617,881	808,940	7,718,403	371,000	-	37,100	771,840	771,840	-	-	-	-	-	-	-	-
931203 12.3. Improve knowledge and awareness on appropriate coastal res. mgmt	Low	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
931301 13.1. Ensure sustainable use of wetlands and water resources	Medium	600,000	150,000	150,000	300,000	-	-	-	150,000	-	-	-	-	-	-	-	-	-
931601 16.1. Enhance capacity to adapt to climate change impacts	High	1,581,978	1,581,978	10,000	1,436,736	-	-	-	10,000	-	-	1,436,736	-	-	-	-	-	-
931602 16.2. Mitigate the impacts of climate variability and change	High	18,524,814	9,267,407	9,267,407	9,267,407	-	-	-	9,267,407	-	-	9,267,407	-	-	-	-	-	-
931603 16.3. Promote green economy	High	15,666,008	8,037,736	8,037,736	8,037,736	-	-	-	8,037,736	-	-	8,037,736	-	-	-	-	-	-
931701 17.1. Enhance capacity to mitigate impact of nat. disasters, risk & vulnerability	High	36,130,049	35,960,009	35,960,009	35,960,009	-	-	-	24,703,329	-	-	24,703,329	-	-	-	-	-	-
950101 1.1. Establish Ghana as transportation hub in West African sub-region	Low	654,919,976	130,983,095	1,473,441	373,449,510	279,095,884	-	-	294,688	-	-	180,228	-	74,689,900	-	-	-	-
950102 1.2. Create efficient & effect. transport system that meets user needs	Medium	596,295,453	298,147,727	149,073,863	493,540	24,124,194	-	-	123,385	6,031,049	6,031,049	85,124,905	-	57,794,525	-	-	-	-
950202 2.2. Strengthen national framework to promote reser. dev& its appl'n	Low	79,633	39,817	39,817	39,817	-	-	-	39,817	-	-	-	-	-	-	-	-	-
950502 5.2. Increase renewable energy in the national energy supply mix	Medium	79,633	39,817	79,633	39,817	-	-	-	39,817	-	-	-	-	-	-	-	-	-
950503 5.3. Promote the conversion of waste to energy	Medium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
950504 5.4. Explore options for nuclear, geo-thermal and tidal waves energy	Medium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
950507 5.7. Ensure that energy is produced & utilized in an ethically sound manner	Medium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
950802 8.2. Facilitate sustainable use & mg of nat. res that support rur. livelihoods	Low	118,770,630	59,385,315	13,837	118,756,793	-	-	-	6,919	-	-	-	-	-	-	-	-	-
951101 11.1. Promote proactive planning to prevent & mitigate disasters	Medium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
951201 12.1. Increase resili. of set-ups in first along th coast & floodplains	Low	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
951301 13.1. Improve management of water resources	Medium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
951302 13.2. Accelerate the provision of adequate, safe and affordable water	Low	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
951303 13.3. Accelerate provision of improved envntal sanitation facilities	Low	86,145,196	17,229,039	9,224,284	76,920,912	-	-	-	1,844,857	-	-	15,384,182	-	-	-	-	-	-
960105 1.5. Ensure cont. life skills training for mg of peer mg. sanction, etc	Medium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
960406 4.6. Identify prev. & control of non-communicable/disease	Low	23,964,501	4,792,500	8,173,521	15,790,980	-	-	-	1,634,704	-	-	3,158,196	-	-	-	-	-	-
		1,875,940,391	610,050,035	237,221,700	372,728,335				13,652,748	1,176,021	14,744,597	12,570,914	113,755,564	242,425,334	95,168,790			116,556,067
(i) Total Climate Change Relevant Budget		%							%									
(ii) Adaptation Budget	610,050,035	33							13,652,748	6								
Mitigation Budget	237,221,700	39							14,744,597	6								
Total Budget	372,728,335	61							113,755,564	48								
									95,168,790	40								
									1,176,021	0								
									12,570,914	3								
									242,425,334	65								
									116,556,067	31								

Section 4

CLIMATE CHANGE FINANCE TRACKING TOOL 3

International Funds Listing

INTRODUCTION

The purpose of this tool is to allow the NRECC Unit determine the level of budget allocation (at the start of the financial year) and project disbursement (at the end of the year) for internationally sourced grant finance that is supporting relevant public investments.

The Ministry of Environment, Science, Technology and Innovation, through the Environmental Protection Agency, has developed a web-based Climate Finance Hub, which includes a project database of internationally funded climate change-related projects. The February 2016 version of the database, which contained 91 entries, has been reviewed to derive a list of international funding for government implemented climate change actions which can be used as the basis for the NRECC Unit to monitor spending. MESTI's Climate Finance Hub does not include details on annual budget commitments and donor disbursements, so this information needs to be collated by the NRECC Unit, perhaps as a six-monthly exercise, from the relevant donors, implementing agencies or recipients.

The MESTI/EPA Climate Finance Hub database was revised in the following way:

- All projects listed as completed were first removed from the database (38 entries)
- Three additional projects known to be completed were also removed (3 entries)
- Government co-financing and national funds were then removed (3 entries)
- Concessional loan finance and one results-based payment were also removed (8 entries)
- Finally, 11 projects implemented by non-government agencies were removed (11 entries)

This left a total of 28 active government implemented projects that are being supported by international grant finance.

Five ministries are represented in the listing: MESTI, MoFA, MoF, MLNR and MoT, together with several government agencies: EC, FC, NADMO, EPA as well as the Cocoa Board and the Electricity Company of Ghana.

Table 1 lists the 28 projects and identifies (in the blue highlighted columns):

- (i) the relevant Policy Objective Budget Code proposed by the research team;
- (ii) the relevant NCCP Master Plan Programme Area;
- (iii) the relevant GSGDA II Policy Objective; and
- (iv) the climate change relevance for each project.

For those projects that are on-budget, this information can assist in identifying the relevant expenditures from the national budget system, For off-budget expenditure, the NRECC Unit will need to liaise with the recipient and implementing agency to obtain the financial information

Table 1 . List of International Financed Projects Implemented by Government Ministries and Agencies

Name of Project	Policy Objective Budget Code (proposed)	Keywords	Sector	Climate strategy	Recipient	Start Date	End Date	Donor Institution	Implementing Agency	Channel	NCCP Master Plan Programme Area	GSDAII Policy Objective	Climate Relevance
Promoting of Appliance Energy Efficiency and Transformation of the Refrigerating Appliances Market in Ghana	050507	Energy efficiency	Energy	Mitigation	Energy Commission	2011	2013	GEF GEF_ID 3881	UNDP	Multilateral	10.4	5.1 Provide adequate, reliable and affordable energy	Medium
Ghana Energy Development and Access Project GEDAP (formerly) Development of Renewable Energy and Energy Efficiency	050502	Renewable energy	Energy	Mitigation	Electricity Company of Ghana	2007	2017	GEF GEF_ID 2886	WB	Multilateral	10.5	5.2 Increase the % of renewable energy	Medium
Ghana Energy Development and Access Project GEDAP (formerly) Development of Renewable Energy and Energy Efficiency	050502	Renewable energy	Energy	Mitigation	Electricity Company of Ghana	2007	2017	Switzerland	WB	Multilateral	10.5	5.2 Increase the % of renewable energy	Medium

Name of Project	Policy Objective Budget Code (proposed)	Keywords	Sector	Climate strategy	Recipient	Start Date	End Date	Donor Institution	Implementing Agency	Channel	NCCP Master Plan Programme Area	GSGDA II Policy Objective	Climate Relevance
Ghana Urban Transport	050102	Transport	Transport	Mitigation	MoT	2005	2015	World Bank	WB	Multilateral	10.4	1.2 Create and sustain an efficient & effective transport system	Medium
Ghana Urban Transport	050102	Transport	Transport	Mitigation	MoT	2005	2015	GEF GEF_ID 2596	WB	Multilateral	10.4	1.2 Create and sustain an efficient & effective transport system	Medium
Non-legally Binding Instruments on all types of forest in Ghana (UNFF/NLBI)	031602	LULUCF	Forestry	Mitigation	FC	2008	2011	BMZ, Germany	GIZ	Bilateral	4.2	16.2 Mitigate the impacts of climate variability and change	High
Forest Investment Program (FIP)	031602	LULUCF	Forestry	Mitigation	MLNR	2015	2020	Strategic Climate Fund	WB	Multilateral	4.2	16.2 Mitigate the impacts of climate variability and change	High
Forest Investment Program (FIP)	031602	LULUCF	Forestry	Mitigation	MLNR	2015	2020	Strategic Climate Fund and Africa Development Fund	AFDB	Multilateral	4.2	16.2 Mitigate the impacts of climate variability and change	High
REDD+ R-PP Implementation	031602	LULUCF	Forestry	Mitigation	FC	2010	2013	World Bank, FCPF	WB	Multilateral	4.2	16.2 Mitigate the impacts of climate variability	High

FCPF REDD+ Readiness Additional financing	031602	LULUCF	Forestry	Mitigation	FC	2015	2017	World Bank, FCPF	WB	Multilateral	4.2	16.2 Mitigate the impacts of climate variability and change	High
Low Emission Capacity Building Project (LECBP)	031602	Capacity Building	Environment	Mitigation	MESTI	2012	2016	EC, Germany, Australia	UNDP	Multilateral	10.2	16.2 Mitigate the impacts of climate variability and change	High
Community Resilience through Early Warning	031701	Disaster Risk reduction	Interior	Adaptation	NADMO	2012	2015	Norway	UNDP	Multilateral	3.1	17.1 Enhance capacity to mitigate and reduce impact of natural disasters	High
Integrating Green Economy into Ghana's Medium-Term Development Plan	031603	Green Economy	Environment	Mitigation & Adaptation	MESTI	2014	2015	Netherlands	UNDP	Multilateral	0	16.3 Promote green economy	High
China-Ghana South-South Cooperation on Renewable Energy Technology Transfer	050502	Technology Transfer	Energy	Mitigation	EC	2015	2018	Denmark	UNDP	Multilateral	10.5	5.2 Increase the % of renewable energy	Medium

Name of Project	Policy Objective Budget Code (proposed)	Keywords	Sector	Climate strategy	Recipient	Start Date	End Date	Donor Institution	Implementing Agency	Channel	NCCP Master Plan Programme Area	GSGDA II Policy Objective	Climate Relevance
Institutional Support to the Implementation of the Sustainable Energy for All (SE4ALL) Action Plan	050501	Sustainable Energy	Energy	Mitigation	EC	2013	2015	UNDP	UNDP	Multilateral	10.4	5.1 Provide adequate, reliable and affordable energy to meet national needs	Medium
Environmental Sustainability and Policy for Cocoa Production in Ghana	030502	LULUCF	Finance	Mitigation & Adaptation	Cocoa Board	2012	2015	Mondelēz Cocoa Life	UNDP	Multilateral	1.2	5.2 Promote the development of selected cash crops	Medium
Support for Development and Operation of COCOBOD's Ghana Cocoa Platform	030502	LULUCF	Finance	Mitigation & Adaptation	Cocoa Board	2013	2015	UNDP/UN-REDD and Mondelēz Cocoa Life.	UNDP	Multilateral	1.2	5.2 Promote the development of selected cash crops	Medium
Millennium Development Challenge Account Compact 2 – Ghana Power Pact	050501	Electricity supply	Energy	Mitigation	Electricity Company of Ghana	2014	2019	United States	MIDA	Bilateral	10.2	5.1 Provide adequate, reliable and affordable energy to meet national needs	Medium
Facilitating Implementation & Readiness For Mitigation	031602	Low carbon development/NAMAs	Environment	Mitigation	MESTI	2013	2015	Denmark	UNEP	Multilateral	10.2	16.2 Mitigate the impacts of climate variability and change	High

Sustainable Land and Water Management Project	030403	Agriculture	Agriculture	Mitigation	MESTI	2011	2018	GEF GEF_ID 5221	WB	Multilateral	1.2	4.3 Promote sustainable environment, land & water management	Medium
Green Climate Fund Readiness Programme	031601	Environment	Climate Finance	Mitigation & Adaptation	MESTI	2015	2016	Government of Germany	UNDP/UNEP/WRI	Multilateral	0	16.1 Enhance capacity to adapt to climate change impacts	High
Sustainable GHG Management Project in West Africa	031602	Environment	Capacity Building	Mitigation	EPA	2014	2017	Australia, USA, Netherlands, UK, Belgium, New Zealand, UNFCCC, FAO, UNDP, UNDP	UNFCCC	Multilateral	0	16.2 Mitigate the impacts of climate variability and change	High
Natural Resource and Environmental Governance Program Technical Assistance	030403	Finance	Climate strategy	Mitigation	MoF	2014	2016	World Bank	WB	Multilateral	4.1	4.3 Promote sustainable environment land and water management	Medium
Adaptation of Agro-Ecological Systems to Climate Change	031601	Agriculture	Agriculture	Adaptation	MoFA	2012	2017	BMU, Germany	GIZ	Bilateral	1.2	16.1 Enhance capacity to adapt to climate	High

Name of Project	Policy Objective Budget Code (proposed)	Keywords	Sector	Climate strategy	Recipient	Start Date	End Date	Donor Institution	Implementing Agency	Channel	NCCP Master Plan Programme Area	GSGDA II Policy Objective	Climate Relevance
												change impacts	
Resilient Landscapes for Sustainable Livelihoods	031601	Agriculture	Agriculture	Adaptation	MoFA	2013	2016	FAO & UNDP	UNDP	Multilateral	1.2	16.1 Enhance capacity to adapt to climate change impacts	High
Promoting value chain approach to climate change adaptation in Ghana	031601	Agriculture	Agriculture	Adaptation	MoFA (RTIMP)	2012	2015	GEF	IFAD	Multilateral	1.7	16.1 Enhance capacity to adapt to climate change impacts	High
Increased Resilience to CC in North Ghana Through the Management Of Water Resources & Diversification of Livelihoods	031601	Water Resources and Livelihoods	Environment	Adaptation	MESTI	2015	2019	Adaptation Fund	UNDP	Multilateral	7.9	16.1 Enhance capacity to adapt to climate change impacts	High
Information Matters Project	031602	Capacity Building	Environment	Mitigation	EPA	2013	2016	BMZ, Germany	GIZ	Bilateral	0	16.2 Mitigate the impacts of climate variability and change	High

REFERENCES

- Asante, F.A., Bawakyillenuo, S., Bird, N., Canales Trujillo, N., Addoquaye Tagoe, C. and Ashiabi, N. (2015). Climate change finance in Ghana. London and Accra: ODI and Institute of Statistical, Social and Economic Research, University of Ghana.
- Government of Ghana. (2013). Ghana National Climate Change Policy. GoG-MESTI, Accra
- Government of Ghana. (2014). Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda Two (GSGDA II), 2014-2017. GoG-NDPC, Accra.
- Government of Ghana. (2015). Ghana's First Biennial Update Report. GoG-MESTI/EPA, Accra.
- World Bank Group. (2014). Climate Change Public Expenditure and Institutional Review Sourcebook. Washington, DC.



ZAMAR WAY
IMPRESSION ENT.
ACCRA-GHANA
TEL: +233 27 772 7984
+233 27 704 8559 +233 54 100 3939
E-mail:joeribeiro91@yahoo.com