

Programme Document
Strengthening Environmental Management of the
Oil and Gas Sector in Ghana
2015-2019



Republic of Ghana

Proposal developed by MESTI – Ghana

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Contents

ABBREVIATIONS	3
1 BACKGROUND	3
2 PROGRAMME DEVELOPMENT AND PLANNING.....	4
3 ACHIEVEMENTS 2010-2014.....	5
4 PROGRAMME DESIGN	7
4.1 Programme impact and hierarchy.....	7
4.2 Programme description.....	9
4.3 Inputs.....	17
4.4 Budget	18
5 SUSTAINABILITY AND RISKS	18
5.1 Sustainability.....	18
5.2 Sustainability and exit strategy.....	19
5.3 Risk and risk management	19
5.4 Crosscutting topics in the OfD-programme.....	21
6 ROLES AND RESPONSIBILITIES	22
6.1 Organization of the Programme and the resources allocated	22
6.2 Reporting.....	23
6.3 Annual meeting	24
6.4 Use of Norwegian competence and procurement	24
6.5 Disbursement mechanism.....	24
7 DONOR COORDINATION	25
8 ANNEXES.....	25

Abbreviations

GoG	Government of Ghana
GNPC	Ghana National Petroleum Corporation
MESTI	Ministry of Environment, Science, Technology and Innovation of Ghana
EPA	Environmental Protection Agency, Ghana
NMCE	Ministry of Climate and Environment in Norway
NEA	Norwegian Environmental Agency
MoP	Ministry of Petroleum, Ghana
PC	Petroleum Commission, Ghana
NORAD	Norwegian Agency for Development Assistance
WB	World Bank
ADB	Asian Development Bank
UNDP	United Nations Development Programme
CSO	Civil Society Organisation

1 Background

Ghana has huge potential to grow and transform its economy through industrialization, creating jobs and ensuring the equitable distribution of wealth. The fundamental goal of the Government of Ghana's development agenda is to achieve macro-economic stability and grow the economy to a middle income status by 2020.

In July 2007, the Ghana National Petroleum Corporation (GNPC) and its partners discovered oil in commercial quantities in the Jubilee field in the offshore Tano/Cape Three Points Basin of the Ghanaian continental shelf. Appraisal work conducted on the field has estimated oil reserves of about 800 million barrels with an upside estimate of 3 billion barrels. The field has substantial associated natural gas reserves.

In addition to the Jubilee Field, there have subsequently been discoveries in the Mahogany Deep, Odum, Tweneboa and Sankofa offshore fields. Exploration activities are being intensified, and it is expected that more discoveries will be made both offshore and on-shore, including in the Volta Basin.

Ghana therefore needs to develop its human, organisational and institutional capacities to deal with the challenges of becoming an oil and gas producing nation. The goal is to sustain and optimise the exploitation and utilisation of Ghana's oil and gas endowment for the overall benefit and welfare of all Ghanaians, present and future.

Ghana was therefore interested in learning from Norway's experience of managing its petroleum sector development. In 2010 the two countries therefore signed a five-year agreements under the *Oil for Development* (OfD) programme for support to the resource and environmental dimensions

of Ghana's sector development. In April 2014 a review of the programme was carried out, noting the substantial achievements that had been made.

The key recommendation was that Norway should respond positively to the Government of Ghana's request for a second five-year OfD programme for the period 2015-2019, but that this would constitute the final capacity building support by Norway.

The OfD Steering Committee consisting of the four relevant ministries in Norway, gave the necessary approval to negotiate a new five-year programme with Ghana, both in the field of environmental management and resource management. Thus, two new parallel agreements between Norway and Ghana under OfD, is foreseen. This programme document constitutes the Government of Ghana's proposal regarding capacity development in the field of environmental management of the petroleum sector.

2 Programme development and planning

This programme document builds on the relations and results established during the previous OfD programme period between the Ghanaian and Norwegian partners. On the Ghanaian side, the Ministry of Environment, Science, Technology and Innovation (MESTI) in collaboration with the Environmental Protection Agency of Ghana (EPA-Ghana) is responsible for the development and planning of this Programme, while Norwegian Environment Agency (NEA) is the main collaborating partner together with Norway's Ministry of Climate and Environment (NMCE). There has been a close and continuous dialogue between the parties not only regarding the implementation of the current OfD programme, but also in connection with the development of this new Programme Document. The key elements here are thus not only a function of Ghana's policies and priorities, but also based on what the Norwegian partners have counselled they would be able to support.

The main reference for the development and planning of the Programme has been the National Energy Policy, and in particular the goal '*to ensure that energy is produced and utilised in an environmentally sound manner*' and the commitment to '*manage Ghana's oil and gas resource endowment to ensure the sustainability of the reserves and of the environment.*' The Programme is also meant to reflect provisions regarding environmental management in the Constitution of the 4th Republic (1993), the National Environment Policy (1991), the National Environmental Action Plan (1991) and the Environmental Protection Agency Act (1994).

Information regarding assistance from other international donors such as the World Bank, DfID, the EU, the Netherlands, GIZ have been factored into the Programme development and planning.

Moreover, information provided by the Norwegian counterparts regarding lessons learned from similar programmes under the Norwegian OfD programme elsewhere has been taken into account in the formulation of this Programme. The most important pillar has been, however, the experiences and results produced under the current OfD programme.

The planning of the Environment Component is conducted in parallel with a similar planning process for the Resource Component. In May 2013 the Ghanaian government submitted a request for technical cooperation with Norway on petroleum Revenue Management. Introductory training activities have been undertaken, but a programme and contractual framework for a longer-term cooperation on Revenue Management is still to be developed. IMF is expected to be a key provider

of technical assistance, but Norwegian government institutions will also likely be involved. An initiate dialogue between the Ghana Revenue Authority and the Norwegian Oil Taxation Office is planned early 2015.

3 Achievements 2010-2014

The 2010-2014 OfD Environment programme contained a total of 12 sub-components, for which specific Outputs had been planned. Annex I shows the planned and actual results that were delivered, but where the achievements by sub-component can be summarised as follows:

Policy, legal and institutional frameworks. The focus was on the EPA, where a separate Petroleum Department has been established, staff have been recruited and received some training. The laboratory has begun doing analyses though the full laboratory is not in place, and staff need to be trained further to carry out expected analyses. Draft of various guidelines such as for environmental assessments and national oil spill contingency plans have been prepared, though implementation agreements with relevant stakeholders are not yet in place.

Environmental data, monitoring and information system. The programme has made major advances, with the unique marine environmental baseline coming into place, and monitoring survey of the coastline done. EPA's data management system is being developed, and its data policy being revised, though the formatting of data and readiness for use is still not fully in place. Ghana is to reach a cost-sharing agreement with oil companies for funding of subsequent coastal monitoring surveys.

Environmental assessment and planning. The major achievement is the Strategic Environmental Assessment that was produced in a three-volume report.

Spatial planning and coastal zone management. The Western Region spatial plan with two district structural and two local plans included is seen as a model for how Ghana should do its spatial planning in the future. The programme introduced new technologies, standards and skills, so this results area is seen as highly successful.

Standards, regulations and permitting. The work in this field is on-going and while it was not able to deliver all the outputs expected, there was steady progress especially towards the end of the period.

Compliance monitoring and enforcement. Staff were being trained and carried out a first audit of the Jubilee Field though this only took place three years after start of operations. Also a waste treatment plant in Takoradi has been audited. This is a field that is expected to be given higher priority in the future.

Waste management. A first visit to a national waste management site was carried out and the work done there found to be quite good. The regulatory framework for waste management related to oil and gas activities had not yet been finalised, and like compliance monitoring is quite demanding. There is still work to be done before standards and performance are in place.

Community issues. Addressing issues of competition over resources (fisheries versus off-shore oil and gas, for example) and possible negative spill-over effects of the oil and gas industry on local livelihoods is a challenging task where other donors are also providing support. What has been done so far is information and sensitisation.

Health and safety. The intention was to institute regulatory framework for HSE issues at production facilities, including local enforceable standards and mechanisms for regular auditing. This area lagged in terms of results due to the need for clarification of responsibilities between the Petroleum Commission and EPA. The main achievement has been training of staff.

Risk assessment and emergency response. The major issues are possible negative effects from off-shore and on-shore activities, including transportation of petroleum products. Guidelines for national oil spill contingency plans remain to be finalised and stakeholders are not yet fully on-board as partners in cases of such disasters..

Regional cooperation. In this field only preparatory work was done.

Programme management. Largely achieved its objectives, though the two consultants in MESTI who assisted in the management left towards the end of the period, leaving the Ministry with the need to re-build capacity and management of the programme.

The overall achievements were seen as very satisfactory. The factors that explain this good result were seen as several:

Ghana in driver's seat: clarity on objectives. Clarity on the Ghanaian side as to what they wanted allowed them to be in the driver's seat in terms of identifying priorities and setting the pace for implementation.

Institutional framework: in place. Institutional clarity in terms of roles, mandates and thus divisions of labour were in place. Technical bodies like the EPA and TCPD are well-established. The EPA expanding by establishing a new petroleum section thus took place within well-established bodies with routines, funding, staff and a history of capacities.

Technical skills: largely in place. While Ghanaian staff have required skills upgrading, Ghana has university educated staff that basically have required *professional* training in a field that is new to the country. Further, Ghana has a functioning labour market even for skilled labour so it is possible to find relevant skills in the labour market in most fields.

Collaboration: partnering working well. The collaboration between the Ghanaian and Norwegian parties was good, in part because the two sides are structurally quite similar: they have similar mandates and responsibilities, which makes it easy for Norwegian staff to work alongside their Ghanaian counterparts.

Norwegian partners: cost effective. Most of the Norwegians staff come from public institutions, which is cost effective since salary costs are lower than if the programme had to buy consultancy services on the private markets.

Institutional twinning: ensuring stability. The fact that there are institutional agreements is significant, because it means that a Norwegian public agency is assuming responsibility for delivering a certain set of skills. Given the stability in Norway's civil service, this ensures considerable continuity compared with what a consultancy firm is likely to deliver over such extended time periods.

The separate institutional agreement between the environmental authorities in Ghana and Norway has ensured separate budgets and clear mandates. The coming programme period thus intends to build on the results so far achieved and develop the factors that account for the successes.

4 Programme design

4.1 Programme impact and hierarchy

4.1.1 Impact of the OfD programme

The Oil for Development programme in Ghana targets poverty reduction through responsible management of petroleum resources. This is coinciding with the goals set by the Government of Ghana in the National Energy Policy: To ensure sustainable exploration, development and production of the country's oil and gas endowment; the judicious management of the oil and gas revenue for the overall benefit and welfare of all Ghanaians; and the indigenisation of related knowledge, expertise and technology.

The assumption that a responsible management of the petroleum resources, leading to revenue, will reduce poverty, presupposes that the government has the ability and will to implement policies aimed at fair distribution. Several factors outside the programme will obviously determine whether this can be achieved. There is, however solid evidence to suggest a causal relationship between accountable management of the petroleum sector, high quality institutions and the likelihood of poverty reduction¹.

In the OfD Programme, a “Responsible Management” is defined as “Economically, Socially and Environmentally responsible management”. Any effort in the programme is directed towards this impact (impact).

• ¹ World Bank (2012, p 4):«From Rent to Riches»

Selected indicators for measuring progress at impact level:

Impact	Indicator	Baseline Dec 2014	Source
Economically, Environmentally and Socially responsible management of petroleum resources	<ul style="list-style-type: none"> Performance on the NRGi's Resource Governance Index: <ol style="list-style-type: none"> Composite score Institutional and Legal Setting Reporting Practices Safeguards and Quality Controls Enabling Environment 	Index published late 2013. New version available late 2015 63/100, Rank: 15/58 79/100, Rank 12/58 51/100, Rank 25/58 73/100, Rank 13/58	NRGI (Natural Resource Governance Institute)
	<ul style="list-style-type: none"> Rank on the Worldwide Governance Indicators: <ol style="list-style-type: none"> Voice and accountability Political stability Government effectiveness Regulatory quality Rule of law Control of corruption 	59/100, Rank 13/58 Percentile Rank (2013) To be updated with report from 2014 60.7/100 47.4/100 50.7/100	World Bank
	<ul style="list-style-type: none"> Rank on the Gender Inequality Index 	55.5/100 56.9/100 56.5/100	
		0.549, Rank 123/187 (2013) To be updated with report for 2014.	UN (United Nations Development Programme)
Environmentally responsible management of petroleum resources	Natural gas (m3) flared per produced boe	0.000817831	EPA
	Discharges of oil per produced boe	7.22987E-06	EPA

The programme will contribute to this abovementioned impact through the following three main outcomes:

Outcome 1:

The Authorities of Ghana have established policy and frameworks, defined and delegated responsibilities for managing the petroleum sector in an economically, socially and environmentally good way.

Outcome 2:

Authorities in Ghana have knowledge and capacity to manage the petroleum resources in accordance with their mandate (policy, legal and administrative framework) in the petroleum

sector.

Outcome 3:

The authorities of Ghana are held accountable for the management for the petroleum resources.

The outcomes and outputs to be produced in the Programme are further described in Chapter 4.2. For MESTI and EPA the abovementioned outcomes have been adjusted to pertain to the environmental management of oil and gas activities.

4.2 Programme description

The Programme has been designed to prioritize activities that will enhance the Government's capacity to manage environmental concerns in the oil and gas sector effectively.

In order to achieve the defined impact and outcomes of the programme, the Ghanaian authorities have identified the components that should be included in the new programme.

The program components are organized in such a way that they also fulfil NORAD's requirements for the result frameworks, as given in part 4.1.2. The result framework, including indicators, is provided in appendix II. More detailed, proposed activities and related timelines and budgets will be developed in annual work plans.

Outcome 1:

Environmental authorities have a policy, and an administrative- and a legal framework to ensure sustainable development of the petroleum resources.

Justification

In order to ensure a responsible management of the petroleum resources, Ghana needs an adequate policy and legal and administrative framework to deal with the environmental aspects of the emerging petroleum industry. This outcome includes among others formulation, revision and harmonization of various policies and laws to address oil and gas related activities, as well as clarification of roles and responsibilities within and between the institutions. Furthermore, Ghana needs to develop appropriate regulations to be able to carry out environmental management of the oil and gas sector. Finally, the legal framework should ensure a sufficient information base for decision making, monitoring and reporting for effective environmental management. Sub-components are given below.

a) Ghana's Environmental Policy and MESTI's role as a Ministry

MESTI launched an Environmental Policy in July 2014. Due to the latest developments of the oil and gas industry in Ghana, with more discoveries offshore and possible plans to start onshore exploration in the Volta basin, new environmental challenges will arise. There is a need to disseminate the Environmental Policy to relevant stakeholders and to ensure implementation. A

communication strategy needs to be developed. The Norwegian Ministry of Climate and Environment will act as an advisor to MESTI in these tasks.

b) Policy and legal framework for waste management

Petroleum activities generate considerable quantities of waste and hazardous waste in the form of drill cuttings, oil laced matter and leftover chemicals used in drilling, production and infra-structure and equipment maintenance. To address these problems, this sub-component will contribute to a development of a policy and a legal framework regarding waste management related to oil and gas activities.

c) Enforceable regulation and financial security regarding decommissioning

The nascent petroleum sector brings new environmental challenges and the need for additional regulations. Ghanaian authorities have introduced laws and regulations to protect the environment. However, enforceable regulations for oil and gas related activities need to be further developed and communicated.

During the Nansen² ssurveys, vulnerable resources like a high value coral reef was discovered. Presently Ghana does not have legislation that enables the protection of such resources. Regulation for controlling development around ecologically sensitive areas needs to be developed.

EPA has developed Environmental Guidelines for environmental management of the petroleum industry. The legal status of the guidelines needs to be clarified. If needed the guidelines should be approved as a regulation. Regulations for decommissioning activities and for financial securities for decommissioning before end-of-use, and procedures for coordination between regulators should be developed and introduced.

Parallel to EPA's development of Environmental guidelines Petroleum Commission (PC) is developing Health-, Safety- and Environment (HSE) - regulations. There is a need to clarify whether these regulations overlap with the Environmental guidelines/regulation. Furthermore, distribution of competence between EPA and PC with regard to environmental issues in the HSE-regulations needs to be clarified.

d) Risk management and emergency response

Petroleum activities impose risks to the environment, other natural resources and industries such as fisheries and tourism. Accidental oil spills are of particular concern in this respect. Ghana has developed an Oil Spill Contingency Plan. The plan needs to be updated and institutional responsibilities need to be clarified.

The environmental sensitivity map for Ghana's coastal zone needs to be updated. Information needed as input to the sensitivity map should be a part of the Strategic Environmental Assessment

² Marine Environmental Survey of Bottom Sediments by Fridtjof Nansen in Ghana: 2009, 2010 Central Coast, 2011 East Coast.

(SEA) onshore. Information to be used in the sensitivity map needs to be stored and made available in electronic data bases.

The operational emergency response capacity must be strengthened by:

- Establishment of national and zonal emergency centres
- surveillance in strategic locations
- personnel training
- establishment of communication and media management routines
- specification of minimum equipment and infrastructure requirements for the operators
- coordination of public sector resources with equipment available within the private sector.

e) Development of regional environmental programs related to transboundary issues in the oil and gas sector in cooperation with the Abidjan Convention Secretariat

It is considered advantageous for Ghana and also for neighbouring countries to set common standards and requirements for companies involved in petroleum exploration, production and transport. To facilitate harmonization in this respect Ghana intends to strengthen regional collaboration on environmental issues related to oil and gas activities in the framework of the Abidjan Convention. The aim is to contribute to the establishment of environmental standards related to oil and gas activities to enable harmonized management of trans-boundary issues (including compliance) for oil and gas related activities.

f) Environmental data collection and information systems

A number of activities are foreseen to ensure a sufficient information base for decision making needs in the environmental management of petroleum activities. Essential environmental offshore and onshore baseline parameters, including biological (fish stocks and populations of seabirds, marine mammals, turtles and endangered species), chemical (including current levels of contaminants) and physical parameters (including bathymetry, sea currents and prevailing winds) are required.

A national environmental monitoring system based on needs specifications including funding mechanism for cost-sharing between EPA-Ghana and industry for closing data gaps relevant in relation to petroleum sector activities is needed.

The entity that shall coordinate the national Environmental Monitoring Information system including improved guidelines, Information Communication Technology (ICT) infrastructure and data management system (including for storing bathymetric data) should be in place to cover both land and sea areas.

g) Development of an onshore SEA prior to the opening up for oil and gas exploration in the Volta Basin

This sub-component involves technical assistance and capacity building support regarding Strategic Environmental Assessments (SEA) of petroleum activities both on the sector programme level and on the level of individual projects related to petroleum exploration, production, transport etc. Such assessments represent vital tools in the work to ensure that environmental considerations

are taken into account in the planning of petroleum related activities. This includes developing an SEA towards on-shore oil and gas activities in the Volta basin, using broad stakeholder participation, including Civil Society Organisations (CSOs). The existing SEA for offshore petroleum activities should be revised based on information gathered during the Nansen surveys. The implementation of the offshore SEA should be secured in cooperation with the Ministry of Petroleum (MoP). EPA will coordinate the SEA team that gather the information that constitutes the input to the SEA. As sector responsible for petroleum, MoP is responsible for the SEA and for the implementation of the results.

Furthermore, Environmental Impact Assessment (EIA) guidelines, procedures and capacity for reviews of EIAs and permitting in the petroleum sector, including gas utilization project and future offshore and onshore plans need to be strengthened.

h) Compliance monitoring, reporting and enforcement

The petroleum industry and associated regulatory regime brings challenges in terms of compliance monitoring and enforcement needs. In order to meet these needs, a regulatory framework for compliance monitoring and enforcement in the petroleum sector, including guidelines, frequencies of inspections/audits, sanctions regime and reporting needs to be developed.

Baseline

MESTI launched an Environmental Policy in July 2014. Ghana is considering onshore oil and gas developments in the Volta basin, and this will bring along new environmental challenges. There is a need to develop a communication strategy and an implementation plan for the strategy.

Waste is a big problem in Ghana and there is presently no comprehensive waste policy or legal framework in place. A National Waste Policy and waste regulation needs to be developed, approved, disseminated and implemented.

At the end of the first programme period EPA has developed environmental guidelines towards the oil and gas industry. They have also issued a permit to the operator of the Jubilee Field. Regulations pertaining other areas, such as decommissioning, discharges and emissions are not yet developed. Furthermore, there is a lack of formalized regulatory framework for compliance monitoring (audits and inspections).

There are also shortcomings in the management of environmental data. Consequently, in the next program phase a lot of effort will be put into the development of a system for management of environmental data that enables MESTI and EPA to perform efficient environmental management of the oil and gas activities. There is a need to finalize the establishment of the Environmental Information Network (EIN), to update the Environmental Sensitivity Map for Ghana's coastline, to map marine and terrestrial sensitive areas and to develop relevant databases.

Indicators for measuring programs at outcome level:

Outcome 1: Environmental authorities have a policy, and an administrative and a legal framework to ensure sustainable development of the petroleum resources.	Indicator: Number of Programme outputs developed and delivered in accordance with annual work plans.
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	Key outputs:
1	MESTI's Environmental Department/Oil and Gas Unit has a good overview and understanding of the most relevant issues and challenges, based i. a. on the Environmental Policy document.
2	MESTI's Environmental Department has an effective and operational Oil and Gas Unit with clear roles and responsibilities
3	MESTI and EPA have developed oil and gas communication strategies.
4	MEST/EPA has adopted a policy and legal framework for oil and gas industry waste.
5	EPA has developed necessary regulations for the environmental management of the petroleum sector (i.a. for compliance monitoring, controlling development around ecologically sensitive areas and for decommissioning).
6	The share of responsibilities between PC and EPA on the HSE-regulations is clarified.
7	EPA/MESTI have developed and adopted two Regional Programmes related to reducing impact of oil and gas activities within the framework of the Abidjan Convention.
8	Guidelines comprising requirements for community consultations in EIA's for oil and gas projects developed by EPA.
9	MESTI/EPA has reviewed and updated the National Oil spill Contingency Plan and clarified roles and responsibilities of different stakeholders.
10	EPA has developed a system (human capacity, infrastructure, collaboration frameworks) to manage environmental data.
11	Cost-sharing legislation/ agreement between EPA and the industry on maritime, coastal and terrestrial data surveillance is in place and implemented.
12	MESTI, together with EPA and other ministries and government institutions have developed a Strategic Environment Assessment prior to opening up for oil and gas exploration in the Volta Basin.

Outcome 2:

MESTI and EPA has knowledge and capacity to ensure that the petroleum sector is developing in an environmentally sustainable way in accordance with their mandate (policy, legal and administrative framework).

Justification

To be able to implement and apply policy, legal and administrative framework and communicate with the civil society/public in a prudent manner, there is an identified need to develop capacity and competence in MESTI, EPA and in local communities/NGO's. The objective is therefore to enhance the technical and management skills.

a) Development of MESTI staff

As the Ministry responsible for the environment The Ministry of Environment (MESTI) holds an important role in the development of the policy towards environmental management of Ghana's petroleum sector. The ministry is also the "voice of the environment" in the GoG, and needs to have the capacity to make strategic decisions.

During the first programme, training was given to consultants not permanently employed in MESTI and they left the ministry at the end of 2013. MESTI has established an Oil and Gas Unit within the Environmental department. There is therefore a need to build capacity and competence in the Oil and Gas unit and other relevant departments in MESTI in parallel with building capacity in EPA. The staff in the Oil and Gas Unit needs capacity environmental management of the oil and gas sector; strategic thinking, formulation of policies, development of legislation. This should enable MESTI to develop Ghana's environmental policy, to provide guidance/ supervision of relevant agencies and to communicate the environmental policies to the rest of the Government and to the public. Furthermore, capacity building within basic petroleum knowledge should be carried out.

b) Development of EPA staff

The Petroleum Department in EPA was established during the first programme period. In EPA there is a further need to increase capacity for the staff in the Petroleum department, staff working with GIS/data management and other staff involved in activities pertaining to oil and gas drilling and production.

The following needs are identified:

- Competence to develop environmental regulations for the control and management of emissions and discharges and waste from the oil and gas industry.
- Competence to develop environmental regulations for decommissioning and abandonment of oil and gas installations.
- Competence to develop a compliance monitoring regime and conduct audits and inspections to ensure enforcement.
- Competence to administer relevant databases and the Environment Information Network
- Competence to manage the use of chemicals in the oil and gas industry.

Baseline

Due to lack of relevant personnel in MESTI during the OfD-program in 2010-2014, capacity building mainly focused on EPA. No Petroleum Unit was established in MESTI (see part 5.1), until towards the end of 2014. A goal for this program is that MESTI, by the end of the programme

period, has an operational petroleum unit with sufficient knowledge in environmental management of petroleum resources to set realistic environmental policy for the petroleum industry and to make the policy known to other decision makers and the public. In September 2014 MESTI identified two permanent employees that will constitute MESTI's Oil and Gas Unit. One participated in Petrad's 8-week course in 2014.

MESTI should be able provide effective guidance and to supervise their underlying agencies. For this reason, the routines that clarify the share of responsibilities between MESTI and the agencies needs to be developed. MESTI staff also needs to increase capacity in the use of SEA as a tool for political decisions in oil and gas exploration and production.

The Petroleum Department within EPA is established; eleven (11) permanent staff have been recruited and received some training. Some of the staff are now well trained and have among others participated in PETRAD's 8-week course, and some still need more training. Training needs are identified within permitting, enforcement and monitoring, chemicals management, offshore combustion technologies, energy efficiency and reduction of emissions to air, waste and oil spill management.

When it comes to management of environmental data there is presently inadequate capacity to fulfil the needs. The Petroleum Department is looking into possibilities to support the GIS and Data Management Unit. However, these staff will need training to meet the expertise required.

Indicators for measuring progress at outcome level:

Outcome 2: MESTI and EPA have the basic knowledge and capacity to ensure that the petroleum sector is developing in an environmentally sustainable way in accordance with their mandate (policy, legal and administrative framework)	Indicators: - The capacity of MESTI and EPA is considered stronger after program implementation, compared to that of 2014 (Capacity development in MESTI and EPA will be assessed in mid-term and end reviews. Preliminary assessments will be made by the cooperating institutions before each annual meeting, using among others the indicators given under each outcome (outcome 2.1-2.6 in the Results Framework). - Environmental data is used by MESTI and EPA in policy and legislation development.
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	Key outcomes
1	MESTI has competence and capacity to develop a strategy and relevant environmental policies and oversee the implementation through relevant agency.
2	EPA is capable of developing relevant regulations, give permits and monitor and enforce compliance.
3	EPA has is capable of running an environmental data management system.
4	EPA is capable of running an EIN.
5	EPA documents environmentally sensitive areas and is enforcing full or gradual protection of the areas.
6	EPA has established the capacity and a track record of quality oversight reviews for EIA's submitted by the operators

Outcome 3:

Accountability and transparency in the environmental management of the petroleum sector is strong

Justification

Ensuring adequate levels of transparency and a strong focus on accountability are important ingredients in ensuring sustainable management of the petroleum resources, which safeguards the needs of present and future generations. Transparency is a prerequisite for national actors in the accountability chain to be able to hold the government accountable for the management of the national resources. It is also an important factor in preventing corruption.

See also “Crosscutting topics in the OfD-programme” under section 5.3 below.

The main target group for activities under Outcome 3 includes decision makers, civil society organizations, media, as well as public control institutions including the Parliament. In order to play a meaningful role these national stakeholders must have independence, relevant competence and capacity as well as access to information about the petroleum sector. MESTI, EPA and related government institutions will benefit from a more informed and fact-based public discussion, and are required to provide knowledge and information to enable stakeholders to follow the process and monitor the progress.

To sensitize citizens to demand environmental accountability from oil and gas industry is another important aspect of accountable management.

For the local communities and the NGO's there is a need to raise awareness to promote co-existence between the oil and gas, fisheries and other traditional sectors. The literacy in the communities is low and they depend on mass communications like radio and TV to be informed, and cannot benefit from reading materials like newspapers, pamphlets etc. EPA will train some key personnel in the media and NGO's to further carry out information work in the local communities.

Baseline

MESTI announced Ghana's Environmental Policy in June 2014. The policy is not yet published on MESTI's website. EPA has started to publish permits given and audit reports online. Also summaries of EIA's are published online and are available for comments from the public.

However, there is a need for a comprehensive plan to implement developed communication strategies for both MESTI and EPA. Among others, the public, the media and NGO's do not have sufficient knowledge about oil and gas activities to ask relevant questions in stakeholder reviews and hold the companies and the authorities accountable for their work. Furthermore, the citizens should be sensitized to demand environmental accountability from the oil and gas industry.

Currently the literacy in the communities is low and they depend on mass communications like radio and TV to be informed. This will affect the strategies developed for dissemination of relevant information.

Indicators for measuring progress at outcome level:

Outcome 3: Accountability and transparency in the environmental management of the petroleum sector is strong	<ul style="list-style-type: none"> - Environmental policies are communicated to relevant ministries, the industry, NGO's and other stakeholders. - Communication strategies for MESTI and EPA are implemented and effectiveness monitored. - Number of relevant documents (e.g. permits, laws) that requires public consultations that have followed the correct procedure. - Relevant documents and Environmental data are published online and in prints and disseminated timely. - The information published is correct and easily understood (to be assessed by the participating institutions). - Training programme established and conducted
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	Key outcomes
1	Local communities and media are more aware of the possible conflicts between oil and gas activities and coastal activities.
2	The public has access to relevant information.

4.3 Inputs

Essential Programme inputs will be:

- Technical assistance (including advice and consultancies) and capacity building support (including training resources and study tours) provided by relevant experts in Norwegian environmental authorities
- Active participation by relevant personnel from Ghanaian environmental authorities
- Relevant results of previous and already ongoing activities (see section 3)
- Information on relevant best practice and experience internationally (i.e. in countries beyond Ghana and Norway)

A preliminary budget according to the above programme structure is provided in the table below.

As equipment and other physical investments are not foreseen to feature as inputs to the Programme described here, funding for this will continue to be sought under other international donor initiatives, such as the World Bank programme, where collaboration during the current phase has been excellent.

4.4 Budget

The environmental component is a part of a holistic program towards Ghana. The total budget for the different components is 78 million NOK, with an allocation as given in the table below:

Indicative budget for the OfD-program, divided in the different components (mill. NOK).

Component/Year	2015	2016	2017	2018	2019	Totals
Resource Management	8	8	6	5	4	31
Environmental Management	7	6	4	2	2	21
Revenue Management, excluding IMF	4	4	3	1	1	13
Accountable Management	3	3	3	2	2	13
Totals	22	21	16	10	9	78

The budget estimates for the Environmental Component are broken down according to the three outcomes:

Preliminary budget, in NOK mill

Programme Areas	2015	2016	2017	2018	2019	Totals
Outcome 1 (Legal/administrative framework)	3	2,5	2	0,8	0,7	9,0
Outcome 2 (Capacity building)	3,4	2,9	1,5	0,9	0,9	9,6
Outcome 3 (Accountability)	0,4	0,4	0,4	0,1	0,1	1,4
Programme management	0,2	0,2	0,2	0,2	0,2	1,0
Totals	7.0	6.0	4.0	2.0	2.0	21.0

5 Sustainability and risks

5.1 Sustainability

This programme will entail institutional strengthening (legal frameworks and other societal “rules of the game”), organizational development of MESTI and EPA.

Ghana had a number of laws and institutions in place for protecting the environment in general and the resources therein, and this situation has further improved during the current OfD programme. Focus during this coming programme period will be on strengthening the capacities for designing and completing necessary legal frameworks and on the capacity to monitor and enforce these frameworks, assess their appropriateness and functionality, and be able to amend and improve to

ensure a modern, pro-active and quality management of the environmental dimensions of the oil and gas sector.

The sustainability of the impacts of the outputs of the Programme components beyond the end of the Programme period, and thus the achievement of the Programme goal, is expected to rest mainly on the three following key assumptions:

- The Government of Ghana is committed to achieving coherence in the legislative framework dealing with the environment and petroleum activities
- The Government of Ghana continues to pursue the ongoing process to restructure, consolidate and clarify the mandates of Ghana's environmental institutions
- The Government of Ghana secures adequate future funding for the environmental institutions enabling them to carry out their mandates in an efficient manner

5.2 Sustainability and exit strategy

This program phase, running from 2015 until the end of 2019 is the second and last OfD-program period in Ghana. Activities carried out need to strengthen MESTI and EPA in a way that contribute to their efficient management of oil and gas activities after the closure of the program.

An important element is to ensure that the knowledge and capacity remain in the organisations. During the first programme, training was given to consultants in MESTI that left the Ministry. No procedures or any other written documentation was developed and there was no overlapping period between the exiting and incoming staff. For this programme period training will be given to staff that is permanent employees in MESTI; mainly to the newly established Oil and Gas Unit, but also to other relevant departments, and with written procedures describing roles and responsibilities as well as adequate funding over the budget.

EPA already has a Petroleum Department with eleven permanent employees. The World Bank currently finances some of the staff. However, one of the provisions in the agreement between the World Bank and EPA is that EPA continues to hire the employees after the end of the contract period with the World Bank. The Government of Ghana has decided to let some agencies go off government subvention, and EPA is one of them. The agency is developing a business strategy that will ensure the future employment of existing staff.

The budget allocations proposed in the part 4.4 is designed as a built-in weaning-off mechanism. The allocations for the first two years are the highest of the programme, underlining the need for MESTI and EPA to carry out their work without support from the OfD-program when the time for closure is approaching.

5.3 Risk and risk management

The Programme is subject to both internal and external risks.

5.3.1 Internal risks

Internal risks are those that may be mitigated by the Programme design or implementation. The most important internal risks are:

Scarcity and loss of key expertise (high risk) necessary for an efficient and successful execution of the Programme and for achieving Programme objectives and purposes. This risk is considered to be the most relevant and likely risk and will be mitigated by not training only individuals, developing documentation for use by new employees, focus training on permanently employed staff and not on hired consultants.

Limited financial management where either under-budgeting or over-expenditure on some Programme components may reduce financial resources available to other key activities. This will be particularly important as the overall financial frame for this coming period is highly constrained and funding must thus be carefully managed. To mitigate this risk, costing of inputs will be carefully reviewed. The collaboration between the various input suppliers – especially on the Norwegian side – will need to be close with continuous reporting and monitoring of expenditures ensuring that any over-expenditures – expected or realized – will be identified early and mitigating steps can be put forward, discussed and implemented to immediately address the potential budget problem.

Weak stakeholder involvement and commitment (medium risk) resulting in inefficient Programme execution and potential failure to reach the Programme objectives and purpose. To mitigate this risk all the institutions that are central to the achievement of the results are represented in Programme management arrangements.

Limited clarity and capacity in the management system (medium risk) resulting in ineffectiveness and a lack of necessary adaptability in Programme execution. A Programme management structure will be set up which is meant to mitigate this risk.

Poor inter-institutional cooperation (medium risk) resulting in underachievement when it comes to the achievement of Programme outputs. This risk will be mitigated by ensuring that all the institutions that are central to the achievement of the results are represented in Programme management arrangements.

Lack of coordination between interrelated Programme components and with other initiatives (low risk) resulting in failure to exploit potential synergies. To mitigate this risk a Programme management scheme will be set up which will require Programme component or output specific coordinators to communicate on a regular basis to fulfil the coordination needs.

5.3.2 External risks

External risks are those that may not easily be mitigated by the programme design or implementation. The most important external risks are:

Insufficient political support for allocating and maintaining necessary personnel input for the Programme in the face of competing demands on the same personnel related to other needs

Expected complementary inputs/activities by other partners may not emerge as expected (for example due to other donor budget cut-backs), so synergies/supplementary activities that were counted on to make this Programme progress may not happen.

Unforeseen crisis in the region. A continued and increasing outbreak of Ebola as seen in 2014, may hamper regional cooperation.

5.4 Crosscutting topics in the OfD-programme

The OfD Programme takes a holistic approach in its assistance to partner countries, meaning that the management of resources, revenues, environment and safety are addressed in a coherent manner. Anti-corruption, climate and gender are cross-cutting considerations.

Gender

Both within MESTI and EPA the staff working with oil and gas related activities are almost equally spread between female and male staff, and training activities will target both genders according to this. However, the oil and gas industry is known to be male dominated, and the consequences when it comes to development of oil and gas activities may be different for men and women.

Strategic Environmental Assessment

The program will aim at considering gender equality during the conduct of the onshore SEA. This includes investigations on how men and women will be affected differently by oil and gas related activities; participation in consultation processes, grievance mechanisms, appraisal of risks and creation of opportunities at every stage of project development. Women in local communities generally have less education and access to resources than men have, but are mainly responsible for family care and nurture. They often do not have the same possibility to participate in decision-making. Women are often the primary users of land though formal legal title lies with a male relative. They are therefore liable to miss out in compensation processes. Additional efforts are needed to ensure that the voices of community women are heard and included in resettlement, compensation and resettlement plans.

Capacity building in local communities

When carrying out capacity building in local communities, efforts will be made to include women in information meetings, e.g. by holding the meetings at times and places suitable for women.

Climate Change

Ghana's Environmental Policy and Ghana's National Climate Change Policy were launched in June 2014. One of the activities in the next phase is to contribute to the implementation of the Environmental Policy. Furthermore, capacity building within the reduction of emissions to air and energy efficiency for oil and gas activities is included in the program. This will increase the focus on how the oil and gas industry contribute to global warming, how Green House Gases from the oil and gas activities can be reduced in Ghana and thereby how Climate Change can be mitigated.

Anti-corruption

The programme has the potential to facilitate transparency and accountability and reduce possibilities of corruption through the efforts within all three outcomes (outcome 1-3). Development and publishing of policies and legal framework, institutional capacity building as well as training of civil society contribute to holding authorities to account and reduce corruption.

6 Roles and Responsibilities

MESTI provides sector policy direction and supervises regulatory agencies that report to the Minister of Environment, Science, Technology and Innovation. Within MESTI, the newly established Oil and Gas Unit that handles (among other issues) the oil and gas sector will be overall responsible for the day-to-day management of this programme, in close collaboration with the other Ghanaian institutions involved, in particular the EPA.

6.1 Organization of the Programme and the resources allocated

In terms of formal agreements, a bilateral Programme Agreement between the Norwegian Government (represented by the Norwegian Embassy in Accra) and the Government of Ghana (represented by the Ministry of Finance and Economic Planning, (co-signed by MESTI) is foreseen. The role of the OfD Secretariat at Norad will be one of technical backstopping.

In addition to the Programme Agreement, an Institutional cooperation agreement between the key participating ministries in Ghana and Norway is foreseen. On the Ghanaian side these are MESTI and the EPA. On the Norwegian side the key partners are the Ministry of Climate and Environment, the Norwegian Environment Agency and the Norwegian Coastal Administration. The institutional agreement will be signed by MESTI and the Norwegian Ministry of Climate and Environment. The Norwegian Environment Agency will be delegated the main responsibility for the execution of the program on the Norwegian side.

The Norwegian Government will provide:

- a) Programme funding
- b) Institutional partners relevant to the specific Programme components and outputs
- c) Government experts, consultants and training institutions will be made available for programme implementation through the institutional partners.

The Ghanaian Government will provide:

- a) Programme manager
- b) Coordinators from participating Ghanaian authorities

- c) The physical facilities and available equipment for the project components to be operational
- d) Suitably qualified Ghanaians to participate in the activities of the Programme
- e) The available Government financing for implementing the foreseen activities.

6.2 Reporting

MESTI, in collaboration with EPA-Ghana, will prepare annual *progress reports* before the annual meetings that will include the following information:

- Description of achievements related to:
 - o The result framework and accompanying indicators and risks
 - o Annual work plans approved in the annual meetings.
- A brief summary of the use of funds compared to budget,
- An assessment of the efficiency of the Programme (how efficiently resources/ inputs are converted into outputs),
- An explanation of major deviations from approved workplans,
- An assessment of problems and risks (internal or external to the Programme) that may affect the success of the Programme, in particular those listed in the programme document,
- An assessment of the needs for adjustments in the outcomes/outputs given in the result framework and activities given in annual work plans.

A *work plan* shall be submitted annually. The work plan shall specify planned outputs and time schedules for the next fiscal year.

Annual *financial statements and budget* will be submitted in time for approval at the Annual Meeting (see below).

Annual *audit reports*, as specified in the programme agreement, will be provided by Ghana in the case where transfer of funds have been made to Ghana.

A *final report* will be submitted within 3 months after the completion of the Programme, including description of achievements related to:

- The result framework and accompanying indicators and risks
- An assessment of the effectiveness of the Programme, i.e. the extent to which the Programme Impact and Outcomes and accompanying indicators have been achieved.
- An assessment of impact (if possible), i.e. the changes and effects, positive and negative, planned and unforeseen, of the Programme seen in relation to target groups and others who are affected,
- An assessment of the sustainability of the Programme results, i.e. an assessment of the extent to which the positive effects of the Programme will continue after the external assistance has been concluded,
- A summary of main “lessons learned”.

A Midterm and an end review of the the programme shall be carried out.

6.3 Annual meeting

Representatives of GoG and Norway shall have an Annual Meeting within the first quarter of each year in order to:

- Discuss the progress of the Programme, including results and fulfilment of agreed obligations,
- Discuss and, if feasible, approve annual work plans and budgets for the following year,
- Discuss issues of special concern for the implementation of the Programme, such as the major risk factors and how to manage such risks/issues.

The Annual Meeting shall be a joint meeting of the programme components with funding under the *Oil for Development* programme, currently foreseen to include Environment, Resource, and Revenue. The GoG will decide which of their relevant ministries that will call and chair the particular Annual Meeting. Main issues discussed and points of view expressed as well as any decisions shall be recorded in Agreed Minutes. The Agreed Minutes shall be drafted by the Ministry named to chair that meeting and be submitted to Norway for comments no later than two weeks after the Annual Meeting has taken place.

6.4 Use of Norwegian competence and procurement

The cooperation programme is set up to aid GoG by means of technical assistance, advice and support. The resources will to a major degree be drawn from relevant Norwegian authorities, regulators and governmental experts. Based on availability, relevant expertise could also be sourced from elsewhere. This will be decided through consultations between Ghanaian and Norwegian partners.

Norway may also undertake procurement of goods and resources on behalf of the GoG. This will be decided through consultations between Ghanaian and Norwegian partners. In such case, the procurement will be carried out in accordance with Norwegian public procurement law. Terms of Reference for any goods and services thus procured shall be prepared in cooperation and agreement with GoG. Contracts and major commitments shall be based on the approved annual work plans.

6.5 Disbursement mechanism

Invoices are to be issued quarterly or as appropriate for approval by MESTI. Once approved, the invoiced amount will be disbursed by Norway to the supplier. Original invoices will remain at MESTI for auditing.

Under the annual meetings, the work plan and corresponding budget for the year will be provided for approval. To the extent funding is agreed to be paid directly by MESTI or EPA for any direct procurement in Ghana (for example local consultant, hotel fees and other costs related to each work session), the agreed lump sum can be transferred from the Norwegian embassy to MESTI. MESTI

will ensure swift onward transfer of funds to EPA within the established rules and regulations of the Government of Ghana. Such funds will be subject to audit by Auditor General.

7 Donor coordination

There are several GoG/development partner programmes on-going in the oil and gas sector in Ghana. These include the World Bank, DFID and USAID. There is to a certain extent a joint programming effort coordinated by GoG, but the various programmes are mainly administered on a separate basis. In a number of fields, the collaboration and coordination is fairly tight. It is expected that over time, GoG will formulate a more broad-based sector programme with common reporting, disbursement mechanisms etc. that will be fully managed by national authorities and to which all donor-funded activities will adhere. Norway will support such a development and will be willing to modify the above principles of this Programme to accommodate such overarching sector approaches as and when they become operational.

8 Annexes

Annex I presents the programmed and actual results during the period 2010-2014

Annex II presents the Results Framework for MESTI and EPA for the period 2015-2019.

Annex I: Programmed and Achieved Results, 2010-2014

Results area	Programmed 2010	Results April 2014
1 Policy, legal and institutional framework	<p>Policies and laws have been reviewed and proposals for updating, harmonization and gap filling to address oil and gas related activities, including domestication into national legislation of relevant international protocols have been developed and presented.</p> <p>Capacity building plans for staff ... have been developed and implemented</p>	<ul style="list-style-type: none"> •Groundwork strategy developed •Establishment of Petroleum Department (PetroDep) in EPA. •Environmental Assessment and management of offshore oil and gas development guidelines finalized •Website for oil and gas activities developed. •EPA recruited 18 staff for PetroDep. •EPA lab partially used for certain analyses, full use only when installation of equipment completed. •About 60 EPA officers trained in policy, management for oil/ gas dev't.
2 Environment data, monitoring and information system	<p>Essential environmental offshore / onshore baseline parameters established</p> <p>A national environmental monitoring system with a funding mechanism for cost-sharing EPA- industry for closing data gaps developed, operationalized</p> <p>Coordinating entity for national Environmental Monitoring Information system including improved guidelines, ICT infrastructure and data management system upgraded, operationalized for land and sea areas</p>	<ul style="list-style-type: none"> •Marine environmental survey of bottom sediments and water column completed. •Monitoring survey of entire coastline and offshore environment completed •Development of Data Management System underway. Development of data policy for EPA, draft data policy of the Agency revised
3 Environmental Assessment/Integrated Management Planning	<p>SEA/ Integrated Management Planning developed with broad stakeholder participation at regional, national levels, with results effectively communicated</p> <p>EIA guidelines, procedures and capacity for reviews of EIAs and permitting strengthened</p>	<ul style="list-style-type: none"> •Ghana Gas Pipeline project commenced before the EIA was submitted, emergency review by Norwegian counterparts. •SEA final report finalised in three volumes: process, content and executive summary.
4 Spatial and Land Use Planning and Coastal Zone Management	<p>A regional spatial development framework, accommodating planning needs related to potential petroleum production ... has been established</p> <p>Coastal zone management planning strengthened and appropriate communication mechanisms established</p>	<ul style="list-style-type: none"> •Western region spatial dev't framework completed, approved •Platform for communication and info dissemination initial phase. •Training of staff in advanced GIS. •Western Region Spatial frame in place. Structure, Local Plans for the two districts prepared, approved.

Results area	Programmed 2010	Results April 2014
5 Standards, regulations and permitting	Locally enforceable standards for oil and gas activities developed, communicated Environmental regulations for oil and gas activities, procedures and financial securities for decommissioning before end-of-use, procedures for coordination between regulators developed and proposed	<ul style="list-style-type: none"> • Process for enacting regulations underway, draft legislations prepared, stakeholders' comments received. • Review of Environmental Protection Act and Environmental Assessment Regulation. EPA reviewing with Norwegian partners
6 Compliance monitoring and enforcement	Regulatory framework for compliance monitoring and enforcement developed Decision support systems for effective compliance monitoring, timely judgment and rapid decision-making, mechanisms for measuring trends in risk level, performance disclosure rating (EPRD) system developed Capacity of members of the judiciary built through workshops, seminars	<ul style="list-style-type: none"> • Capacity building in platform and rig auditing. • Jubilee field audited after three years operation in environmental performance of operator and ensure compliance. Audit conducted by EPA • 14 staff trained, 5 conducted the audit, training and audit facilitated by Norwegian experts.
7 Waste Management	Regulatory framework regarding waste management related to oil and gas activities has been developed and proposed	<ul style="list-style-type: none"> • One student assisted in MSc research. Initially EPA had envisaged two students; however, programme element remains open in 2013 • Draft waste regulations produced
8 Community issues, including co-existence of oil and gas industry with fisheries and other traditional industries	Institutional, procedural arrangements and mechanisms for handling community issues and promoting co-existence between oil industry and fisheries and other traditional industries established	<ul style="list-style-type: none"> • Ca. 500 fisher folk consulted on implications of oil and gas on their livelihoods. Issues from consultations used in on-going SEA process. • 5 Metropolitan, Municipal and District Assemblies educated on oil spill threats
9 Health and Safety	Regulatory framework for HS issues at production facilities, including local enforceable standards and mechanisms for regular auditing aligned with the regulatory framework for environmental issues has been developed.	<ul style="list-style-type: none"> • 10 Petroleum Department staff and 12 Western regional office staff trained on petroleum operations, health and safety, environment consideration for oil and gas, legal frameworks for health and safety
10 Risk Assessment and Emergency Response	Environmental risk assessment (ERA), including for transport corridors, developed , communicated An Oil Spill Contingency Plan for areas and transport corridors, developed Operational emergency response capacity strengthened: national, zonal emergency centres and surveillance in strategic locations, personnel trained,	<ul style="list-style-type: none"> • Review of National Oil Spill Contingency initiated. Draft MOU between stakeholders in National Oil Contingency Plan developed, but revision completed, lacking signatures from stakeholders.

Results area	Programmed 2010	Results April 2014
	establishment of communication and media routines, specification of minimum equipment and infrastructure requirements, coordination of public sector resources with equipment available within the private sector	
11 Regional Cooperation	Initiative to establish agreements, techniques and procedures for trans-boundary issues to environmental management in relation to neighbouring countries developed, promoted	•No Activities undertaken.
12 Programme management	Programme executed successfully by producing all planned outcomes within the agreed Programme budget and timeframe	•Problems arose in 2013 due to incomplete budget (but planned) for use of research vessel, otherwise largely on track

Annex II: Results Framework, MESTI and EPA, 2015-2019