Near-End Review, Oil for Development Programme in Ghana

SCANTEAM

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Near-End Review, Oil for Development Programme in Ghana

Final Report

Scanteam
Analysts and Advisers

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Contents

1 Executive Summary

Norway's Embassy to Ghana contracted Scanteam to carry out a near-end review of the *Oil for Development* (OfD) programme in Ghana over the period 2015-2019. The programme consists of three components with total budgets of NOK 67 million, where the revenue component was added in 2017 and runs through 2020: (i) ***Ghana Environmental Management 2015-2019***, NOK 21 million, (ii) ***Ghana Resource Management 2015-2019***, NOK 31 million, and (iii) ***Ghana Revenue Management 2018-2020***, NOK 15 million.

The team has reviewed results achieved and then considered the need for possible future support (see Terms of Reference, ToR, in Annex A). Since OfD is a capacity building/ technical assistance programme, the analytical frame for reviewing results focuses on this, based on documented achievements as against planned results in the respective component results frameworks.

Resource Component

This is the component that has delivered the most results so far, where the results framework identifies three desired Outcomes: (1) *Policy, frameworks, roles for sector established* (institutional development, as per analytical framework), (2) *National authorities have the capacities to manage the resources* (organisational, individual development), and (3) *National authorities are held to account for results* (sector governance).

At the level of ***institutional development,*** the sector has largely achieved the legal, policy, administrative frameworks for the sector, delivering virtually all foreseen Outputs.

Regarding ***organisational and individual capacity development,*** the main result is having the Petroleum Commission (PC) function as an effective regulator of the sector while staff, especially in the PC but also in the Ministry, have had their skills substantially improved with almost all Outputs delivered.

For ***sector accountability,*** the deliverables are largely training of staff to comply with requirements, whereas the more important external accountability within the public sector, but also to society at large, is not addressed since this would require a larger societal perspective and framework.

Efficiency of the component is seen as good as there are direct relations between the main Ghanaian and Norwegian partners, reducing administration requirements but also due to the flexibility shown by the parties involved due to long-term collaboration and trust. The continuity in the partnerships is hence an important explanation for overall efficiency, along with close and continuous consultations.

Effectiveness has been ensured by the close bilateral cooperation where Ghana has defined the priorities and the Norwegian partners have delivered against these. This has been particularly important for strengthening the PC as regulator and assisting it build credibility and legitimacy in the upstream sector. The caveat is that challenges so far have been relatively easy to address as activities in the field are incipient.

The most important ***Impact*** so far is putting in place a functional and modern public sector institutional set-up. The longer-term results from actual implementation remains to be seen though first indications are positive, including an increasing recognition by the private sector of the regulator's role and performance.

Relevance of the component is very high as Ghana's initial finds are off-shore and thus many of Norway's experiences are directly relevant. More important is that Ghana has made decisions regarding how it wishes to manage the sector that can draw further on some of Norway's hard-earned lessons.

Sustainability of the early achievements is likely for institutional changes while organizational, individual skills and governance improvements are more vulnerable to degradation over time.

Looking ahead, the Ghanaian partners see the need for more practical implementation and in particular developing cross-organizational teams for delivering on more complex issues as "unfinished business". The rapid evolution of the sector means that the complexities that sector oversight and control will face will increase, so continued support from experienced partners is seen as important, and a long list of specific areas were pointed to (see section 3.7). Included here is the concern that much of the training has been for persons in post, meaning organizations are vulnerable to future loss of skilled staff.

Environment Component

The environment component has a results framework similar in structure to the resource component, with three Outcomes of (1) *Policy, frameworks, roles for sector established*), (2) *National authorities with the capacities to manage the environmental challenges*), and (3) *National authorities held to account for results*.

The component had a very ambitious list of Outputs for ***institutional development,*** and while several are not yet delivered, the overall result is satisfactory with the key deliverables in place or being produced.

Regarding ***organisational and individual capacity development*** the planned results were ambitious but the larger picture is one of significant improvements with both MESTI and EPA having developed well-functioning oil and gas units, and most of the unfinished tasks are underway.

For ***sector accountability,*** deliverables were more ambitious than for the resource component, particularly regarding transparency, and more has been done despite a much longer list of deliverables.

The Findings with regards to ***Efficiency*** and ***Effectiveness*** are similar to the resource component, with good communications and collaboration between Ghanaian and Norwegian partners, willingness to adjust to changing circumstances, and where the EIAs and SEAs are providing value-added to the management of environmental challenges. The picture is becoming more challenging with start-up of on-shore activities.

Again, ***Impact*** is greatest regarding frameworks put in place, including use of EIAs and SEAs. The challenges of implementation under on-shore conditions is already being felt, where consultations with local communities is posing more issues and expected Impact will be more challenging.

Relevance is again very high, where OfD bringing in UN expertise has been value-adding. One area where the parties differ somewhat is regarding gender, where Ghana so far has given this less importance.

Sustainability of framework changes are likely while managing the societal-environmental trade-offs in the petroleum sector on-shore is going to be much more difficult and what will be the lasting changes are for now unclear.

When ***Looking ahead,*** as with the resource component there is a need to consolidate experiences with more real-world application of learned principles. There are areas of "unfinished business" (see 4.7) but the larger challenge is the much more complex socio-political-economic dynamic of on-shore and expanding sector activities where environmental sustainability and management concerns tend to come in second-best.

Revenue Component

The revenue component is more recent and with more actors involved. At the same time the results to be attained are generally conditional on larger public finance management and sector organisational issues being addressed. The results framework, split across five Outcomes, is realistic and at a level that should make the results attainable. Since activities have just begun, results remain largely indicative and at activity level rather than delivered Outputs.

The structure of the component involves four Ghanaian and two Norwegian institutions plus independent consultants, yet key results are depending on inter-institutional collaboration and task sharing. It is unclear if management is equally committed to delivering such cross-organizational results, especially where one is to deliver its own Outputs as somebody else's inputs, so this may be the core challenge.

Regarding ***Efficiency,*** while the links to Norwegian partners are good, there are a number of other donors with larger and more overarching programmes working with the four Ghanaian bodies, raising questions about coordination. It is unclear if Norwegian inputs are as optimal as intended.

The ***Effectiveness*** of the Norwegian inputs, as a corollary to the above, appear greater where other actors such as the IMF and IMF/AFRITAC are involved and provide larger framework support. This can reflect unplanned synergies and are due Ghanaian staff and the experts being flexible and adjusting to facts on the ground.

It is too early to review ***Impact*** and ***Sustainability***, but ***Relevance*** of the particular issues being addressed is clearly high: managing the financial resources in the petroleum sector is strategic.

When ***looking ahead,*** there is a need to link the interventions better to the macro-processes within which the petroleum revenue issues are to be addressed, such as the Medium-Term Fiscal Framework. Moreover, some priority activities in the programme , such as cost control, transfer pricing etc., are only now being initiated. The Norwegian support should be programmed in light of larger programmes in place, and with implementation aligned to programmes that have a more continuous presence on the ground to ensure better follow-up. This might best be done within a more comprehensive programme support design. It should also be said that there is probably a minimum level of interventions necessary to achieve meaningful results and ensure cost efficiency/effectiveness. The current component may not have reached that level.

Looking Ahead

While Ghana and OfD can point to important achievements with regards to institutional development and significant organizational and skills development, governance progress has been less structured, and the steps taken less significant.

This becomes even more important when looking at the dynamics at play. The oil industry is facing increasing uncertainty making investments in new fields like Ghana potentially more risky. Ghana is at the same time opening up on-shore blocks, and if finds are positive the sector is likely to expand rapidly but also into more contested areas on land.

At the same time, opportunities for broader collaboration are increasing. Regional partnerships are evolving and experience exchanges are increasing. The national private sector is growing and maturing. Civil society is increasing its capacities. All parties are already collaborating in bodies like the GHEITI, and a number of other arenas and mechanisms exist, providing a web of possible collaborative arrangements that can help Ghana build a more sustainable and accountable sector management. Yet the country and OfD itself face a number of challenges that should be borne in mind when considering a future OfD programme:

- Since Ghana is likely to have activities also on-shore, what are the implications for the OfD model of supplying basically Norwegian expertise and experience?
- OfD expertise is technical while there is also a felt need for more political-level advice. Can OfD include more ministry-level expertise?
- Capacity building so far is for staff in post. Can OfD develop a more strategic capacity building programme for ensuring "capacity to produce capacity"?
- As Ghana sees a need for more hands-on real-world application of principles learned, does OfD have the capacity to provide labour-intensive on-site mentoring and quality assurance?

- Particularly in the revenue field but to some extent also in the environment field, other actors are involved. Can OfD support more strategic programming of its own inputs, taking into consideration the other actors, perhaps supporting SWAps in these fields?
- Can OfD step up its support for the required complex cross-institutional work processes that are known to take time and commitment to get in place and even more time to become sustainable?

Options for the Future

The OfD is likely the most cost-efficient programme Norway finances: it is helping emerging petroleum economies manage large revenue streams that in cases like Ghana are increasing rapidly, potentially posing distortive effects on the country's development through mechanisms like "Dutch disease", incentives for massive mis-management of public funds, etc. When Ghana both shows a commitment to good management while noting that its public sector may face challenges it will have difficulties handling on its own, it makes sense to seriously consider how Norway can best assist.

This question is all the more relevant as Ghana is now a priority partner country and therefore a country where Norway is considering deepening its engagement. In light of this, several options can be considered, including a more extended support not necessarily limited to only OfD funding:

- ***Consolidating achievements:*** The current programme has an exit strategy that posits a finalization of agreed Outputs to reach the Outcomes. This will have delivered the results that an OfD programme is expected to, and resources can then be shifted to other countries with greater needs.
- ***Implementation of responsibilities:*** Ghanaian partners argue that the real challenge lies in the field implementation of the new skills and responsibilities. This requires different but perhaps more long-term mentoring and on-site quality assurance support to ensure impact and sustainability.
- ***Strengthening regional links:*** While the Norwegian experience is critical, stronger regional links providing peer-learning based on experience exchanges and lessons sharing would expand the universe of learning, cost-effectiveness and relevance. Assistance from Norway to develop and maintain such regional networks and events would be a valuable addition to the current OfD.
- ***More comprehensive capacity strategy:*** Norway might consider a more strategic capacity building programme based around twinning of educational institutions building their teaching to provide more continuous and high-level skills to an expanding petroleum sector labour market. Here Norad's Section for Research, Innovation and Higher Education may be a more appropriate partner.
- ***Strengthening sector governance:*** As noted, the governance/accountability Outcome is the weaker dimension of the component programmes, yet this is a core dimension of the OfD. To achieve this, however, requires a more comprehensive approach, involving both those parts of the public sector that have oversight and control functions – Parliament, supreme audit institution, judiciary – and societal accountability mechanisms and actors. Only by supporting more general accountability can the petroleum sector expect improved sector governance. This would once again require other parts of Norway's cooperation beyond OfD to become involved.
- ***Building the national knowledge base:*** National research and knowledge centres are not very active in providing new knowledge into the national conversation around the petroleum sector. Engaging academia in providing more evidence-based information for public discourse

and public decision could provide a further value-added to the OfD programme, where the Norad section noted above could partner in identifying possible support areas.

- ***Linking environment to climate change:*** The environment component in OfD could build a bridge to ***climate change,*** another key concern of Norway. This is an area that is presumably of concern to the Embassy as many of the nine countries it monitors face severe climate change consequences, and would once again involve another department of Norad for its design and implementation.

Any expansion of the current engagement in the petroleum sector has implications for the administrative demands on the Embassy. Depending on the scope and complexity of any future petroleum sector engagement, several possibilities can be considered:

- ***Strengthen Embassy administration:*** The Embassy could have a dedicated OfD staffer with petroleum background, possibly transfer one such post from the OfD Secretariat in Oslo to the field.
- ***Establish an independent programme management unit (PMU):*** Since most of the additional work will be administrative and financial, Norway could finance a separate PMU outside the Embassy, but with reporting and accountability to the Embassy. The PMU could be purely administrative, or could be given simple programme responsibilities such as manage small-scale funds for local events, contracting of local consultants, etc.
- ***Establish a sector programme outside the Embassy:*** Donors like the US and DFID contract out the full implementation responsibilities through setting up fully funded programmes which then are autonomous in implementation decisions but fully accountable for financing and results. Only actors with a proven track record for this kind of work would be eligible to bid for such a programme.

At the end of the day, Ghanaian authorities will have to decide what they want, what they themselves can commit to and therefore what they would ask Norway to partner on, since any further Norwegian support – whether an exit strategy or an expanded future collaboration – clearly has to be demand-based.

2 Background and Overview of Report

Norway signed a first Memorandum of Understanding for support to the petroleum sector in February 2008, which became the basis for the collaboration over the subsequent two and a half years. In 2010, the first OfD cooperation programme documents were signed, covering the *Resource* and *Environmental* management components. Both the programmes were for four years and had budgets of NOK 50 million and NOK 40 million, respectively.

In 2015, follow-on phases were agreed for both components, while support to the *Revenue* component was added in 2017. The *Resource* and *Environment* agreements end in 2019 and the *Revenue* agreement at the end of 2020. The programme to be reviewed thus consists of the following three agreements:

- GHA-14/0008 **Ghana Environmental Management 2015-2019**, NOK 21 million.
- GHA-14/0009 **Ghana Resource Management 2015-2019**, NOK 31 million.
- GHA-10/0013 **Ghana Revenue Management 2018-2020**, NOK 15 million.

2.1 Objectives of the Review

The ***main purpose*** of this near-end review is to assess the impact and results of the programme's second phase, 2015 to 2019. The focus is on the ***resource management*** and ***environmental management*** components and is to consider sustainability and the appropriateness and need for continuing OfD support after 2019 for these two component, and beyond 2020 for the revenue component. This is to be done in light of the Ghanaian government's vision of "*Ghana beyond aid*" and the Norwegian Government's decision of having Ghana as a so-called "Partner Country".

Against this background, ***the objectives*** for the review are defined to be the following:

- Identify results achieved (impact) and experiences made in the resource and environment components since 2015.
- Identify and asses the present capacity and sustainability of the Ghanaian institutions.
- Consider the need for further OfD support and possible scope for such continued support.

2.2 OfD as a Capacity Development Programme

OfD is understood to be a ***capacity development programme.*** To ensure conceptual clarity, the following definition of 'Capacity development' reflects 'good practice' uses in key international bodies while providing an operational and thus potentially monitorable usage: ***"The ability of individuals, organisations and institutions/ society to address assigned tasks, solve problems, and set and achieve new objectives, in a sustainable manner"*** [1].

This definition lays out the societal levels of capacity concerns as being institutional, organisational and individual. Individual skills needs should, however, be understood in light of what the organisation where the individual/s work, actually requires – and how to ensure that this capacity remains sustainable once the capacity development activity is concluded.

[1] This is an amalgamation of UNDP's definition **"**The ability to perform functions, solve problems, and set and achieve objectives" (UNDP 2006, "Capacity Development and Aid Effectiveness: A UNDP Capacity Development Resource"), and that of the Governance Network (GOVNET) in OECD/DAC "The ability of people, organisations and society as a whole to manage their affairs successfully" (OECD/DAC 2006, "The Challenge of Capacity Development: Working towards Good Practice." OECD Papers **6**(1): 58-94).

The definition can be operationalized in the matrix below. This matrix can be used both to better understand what kinds of technical cooperation has in fact taken place – often a source of major confusion in many studies – and provide greater consistency regarding how one might track performance of capacity development activities:

Table 2.1: Capacity Development Matrix

Societal Level	Task Complexity		
	Perform Tasks	Solve Problems	Set/Achieve New Objectives
Individual			
Organisational			
Institutional/Societal			

Building *institutional/societal* capacity ("frameworks") typically involves changing "rules of the game", which is often a political act. Building the capacity of an *organisation,* which usually already has a mandate and a set of rules and policies it is expected to execute, has more to do with organisational structure, purpose and the skills and competencies of its staff. At the *individual* level, capacity development focuses on building the human resources that organisations need to carry out their functions, and the increased capacities should be embedded in the organisation in a sustainable way: if trained individuals leave, the organisation should have the capacity to replace this. Progress at each of these levels thus needs to be monitored separately since the "units being capacity developed" are different and thus require quite different instruments to track and register.

Box 2.1: Organisations versus Institutions

The distinction between "organisations" and "institutions" is important in this context:

- *Organisations* are groups of individuals bound by a common purpose to achieve objectives. They have a clear boundary that separates them from other actors and the external environment. They control performance and, therefore, are accountable for results. This can be public sector agencies that have policy, oversight or implementation roles (ministries/ departments, institutes, directorates) or other actors such as NGOs, unions, faith-based organisations, private / public companies, etc.
- *Institutions* are the structures and mechanisms of social order and cooperation that govern behaviour and decisions by individuals, organisations and societies. They are formal rules (laws and regulations, international conventions and compacts), informal constraints (conventions, norms of behaviour, codes of conduct), and the enforcement characteristics of both.

Organisations can be *institutions*. Ministries are *organisations* that have objectives, operations and staff. They act as *institutions* when they set rules for others by passing laws or define objectives for a sector. In the words of Douglass North, Nobel prize winner for his work on institutional economics, "*institutions are rules of the game, organisations are the actors playing the game*" (North 1989, 1990).

The definition further identifies the complexity of tasks to be completed**,** which is important for identifying useful instruments for assessing the results of capacity support provided:

- ***Performing Functions*** assumes not only that the task is well defined, but also how it should be carried out: the "what" to do and "how" to do it are largely determined. Classic *training* (at individual level) and *organisational reforms* (at organisational level) are typically seen as appropriate.
- The second field of ***Solving Problems*** is more complex. The "what" to be achieved is often clear but the "how" depends on context and often is not obvious to external actors. The key external skill is often *mentoring*: assisting national actors to understand, select, apply and adapt experiences, their own and those of other countries, and to critically assess and modify results produced.

- ***Set and Achieve New Objectives*** means that also the "what" is unclear. The external input that may assist is *facilitation skills* to support local discussions, analysis and decision-making processes and other support that allows actors to critically re-think what they are doing, how they are doing it, and why. What also needs to be noted is that once a reflection process has been concluded and new objectives are defined, they can often be addressed through known means – the capacity development that is required suddenly is back to column 1 since now it is clear what needs to be done and often how it can be addressed.

This analytical framework will be used to understand both where major achievements have occurred, and where work still remains to be done.

2.3 The Structure of the Report

This report is structured into four substance chapters and two annexes:

- Chapter 3 looks at the Resource component, presenting first an overview of planned and actual achievements before addressing the review questions according to the OECD-DAC evaluation criteria provided in the ToR: Efficiency, Effectiveness, Impact, Relevance and Sustainability. The last section then looks at unaddressed issues as raised by stakeholders in the field.
- Chapters 4 and 5 address the Environmental and Revenue components respectively, following the same structure, where the Revenue chapter contains less on actual achievements as work only really began late 2017.
- Chapter 6 looks ahead, laying out a series of options for future support to the development of the petroleum sector in Ghana.

The annexes are the following:

- **Annex A:** Terms of Reference.
- **Annex B:** List of persons spoken with.

3 The Resource Component

The resource component has focused on developing the framework for management of the petroleum resources, where some assistance was provided to the Ghana National Petroleum Corporation (GNPC), which at that time had a regulatory function, but where focus shifted to the newly established Petroleum Commission (PC), which became the independent regulator for the sector.

The 2010-2014 programme contained seven Programme Areas, where key results included:

1. ***Policy, legal and institutional functions and framework:*** Major steps included the Petroleum Revenue Management Act (PRMA), Petroleum Commission Bill, a revised Petroleum (Exploration and Production) Bill, the establishment of the PC in 2011 and the Petroleum Local Content and Local Participation Regulations was passed by Parliament in November 2013.
2. ***National Data Repository.*** The PC was given the responsibility for a National Data Repository (NDR) that was digitized with fully trained staff.
3. ***Subsurface, development and resource assessment*** was initially the responsibility of GNPC, but with the establishment of the PC, further capacity development focused on PC staff.

For the 2015-2019 phase, focus has been on strengthening the capacities of the Ministry of Energy (MoE) and the PC.

3.1 The Results Framework

The results foreseen for the project period 2015-2018 were contained in the Programme Document (ProgDoc) of June 2015. Section 4.2, "Programme description", presents the planned Outputs under each Outcome, with a justification for each Outcome and a description of the existing situation at project start-up ("baseline").

The three tables below present the two most important dimensions of the 2015 results framework, namely the planned results, and the indicators or targets foreseen for each Outcome and Output. The last column then shows the results recorded as of early 2019. Building on the results noted, the review addresses the questions in the ToR in the following sections.

Table 3.1: Resource Management Results Framework – Outcome 1

Planned Results	Indicator - Target/s	Achievements
Outcome 1: The resource management authorities of Ghana (MoE and PC) have established policy and frameworks, defined and delegated responsibilities for managing the petroleum sector in an economically, socially and environmentally good manner.	Policy, administrative and legal framework in place	Regulations passed by parliament. Implementation ongoing.
Output 1.1: Review and update relevant policies, laws and subsidiary legislation.	Proposals for upgrading policies and legislation	4 regulations passed: HSE, metering, GPR, data management, implementation ongoing
Output 1.2 Development of a Strategic Environmental Assessment (SEA) for onshore activities to be coordinated with EPA.	The developments and possible execution of plans for onshore SEA is to be coordinated with the Environmental Management Programme	Responsibility of MoE and conducted by MESTI. Offshore SEA finalized. Onshore SEA ongoing.
Output 1.3: Review and clarify the roles and responsibilities within MoE, and between MoE and PC.	Upon enactment of the E&P Bill, support to be given on implementation, interpretation,	Workshops where the topic has been raised several times. The roles

	consequences on stability clauses in existing agreements, harmonisation with other legislation and responsibilities among institutions	have been clarified through regulations, but there are still issues regarding informal roles between PC and MoE.
Output 1.4: Develop regulations by end 2015 for Data Management, Fiscal Metering, HSE, drilling and General Petroleum Regulations.	Enactment of new regulations including public hearing. Regulations are for PC to better execute responsibilities, include systems for implementation and definitions of battery limits	All developed
Output 1.5: Draft guidelines for the regulations (where relevant).	Guidelines to General Petroleum Regulations where relevant to be completed and aligned.	Guidelines have been developed and also work procedures for audits on HSE and metering.
Output 1.6: Evaluation of PC role and responsibility towards other institutions and agencies.	Roles and responsibilities across institutions developed in a legal framework, coop agreements	Roles defined in the framework.

The Outputs under this Outcome are major steps in the legal and administrative framework which is considered essential for MoE's and PC's management of the upstream petroleum sub-sector. The outputs, together with the legal documents developed before the 2015-2018 Programme are vital, not only for the implementation of policies, but also for clarifying the requirements to actors in the petroleum industry, for allocating the roles of the government's petroleum administration and not least for providing outlines for transparency, accountability and sustainability.

The programme has essentially completed all planned Outputs, including more complex collaborative ones regarding for example the Strategic Environmental Assessments (SEAs). While there have been issues during implementation, they have largely been resolved, pointing to major organisational learnings and the establishment of practices and procedures for handling challenges.

Table 3.2: Resource Management Results Framework – Outcome 2

Planned Results	Indicator - Target/s	Achievements
Outcome 2: The resource management and HSE authorities of Ghana (MoE and PC) have knowledge and capacity to manage the petroleum resources in accordance with their mandate (policy, legal and administrative framework) in the petroleum sector.	MoE and PC have capacity, systems and competence to ensure enforcement, compliance and regulation.	Regulation developed. Audit process developed. Audit conducted.
Output 2.1: On the job training and capacity building of MoE staff in strategy development, policy formulation and development of legislation in resource and HSE management.	MoE has received on the job training in project work on strategy development, policy formulation, and proposals for legislation in its area of responsibility.	All regulations developed as part of continually training and to build expertise on regulation and to assure that PC/ MoE are the experts of the regulations, have deep understanding of why the regulations are important and needed.
Output 2.2: Establish data management housing facilities and ICT infrastructure	Have provided support and capacity to establish ,run and manage NDR incl. systems and reporting formats and standards	NDR is operational. Development of Reference data base is ongoing.
Output 2.3: Establish a Reference Database (RDB) that would enable an overview for key petroleum data e.g. seismic, wells and installations.	Have established a reference data base (RDB) based on work from Phase 1	Seismic data copied and stored in NDR. Work on well data has started. PC staff are running the NDR.

Output 2.4: Systemize, quality check seismic, other legacy data, prepare the data for loading into the NDR (Seismic data by 2015, well data etc. by 2016)	To have provided support and capacity building for transcription and quality control and loading of legacy data into the NDR	Seismic data is finished.
Output 2.5: Develop the systems, procedures and skills to establish, run and manage the NDR by 2019	To have built capacity to establish, run and manage an NDR incl. develop systems, reporting formats and standards.	Formats and standards chosen. A strategy for the NDR is ongoing. Procedures are developed.
Output 2.6: On the job training of MoE and PC within the key issues as exploitation/ recovery strategy, development plans (POD), technical solutions and infrastructure	Personnel from MoE and PC have received competence building and on the job training in ***key areas*** to their respective mandates as indicated.	Competence built through training and through seminars where OfD has commented on POD. Followed by discussions.
Output 2.7: Development of PC competence, systems and procedures for fiscal metering, including undertaking audits and inspections bv 2016	To have received adequate support to develop competence, systems and appropriate procedures for fiscal metering incl. audits and inspections.	Competence has been built through technical training, development of regulation and through audits. PC has also started internal training.
Output 2.8: Training for MoE and PC in petroleum economic information analysis, and economic modelling	For selected key personnel to have received adequate competence in analysing economic data and carrying out economic feasibility analysis.	Has been part of some workshops and it has been discussed. We have had several meetings with the economists, but the topic has not been prioritized.
Output 2.9: On the job training of PC staff in resource assessment	Capacity building in basin, prospect analysis, resource assessment and accounting and classification systems that enable PC to make own assessment of resources as well as report on the state of petroleum resources.	Technical training in resource assessment. The OfD program was ready to assist further but the DG wanted the geologists to utilize the training before additional assistance.
Output 2.10: Mentoring and capacity building for MoE staff in identifying policy action areas and defining policy space for HSE issues	MoE to have received mentoring and capacity building contributions in identifying policy space and policies for specific HSE issues	Training in HSE issues as part of the development of the regulation.
Output 2.11: Training and capacity building for MoE and PC staff in risk analyses, audits {management and technician, inspections and incident investigation	MoE and PC to have received training and capacity building n risk analysis, audits, inspections, incident investigations, follow ups and establishing work processes and procedures.	Training by PSA. Development of planning tool before audit and report template after audit. Is followed up by PC and OfD provide comments.
Output 2.12: Training and capacity building for development of a National emergency preparedness plan by 2017, coordinated with MoE	PC to have received capacity building in emergency response and the development of a national emergency preparedness plan	Has been part of different workshops, but not been prioritized by PC/MoE as part of the OfD program.

The impressive list of Outputs under this Outcome clearly shows its significance for the functioning of both the MoE and the PC. A major milestone has been achieved under the current Programme when the database was finally established, becoming virtually operative to serve the many functions expected from it. First and foremost, it provides a safe and comprehensive repository of data that current as well as future generations of users will benefit from in order to improve and enhance efforts to carry out operations more efficiently as well as discover, operationalise and exploit more petroleum resources more efficiently. Other outputs under this Outcome comprise many activities related to the sharing of competence and experiences in broad segments of resource management such as plans of resource development, fiscal aspects of petroleum management, economic evaluation, resource assessment as a fundamental base for resource management, training on policy design and formulation, HSE management and emergency planning.

Table 3.3: Resource Management Results Framework – Outcome 3

Planned Results	Indicator - Target/s	Achievements
Outcome 3: The resource management and HSE authorities of Ghana (MoE and PC) are held to account for the management of the petroleum resources.	Resource management and HSE policies are communicated by Parliament, MoE and PC to relevant ministries, the industry, NGOs and other stakeholders.	Stakeholder meetings conducted as part of the development of regulations.
Output 3.1: Training and capacity building for carrying out public hearings and consultations for PC and MoE staff	PC and MoE to have received training and capacity building in carrying out consultations and public hearings	Public hearings and stakeholder meetings as part of the regulation process.
Output 3.2: Training and capacity for MoE and PC staff in order to publish annual reports on petroleum resources.	PC and MoE to have received training and capacity building in preparing and publishing reports on petroleum resources	
Output 3.3: Competence and capacity building for key actors relevant for accountability in the petroleum sector.	Control institutions to have received capacity building assistance in how they may administer their role in holding MoE and PC accountable.	PC and MoE staff have attended Petrad courses and other relevant courses relevant for accountability.

This Outcome focuses entirely on measures that would enhance the MoE's and PC's capacity to serve the overall goals of transparency and accountability as important cornerstones of governance within the petroleum upstream sub-sector. The outputs comprise activities on public hearings and consultations; the dissemination of information to make data available to organisations, institutions, civil society and the public and the enhancement of accountability in the performance of public organisations and institutions.

3.2 Efficiency of the Resource Component

The ToR asks the review to assess the contractual and administrative set up, and to identify what OfD measures contribute to good value-for-money, and if other measures could increase efficiency?

The Ghanaian partner has provided adequate description of the services required by it under the Programme. This has also been reflected in the contractual agreement between the two partners. With this starting point, it appears that the intentions of the Programme by and large have been fulfilled. Factors that contributed to the success include the appointment of Programme coordinators on both sides which has contributed to the smooth implementation of the various outputs under the three Outcome categories, and the fact that these coordinators were retained on the task has also contributed positively to a successful and continual completion of the items.

Since the majority of items under the Programme involved cooperation between the PC and the Norwegian Petroleum Directorate (NPD), the close similarity of roles between the two organisations has made it easier to achieve smooth communication between the partners. Consultants were also provided by the Norwegian side wherever such services were required to augment the expertise provided by NPD and other Norwegian personnel.

The administrative flexibility shown by OfD under the implementation of the Programme has helped accommodate unforeseen requirements from the Ghanaian side. A good example of this flexibility was the way Norwegian assistance was extended to MoE on the First round of licensing off-shore. This task required considerable resources that had not been foreseen, however, so this may affect the delivery of some of the other Outputs unless the budget can be extended to accommodate this.

The method adopted for the transfer of competence and experience was a key factor for this success. By working in teams, the two sides were able to have first-hand insight into the work involved, the solutions that were developed as well as the inherent limitations and justifications for the solution.

Although no deliberate focus was given to training in multi-disciplinary teams, the composition of the teams made it nevertheless possible to gain direct experience from different backgrounds and viewpoints, which augmented the results.

Some improvements would have been possible. A planned effort to apply multi-disciplinary team work could have yielded further gains. Also keeping the same tutors for the same themes would have been beneficial for ensuring continuity and save on extra mobilisation efforts, though this depends in part on the scope allowed by relevant regulations. Ghanaians also point to advantages of including Ghanaian expertise in the preparation and delivery of courses, seminars and workshops.

By largely utilising personnel from the NPD, the Petroleum Safety Authority Norway (PSA) and other staff from public bodies in Norway, Ghana is receiving the most relevant technical and administrative expertise while keeping costs at an acceptable level.

Choosing the same type of personnel for carrying out workshops, seminars and courses has also served the same objectives of relevance and reasonable cost levels. The experience of using UNEP staff for training within the environment component has, however, identified a likely potential for more modern pedagogical skills and approaches when running capacity building activities.

Close consultations between the Norwegian and the Ghanaian relevant partner has served the important objective of keeping assistance relevant to the required needs of the Ghanaian partner. Important in this regard was the fact that the content and direction of cooperation under the Programme were clearly left to the Ghanaian side to determine.

3.3 Effectiveness

The comments regarding Efficiency – "doing the things right" – serve also to describe the reasons the programme has achieved Effectiveness, by "doing the right things". The key has been to address the priorities as identified by the Ghanaian partners. This has been ensured through the close cooperation between the parties and the trust and mutual understanding that has evolved during these many years. The result has been that the services provided by the Norwegians have by and large addressed the needs of the Ghanaian organisations. This is in turn evidenced by the progress made in enhancing these organisations' capacities and performance in managing the sector, where Norwegian experts have provided some direct support and advice during hands-on oversight tasks in the sector.

This is confirmed in conversations with several of the operators and supply companies in the upstream sub-sector. While the PC is at times seen as difficult to work with, this is also accepted as the PC taking its task as regulator and oversight authority seriously. At the same time, as one of the oil companies pointed out, while some of the companies are global operators with several decades of experience from numerous countries, the PC is a new body that is still building its capacities and thus has to prove itself through its actions, which is clearly a demanding process. But as time passes, the companies show increasing respect and satisfaction with the work of the MoE and PC as communications improve and the parties get to know each other better.

The Programme has thus provided important support to this more active dialogue between the public administration and the commercial players participating in the conduct of petroleum operations.

Given the comments to the results framework tables 3.1, 3.2 and 3.3, the Outputs planned under the current Programme will largely be completed by the end of 2019, with the caveat that the support to the first bidding round siphoned off funding from some planned Outputs.

At the same time, Ghanaian actors point to the coming period being one where they will have to increase their presence and field-supervision as commercial activities increase and expand. They characterize this as the challenge of implementation: While they feel comfortable regarding the principles and responsibilities they are to exercise, the first field experiences have shown that actual implementation is a lot more challenging with many difficult and/or practical questions to address. Having support during this critical phase of organisational learning is therefore seen as critical for long-term quality and sustainability of the regulatory and control functions.

3.4 Impact

The OfD Programme has assisted Ghana in restructuring the sector administration. The Petroleum Commission was established as the independent regulator for upstream activities, moving that function away from the Ghana National Petroleum Corporation (GNPC). The database was also moved to the PC, allowing GNPC to focus on its commercial and operative roles in the sub-sector. While some areas of possible overlap or duplication remain, these are issues that parties expect will sort themselves out over time, and which do not impinge on their core functions or mandates.

By assigning the regulatory roles to PC, the Ministry can likewise concentrate on its primary role as responsible and custodian of policy, legislation and planning, including the supervision of its sub-ordinate organisations such as the PC. This has greatly improved the MoE's capacity to manage these core responsibilities, which is seen to have led to a clear improvement both in role and performance.

Similarly, the delegation of regulatory and technical tasks to the PC has provided Ghana with a regulator that is gradually getting the attention and respect of commercial players in the upstream sub-sector. At the same time, the PC is also becoming a valuable adviser to the MoE on technical and operational aspects of governing the petroleum sector. This again is an important step forward.

The OfD capacity building support has therefore decidedly contributed to putting in place a clearer structure for the sector: an adequate legal and administrative framework, a professional basis of knowledge and competence in petroleum sector operations and their governance, including the procedures for carrying out the assigned tasks. By performing these tasks under frame conditions that uphold and promote transparency, dialogue among stakeholders, accountability of individuals and institutions the benefit to Ghana due to good management of the sector – the societal Impact – has the potential for becoming extremely important.

In general, however, the programme is expected to have the greatest impact in areas where the two Ghanaian partners have almost exclusive professional authority, i.e. in the space of technical knowledge and related issues. Concerning the wider aspects of policy development and practice, other forces come into play where technical considerations may not prevail. Local traditions, national culture, political and economic interests may intervene at various points along the value chains in the sector, pushing solutions and practices in directions that may differ from those advised by technical staff, whether Ghanaian or Norwegian, and are issues that political leadership will have to resolve. It may be expected therefore that the impact of the Programme will be more evident in the case of PC, particularly on the technical and professional level. Moreover, the impact on processes involving a wider scope of social and commercial interaction is on the other hand likely to change with time.

However, results attained over the OfD support period are of course not necessarily permanent. Organizations and their mandates are under constant pressure from actors with competing agendas, particularly in fields such as petroleum where the possibilities for capturing substantial economic rent are extremely enticing. The focus on providing good technical skills and legal frameworks may therefore not be sufficient to ensure longer-term sustainability of good performance – an issue that will be returned to in the last chapter. But given the premises for the OfD resource component agreements the strong ownership by Ghanaian authorities and institutions has clearly laid strong foundations for long-term and substantial societal Impact.

The impact of the Programme on *neighbouring* countries is more difficult to assess. Judging by the reputation that Ghana has attained in the region and the potential for similar petroleum discoveries in the region, it is possible and perhaps even likely that Ghana will play an important role in facilitating good governance practices in the petroleum sector throughout the region. The time scale for this to become evident is however longer than the five years of this programme.

3.5 Relevance

Norway and Ghana hold similar views on the broad outlines of managing petroleum resources. This can be seen in the Petroleum Policy of Ghana as well as the legislation that underpins the policy. There is broad agreement on the roles and mandates for the various actors in the sector, the general structure of the government petroleum administration, the principles for monitoring the activities of the operators and their sub-contractors, and the overarching principles regarding ownership of the resource itself and how to manage it for the maximum benefit of society at large.

The fact that both countries' petroleum activities are off-shore has made the Norwegian experience highly relevant for Ghana. While the country has discovered promising on-shore fields as well does not detract from this, especially since there are a number of new off-shore fields that hold promise.

The entrance of many Norwegian companies as potential operators and sub-contractors in Ghanaian upstream activities further increases the relevance of the Norwegian experience. Norwegian firms have been active in their dialogue with the PC, providing further inputs under the larger "Norwegian experience sharing" umbrella, showing how relationships between regulator and operator can function to both parties' satisfaction and benefit.

3.6 Sustainability

Training and capacity building efforts under OfD were carried out by integrated teams consisting of Ghanaian and Norwegian partners, with focus on solving real work tasks, dealing with practical cases for a clearly defined purpose for the Ghanaian institution. This way of working gives a high degree of local ownership and thus is critical for ensuring sustainability of results.

The Resource Programme 2015-2019 was assumed in the Programme Document to be the last phase of the OfD-programme within this component. Activities carried out needed to strengthen MoE and PC in a way that made them capable of efficient management of oil and gas activities after the closure of the Programme. The document therefore noted that "*more measurable concrete outcomes should have focus, like development of laws and regulations, organization structures, written work procedures and systems developed such that MoE and PC has the tools to ensure enforcement and compliance to regulations. Further, that PC has established and implemented systems to run and manage the NDR without significant assistance*".

The Document addressed the issue of sustainability and contained an exit strategy. Sustainability of Programme achievements beyond 2019 rests mainly on three key assumptions: (i) the Government's commitment to achieve coherence in the legislative framework dealing with the petroleum sector, (ii) the Government's continued pursuit of restructuring, consolidating and clarifying the mandates of petroleum sector institutions, and (iii) the Government securing adequate future funding for these institutions to carry out their mandates in an efficient manner.

While these are reasonable assumptions, given the experiences so far, they do not address what has often been seen to constitute the larger threat to the integrity of petroleum sector management in other countries: the temptation by political actors to begin interfering and appropriating through various means parts of the revenue streams. The larger governance system and the accountability that is required of political actors to ensure that they adhere to set policies and principles is therefore a challenge that remains.

3.7 Issues for the Future

In summarising the results against the three agreed Outcomes, Ghana has in the course of about a decade almost completed the transformation of its petroleum resource management into a well-organised, rapidly improving, confident and reasonably coordinated system, based on a policy that aspires to transparency, accountability, dialogue and professionally balanced regulation of petroleum operations. These achievements should enhance the compliance of licensees with the legislation.

The clarity of roles among the government organisations has facilitated cooperation and coordination among government's petroleum institutions and made relationships with licensees easier and more predictable. What remains, however, is both to establish the actual work practices and procedures to be applied in the field and assist and oversee the regulatory staff perform their tasks in accordance with accepted standards. This, however, takes time and is based on acquiring practical experience and understanding how to apply the principles to the actual realities on the ground – a capacity development process that is likely to take time since it requires more of a mentoring and facilitation rather than training approach (see box 1 above). This is what the Ghanaian partners refer to when they say that the challenge they now face is actual implementation: being able to apply the rules and regulations appropriately but also listen to the feed-back regarding possible alternative ways of addressing a given issue. This learning and maturing process is demanding but critical for building trust and confidence within the various agencies' staff and in their relations to the upstream industry. That is, the capacity of each institution must continue to develop and evolve as tasks change and as the institution's capacity improves in order to shoulder more tasks or perform them at higher levels of competence or for adapting to changing requirements.

As indicated in Table 3.2 Output 2.8 on Training for MoE and PC in petroleum economic information analysis and economic, modelling has been part of some workshops. Further activities have been discussed in meetings with the economists, but the topic has not been prioritized yet. It is therefore likely that this Output may not be completed by the end of 2019.

Similarly, Output 3.2 on training and capacity for MoE and PC staff in order to publish annual reports on petroleum resources has not been prioritised by the Ghanaian partner so far and also may not be finalized by the end of the project period.

There are also other areas where tasks may have been finished but where further development is required. The National Data Registry (NDR) is an obvious example of a service that will need to continue developing for many years to come.

But overall, the resource component has delivered on most of its promised results, as evidenced in the last column of the framework tables. Of the 21 Outputs specified, most have achieved documentable and substantial achievements (though some of result specifications could have been clearer: noting that PC and MoE staff have attended Petrad courses on accountability does not necessarily mean that staff (i) have learned and agree with the material, (ii) are applying this knowledge, (iii) that actual accountability therefore has improved, Output 3.3). However, the overall picture is of an impressive list of results measured against the expectations defined in the original Results Framework.

Yet there is a considerable amount of "unfinished business" where further collaboration between Ghanaian and Norwegian institutions would be beneficial: tasks that were not possible to finalize during this programme period; the need to develop instruments and procedures further to comply with evolving standards and practices; and perhaps most important of all, assist staff in the practical application and adaptation of the regulatory framework and practice, taking into consideration that this is dynamic and demanding sector where actual work requires a high level of professional competence and experience.

A further complication is that most of the capacity building has been organization specific: training has been for PC staff to carry out their assigned tasks to standard. As the sector evolves, however, a

number of issues need to be addressed across organisational boundaries, using inter-divisional and/or multi-disciplinary teams. Examples of processes that require cooperation and coordination between MoE and PC (possibly with other institutions within the Ministry) would include:

- Area selection for future licensing rounds.
- Qualification of applicants for E&P Rights (licenses).
- Unitisation processes and dispute settlement.
- Field and infrastructure development plans and the revision thereof.
- Third party access to infrastructure.
- Cessation of production and abandonment.

Work processes involving MoE and PC with organisations under other ministries where there is a need for smooth and effective coordination and cooperation may include:

- Contribution to SEA.
- Contribution to Local Content programmes.
- Contribution to technology transfer campaigns.
- Training campaigns for the industry in Ghana.
- Contribution to revenue collection.
- Contribution to revenue utilisation.

Some MoE and PC processes involve communication and dialogue with public institutions, such as:

- Contribution to annual reports by MoE on petroleum activities.
- Reports on the state of resource discoveries and exploitation plans.
- Contribute information used in e.g. analyses of the impact of the petroleum sector on the economy and environment.
- Enhancement of health, safety and environmental protection in petroleum operations.

Developing such cross-institutional processes and products could benefit considerably from a partner who has already had to learn how to perform complex tasks that come under the purview of a number of different public bodies, all with their own mandates and priorities yet necessary for successful completion of the task.

A final concern is that the capacity development has largely been for staff in place: those who currently occupy specific positions within the various public bodies have been trained in how to carry out their responsibilities better. As staff leave – retiring, advancement in career, leaving the public sector for opportunities elsewhere – the sector needs to address the larger labour market issue of how to ensure that it can identify, hire and retain qualified staff to replace those who are leaving. Such a replacement policy should perhaps be part of a possible future support to the sector.

The bottom line is that Ghana has taken giant strides in transforming the country's resource management into a well-structured and competent system that supports and encourages private investment while generating rapidly increasing revenues for societal development. But Ghana still needs to further transform a general structure, system and competencies into an efficient and effective arrangement for harvesting and managing a non-renewable resource to the benefit of the actual owner of the resource, the Ghanaian society. As outlined above, this may in fact benefit from further collaboration with partners in Norway. Along which dimensions and issues is of course for the parties to consider, but the basic ***Conclusion*** of the review team is that Ghana should be able to reap substantial benefits from continued, targeted partnership with Norwegian counterparts. While there may be a need for a clear budget constraint, the *timeline* should probably be quite flexible and open. The processes outlined above are to some extent non-linear and unpredictable, and one of the major benefits of this partnership may be the ability of Norwegian partners to respond to the priority needs as and when identified by Ghana.

4 The Environment Component

The environment component is to contribute to developing institutional arrangements and capacities for a well-coordinated and results-oriented environmental management of the oil and gas sector. This includes updating policy and the legal framework and improving the implementation of laws and regulations through strengthening the capacity of staff at the Ministry of Environment, Science, Technology and Innovation (MESTI) and the Environmental Protection Agency (EPA).

Oil and gas exploration and possible exploitation is now moving from off-shore also to on-shore. This means new challenges in the environment field since on-shore activities have to take into consideration local social and environmental effects in populated areas, impacts on livelihoods and land use, and possible population relocations, where these factors may vary from one region to another due to cultural differences, political structures, so relationships and dialogues between the petroleum sector actors – whether public or private – and local communities must be context-specific.

4.1 The Results Framework

The Programme Document for the 2015-2019 period is from February 2015 and contains a detailed Results Framework in Annex II. The first two columns of the three tables 4-1-4.3 are taken from this results framework, while the last column records actual results as of early 2019[2].

Table 4.1: Environment Management Results Framework – Outcome 1

Planned Results	Indicator - Target/s	Achievements
Outcome 1 – Institutional Capacity: Environmental authorities have a policy, and an administrative- and a legal framework to ensure sustainable development of the petroleum resources.	• MESTI/EPA have adopted a policy and administrative- and legal framework for sustainable development of the petroleum resources.	MESTI/EPA have adopted a policy and administrative/legal framework for sust. development of the petroleum resources, but some goals still in progress.
Output 1.1: 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.	• Work document that serves as a platform for strategies and further identification of activities.	Organizational manual includes Oil & Gas unit with Job descriptions. Revised organogram has the unit roles clearly defined.
Output 1.2: MESTI's Environmental Department has an effective and operational Oil and Gas Unit with clear roles and responsibilities.	• Roles and responsibilities within MESTI clarified. • Routines that clarify the responsibilities between MESTI and EPA and other under lying agencies and between MESTI and other relevant ministries and governmental institutions developed.	The roles and responsi-bilities defined by law. Implementation plan clearly defines the roles, which are MESTI on coordination level, EPA on implementation level, but no clear routine for this on daily basis.
Output 1.3: MESTI and EPA have sector communication strategies.	• Communication strategies established for MESTI and EPA.	Draft communication strategies prepared.

[2] The results frameworks for this component have been adjusted somewhat to ensure more coherence between columns for outputs and targets, though without changing the contents.

Output 1.4: MEST/EPA has adopted a policy and legal framework for oil and gas industry waste.	• Waste policy and legal framework submitted.	No. Topic of waste will be included in the Environmental Management Policy
Output 1.5: EPA has necessary regulations for the environmental management of the Oil and Gas sector (compliance monitoring, controlling development around ecologically sensitive areas, decommissioning).	• Regulations submitted on identified issues not covered by the HSE-regulations.	Not finished (in draft stage).
Output 1.6: The share of responsibilities between PC and EPA on the HSE-regulations is clarified.	• Cooperation agreement signed that define responsibilities of each institution.	No. Issue clarified but no agreement signed since resolved by the HSE-regulations.
Output 1.7: 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.	• Two regional programmes developed.	Only one regional program assisted (in the framework of Abidjan Convention).
Output 1.8: Guidelines comprising requirements for community consultations in EIA's for oil and gas projects developed by EPA.	• Guidelines published as part of offshore and onshore guidelines.	No. EPA has started to prepare generic guidelines for consultations (all sectors).
Output 1.9: MESTI/EPA has reviewed and updated the National Oil spill Contingency Plan and clarified roles and responsibilities of different stakeholders.	• National Oil spill plan is updated and tested through exercises.	Yes. Document updated annually.
Output 1.10: EPA has developed a system (human capacity, infrastructure, collaboration frameworks) to manage environmental data.	• Data management system developed • Environmental Information Network (EIN) established, EPA as focal point. • Environmental Sensitivity Map for Ghana's coastline reviewed and updated, and guidelines/ procedures for use of the sensitivity map developed and disseminated. • Marine and terrestrial sensitive areas mapped to assist in oil and gas development planning. • Other relevant products (waste, emissions, marine information etc) for determining environmental status developed • Desktop GIS project files (dynamic map viewer) available at local computers for internal use for EPA officers.	• No (but in process). • Yes • Yes/No (review done, update not completed) • No • No • No • No
Output 1.11: Cost-sharing legislation/ agreement between EPA and the industry on maritime, coastal and terrestrial data surveillance is in place and implemented.	• Legislation/agreement established. • Industry is funding surveys needed in monitoring of the industry.	OfD through Nansen program supported this in 2012. Operators should be doing it, but system not in place (based on the draft legislation).
Output 1.12: MESTI/EPA and other ministries and government institutions have developed a Strategic Environment Assessment (SEA) prior to opening up for oil and gas exploration in the Voltaian Basin.	• SEA for Voltaian Basin developed.	Yes. Report is yet to be published.

MESTI and the Petroleum Department in the EPA are now functioning relatively well. Many outputs have not been completed, but most are progressing and will likely be achieved by the end of 2019. EPA is respected by the petroleum companies for its authority and acknowledged competence, such as being in charge of supervising the environmental and social impact assessments (EIAs) and the use of the Sensitivity Atlas during the EIAs. They are also now carrying out environmental audits to check compliance. However, there is still a need to develop a standard procedure and turn this into a systematic and organized activity. MESTI has received less attention than EPA, in part due to limited capacity in Norway's ministry, though got assistance for the drafting of an oil and gas environmental policy. MESTI was central to the work on the Strategic Environmental Assessments (SEAs).

Considerable progress has been made regarding EIAs and SEAs, both off-shore and on-shore. A guidance document for offshore was prepared in the previous phase, and this remains the guiding document for all actors. It is not *binding*, but is used as a base document for developing regulations and rules for permits. The regulations for both offshore and onshore are now nearly finished, but the process has been delayed since Ghana recently took the decision to combine them into a joint regulation for the sector, which is seen as a good approach.

Another task is the EIA database, which over time is to be made accessible online. There is a special webpage for oil and gas development, and the map of vulnerable areas has been improved. The National Oil spill plan has been updated annually and is being tested through exercises, and the Environmental Information Network (EIN) has been established with EPA as focal point.

Both MESTI and EPA have now achieved the basic competence to carry out their tasks. In the last period they have also started to focus on climate change, including measurements, calculation and reporting.

The Petroleum regulations developed by EPA are only in draft stage, and the communications strategy also remains to be done. A first training with a Norwegian communications expert was done in November 2018, which marked the initiation of developing the strategy, and the document now is in draft form. MESTI will formally establish it and EPA will participate in the implementation.

The results framework included a waste policy for the industry, but it was later decided that this issue will be included in the Environmental Management Policy for Oil & Gas Industries (EMPOGI). Regulations for this policy are being developed by EPA. Only one regional project has been supported, which is to implement a protocol for oil and gas in the framework of the Abidjan Convention.

Guidelines for community consultations within EIAs in the petroleum sector have not been prepared as EPA has begun preparing generic guidelines for consultations that will also include oil and gas.

Other deliverables that are pending include the data management system, the Environmental Sensitivity Map for Ghana's coastline which has been reviewed but not updated, and maps of marine and terrestrial sensitive areas available at local EPA officers' computers. Other relevant products such as waste, emissions, marine information etc for determining environmental status have not been finalized, but the activities were initiated in 2018.

Table 4.2: Environment Management Results Framework – Outcome 2

Planned Results	Indicator - Target/s	Achievements
Outcome 2: MESTI and EPA have the basic knowledge and capacity to ensure that the Oil and Gas sector is developing in an environmentally sustainable way in accordance with their mandate (policy, legal and administrative framework).	• Capacity of MESTI, EPA considered stronger. Will be assessed in mid-term and end reviews. Preliminary assessments by cooperating partners before annual meetings, using Outcome indicators (2.1-2.6). • Environmental data used for policy and legislative development.	MESTI, EPA staff at international and national workshops. Development of new policies started. Baseline data used for legislation, policies.

Intermediate Outcome 2.1: MESTI has competence and capacity to develop a strategy and relevant environmental policies and oversee the implementation through relevant agency.	• The capacity of MESTI is considered stronger after program implementation (Capacity dev't in MESTI will be assessed in mid-term and end reviews)	Yes
Output 2.1.1: Training of MESTI staff in Oil and Gas resource strategy thinking, environmental management of the oil and gas sector, formulation of policies and the development of legislation.	• Documented training program conducted.	Yes. Ghana requires report from all staff participation in any local or international training.
Output 2.1.2: Increase basic oil and gas knowledge in MESTI.	• MESTI's knowledge on oil & gas is increased	Yes
Output 2.1.3: Increase competence in policy formulation, strategic planning, development of legislation and environmental management.	• Increased competence on policy formulation, strategy planning, legislation development and environmental management	Yes. Processes are done internally to assure continuity.
Intermediate Outcome 2.2: EPA is capable of developing relevant regulations, give permits and monitor and enforce compliance.	• Relevant regulations developed, and permits given, monitored and enforced by EPA	3 audits done; approx. 15 inspections carried out
Output 2.1.1: Training of MESTI staff in Oil and Gas resource strategy thinking, environmental management of the oil and gas sector, formulation of policies and the development of legislation.	• MESTI staff trained in resource strategy thinking and environmental management of the oil and gas sector, as well as policy and legislation development.	Yes.
Intermediate Outcome 2.3: EPA is capable of running an environmental data management system	• EPA is capable of capturing and structuring appropriate data from Nansen and other relevant sources	Work in progress (gradually improving)
Output 2.3.1: EPA has trained relevant staff in data management, GIS management and processing.	• Number of EPA staff trained in various expertise required. • Environmental sensitivity Atlas updated.	Approx. 20 staff trained in different topics Not completed yet
Output 2.3.2: EPA has been trained to receive data from external partners and adapt to new products.	• Staff in relevant institutions trained in using the sensitivity map as a tool for quick decision making in an event of an oil spill.	Used as part of oil spill contingency planning. Approx. 30-50 people.
Intermediate Outcome 2.4. EPA is capable of running an Environmental Information Network (EIN)	• Ghana has a framework for data sharing among key stakeholder institutions (EIN) run by EPA.	Yes. Some MOUs are signed for data-sharing (gradual process)
Output 2.4.1: EIN is functional.	• EPA has a functional EIN secretariat • EIN clearinghouse has several products • Partners deliver products with agreed specifications standards	Yes. It is established in the GIS department. Yes. The clearinghouse assures that all is in appropriate format
Output 2.4.2: Relevant training given to the EIN-partners.	• Number of relevant staff/EIN-partners trained.	1 Output: Environment Sensitivity map. Approx. 30 trained (mostly partner staff)
Intermediate Outcome 2.5: EPA documents environmentally sensitive areas and is enforcing full or gradual protection of the areas.	• Areas have obtained full or gradual protection according to sensitivity mapping and current legislation by EPA. • Sensitive areas are identified and documented by EPA. • EPA and other stakeholders trained in monitoring of sensitive areas	Outcome 2.5 and its outputs have not yet been done. It would start in 2019 according to the workplan.
Output 2.5.1: EPA has received training in documenting sensitive areas for prudent oil and gas development.		

Output 2.5.2: EPA and other relevant stakeholders are trained to monitor the sensitive areas.	• Consultation process documented	
Intermediate Outcome 2.6: EPA has established the capacity and a track record of quality oversight reviews for EIA's submitted by the operators.	• Quality of the reviews assessed by the cooperating institutions in the OfD programme.	EPA reviews the quality of EIAs and attached documents submitted by the operators
Output 2.6.1: EPA is trained to carry out reviews of EIAs submitted by ENI and Hess for major oil and gas activities.	• Number of EIA's reviewed by EPA.	5 large EIAs (with public hearing) and 20 small EIAs.

Much has been achieved under this Outcome, though also here several processes are expected only to be finalized by the end of the year. Capacity has increased considerably from when MESTI's Oil and Gas unit was established in 2014. The programme has financed opportunities for MESTI and EPA staff to travel to PETRAD workshops, regional seminars and international workshops as well as workshops in Ghana. Staff in general have now reached a level where understanding of the issues is good though there is recognition that further skills upgrading is required.

Development of new policies has begun with a desk review of existing legislation and policies. Baseline data regarding the coastal situation has in part been generated from the collaborative work on the research vessel "Fridtjof Nansen", which is also providing data to the Ministry of Fisheries.

Table 4.3: Environment Management Results Framework – Outcome 3

Planned Results	Indicator - Target/s	Achievements
Outcome 3: Accountability and transparency in the environmental management of the Oil and Gas sector is strong	• Environmental policies are communicated by MESTI to relevant ministries, the industry, NGO's and other stakeholders. • Communication strategies for MESTI, 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. • Training programme conducted. • The information published is correct and easily understood (to be assessed by the participating institutions).	• Policy development is done in consultation with stakeholders. • No communication strategy developed yet. • Number not known, but Cabinet requires a list of all the stakeholders that were consulted. • Decision taken. Docs in process of being uploaded. Some printed • MESTI's training covers all relevant staff. • Information published is correct but not easily understood for all local stakeholders.
Intermediate Outcome 3.1: Local communities and media are more aware of the possible conflicts between oil and gas activities and coastal activities.	• Numbers of workshops and information meetings conducted by EPA.	Total 10 (avg. twice/yr). All according to the correct procedure.
Output 3.1.1: CSOs/ NGOs and media have received training in oil and gas activities and environmental management.	• 100 CSO/ NGO staff, media trained in oil and gas activities and environmental management. • SEA consultation processes implemented. • Training of trainers (T-o-T) by EPA.	• No. Due to SEA and other priorities, EPA did not have sufficient funds for this. • Just started to prepare • No. Indicator was taken out. Project did not proceed with T-O-T.

Output 3.1.2: Trainers from the CSO/NGO's have received training to support the implementation of local capacity building	• Assessment of female participation (gender disaggregated data submitted if possible)	• No. Attendance lists exist, but difficult to assess now.
Intermediate Outcome 3.2: The public has access to relevant information.	• Relevant documents are published online by MESTI and EPA in a timely fashion.	Early in the process
Output 3.2.1: Procedures for public consultation of stakeholders in the development of laws, regulations, permits and EIA's are developed and published on EPA and/or MESTI's website.	• The procedures for public consultations are clarified and published online	MESTI is yet to finalize communication plan. Minister requested all documents to be online (being uploaded).
Output 3.2.2: Environmental policies have been communicated to other government bodies and stakeholders by MESTI.	• Environmental policies are communicated to relevant stakeholders.	Policies are discussed with all relevant stake-holders, who are now aware of the issues.
Output 3.2.3: MESTI has improved communication and consultation with relevant stakeholders and the public.	• Environmental data are published online and in prints and disseminated by EPA[3].	In process. All institutions with implementation responsibility must inform of the progress.
Output 3.2.4: Citizens have been sensitized by MESTI to demand environmental accountability from the oil and gas industry.		MESTI has trained community members, to be formalized with the communication strategy. Large EIAs have public hearings.
Output 3.2.5: Waste policy is communicated by MESTI/EPA.		N/A. No separate policy was prepared for waste
Output 3.2.6: MESTI's web-site is evaluated.		All Government institutional websites run by National. Information and Technology Agency (NITA).
Output 3.2.7: MESTI is monitoring implementation of programme activities and communication.		Yes, but the M&E plan is not in place.

As with the two previous Outcomes, the one regarding transparency and accountability has delivered some Outputs as planned while others remain to be finalized.

One important achievement is that all documents have followed the required procedures for public consultations. In December 2018 the Minister asked for all documents to be online, which is in the process of being done. While the information published is seen as correct, it is not easily understood by all, due to language and education barriers, so this should be addressed.

Policy development now includes consultations with relevant stakeholders at national and local levels. Stakeholders are now more aware of issues, and before a new policy can be presented to Cabinet a list of stakeholders consulted must be presented. There are public hearings as part of SEAs and large EIAs. MESTI has trained community members so they can demand environmental accountability from the petroleum industry, and this will be formalized when the communications strategy is finalized.

No assessment of gender participation has been carried out, though attendance lists exist for all training events, making a simple gender balance overview possible.

[3] This target is not directly related to an output, while most outputs for 3.2 do not have defined targets.

The goal of training 100 CSO/NGO staff as well as media has not happened due to the higher priority given to SEA consultations and other issues. This is both a funding and a staff time issue. The idea of training-of-trainers (T-o-T) was cancelled, which could have helped address this shortcoming.

4.2 Efficiency of the Environment Component

The contractual and administrative set-up is similar to the resource component, with direct linkages between the two countries' regulatory agencies constituting the core of the collaboration. This provides for close communication and smooth operations. However, the model has two weaknesses that the Ghanaian partners pointed to. The first is that it limits the provision of expertise largely to Norwegians whereas in certain fields like legislation and policy development expert knowledge of the local context is critical, and here it would be useful to bring in Ghanaian expertise. This leads to the second weakness, which is that almost all the funding is locked into the Norwegian expertise so Ghanaian partners have limited access to funding that could finance useful complementary inputs.

At the same time, the management of the funds that are available has been seen as slow. While EPA, which runs activities that require financing such as training, complains of slow transfer from MESTI, the Ministry points to EPA not respecting general Ghana Government procedures for transferring funds from an imprest account. This basically requires that any advance made has to be fully accounted for before a new disbursement can be made. This rule is applied even more rigorously now as internal audits and controls have become tougher due to anti-corruption efforts. Imprest management is a standard public finance instrument that MESTI and EPA should sort out and ensure runs smoothly.

One issue for MESTI/EPA communications is that all government websites are run by the National Information and Technology Agency (NITA). This at times is slower than they would have liked, affecting their ability to communicate efficiently with the public, but from an overall public sector perspective is a rational approach so MESTI/EPA performance must be seen in light of this.

4.3 Effectiveness

The division of labour where the Norwegian partner provides technical expertise and the Ghanaian partner takes the decisions and implements activities ensures ownership of the results. The fact that not all Outputs may be delivered till the end of the period and hence some Outcomes may not be fully achieved is due to an overly optimistic design that did not take fully into account the capacity of partner institutions to carry out so many tasks at the same time. Staff have therefore focused on those tasks that they give highest priority while postponing others or delaying until a possible next phase.

As in other sectors, the Ministry is responsible for policy and sector coordination while EPA is in charge of implementation and technical contributions to policy and regulations. Making this division of labour work efficiently can be a challenge, as noted when it comes to managing disbursements. This is an issue that perhaps needs to be addressed more generally for ensuring smooth operations on a daily basis, and which may be affecting overall component effectiveness.

At the same time, the EIA regulations appear to work well, and is one of the main responsibilities of EPA regarding petroleum sector performance. This includes facilitating stakeholder consultations during the EIA process. This responsibility will increase with on-shore oil exploration/exploitation and thus will require further competencies and capacities. While it is the operators that have to produce the EIAs and the underlying documentation, the EPA has to approve the study and the resultant management plans which form the basis for the EPA permits. The EPA then is to follow up with site audits based on these plans. So far, Ghana has two producing oil fields, so only one environmental audit was carried out in 2018. As with the resource component, EPA therefore believes that the real challenge is *implementation* – getting experience with on-site monitoring and control,

which becomes more demanding as activities expand and on-shore exploration starts up. Having an experienced partner that can assist with hands-on mentoring over the coming period is hence seen as very desirable, as this task will be the major challenge for the credibility and performance of the EPA.

4.4 Impact

The most important impact so far is that MESTI and EPA have been reorganized to include petroleum sector units, staff capacities have substantially improved, and formal frameworks – laws, regulations, guidelines – have been updated and improved in line with international standards. Both institutions are generally respected by the petroleum industry as fulfilling their classic roles and responsibilities as policy promulgator and oversight bodies. This has clearly been important for developing an environmentally more responsible petroleum sector. Since OfD is the most important external supporter, the part of institutional strengthening and performance enhancement that can be seen as a result of external assistance can largely be attributed to the OfD collaboration.

Regarding new exploring and exploitation activities, the processes leading up to permissions are extensive and not all routines are well established yet. While stakeholder information and consultation meetings are organized, they may not always reach all relevant groups, a challenge that is becoming more acute as activities move on-shore. The consultation processes face further obstacles by the fact that cultural characteristics vary across communities yet may not be fully understood even though they may constitute significant differences in terms of how issues like land use are concerned. This is a field where Norwegian expertise is largely irrelevant except for assisting the processes as such, but where the programme might wish to track actual impacts since this is perhaps the most significant dimension of ensuring environmentally sound management.

However, the EIA and SEA processes are to assist communities and authorities detect potential adverse impacts and identify means to eliminate, mitigate or minimize those impacts. Institutionalizing these instruments has been important, even though baselines generally are not yet in place, and introducing SEAs as strategic planning instruments – something that was not originally foreseen – has been a positive contribution and impact of the OfD support.

Because the communications dimension has had a slow start, this has reduced the potential impact on community and societal consultations, as noted above. The NEA Communications Department became involved during the last part of 2018, which is considered an important step forward for improving the planning and strengthening of overall communications.

The general impression is, however, that Ghana is taking the environmental aspects of oil and gas development more seriously than many of its immediate neighbours, and has developed better instruments and practices in a number of fields. The on-going OfD-UNEP regional programme, where Ghana participates, is further contributing to this as it has allowed Ghana to learn from Uganda's experience with on-shore/freshwater petroleum exploitation, which is a field where Uganda has come further – in part due to its collaboration with OfD. At the same time, Uganda has learned audit skills from Ghana, and this south-south collaboration and exchange of experiences is a positive and to some extent unforeseen impact.

4.5 Relevance

OfD and Norwegian expertise have been highly relevant for Ghana since OfD came in just as Ghana had discovered its first oil fields. This was especially important since Ghana's finds were off-shore, where Norway has much experience. For the environmental component, the support was particularly relevant since the Government of Ghana had general knowledge regarding the petroleum sector, but the environmental management had to begin from scratch. This component thus made important contributions to the country's knowledge and approach to managing the issues in the sector.

In the work on establishing a sensitivity map on-shore and updating it in coastal areas, the collaboration with UN Environment has been very relevant and valuable, including sub-contracting of the World Conservation Monitoring Centre (WCMC).

Gender, however, is one field where the two parties differ in their outlooks. Here Ghana has done very little and seem to accept it in the work programme "*because it is important for the Norwegians*", as one person explained to the review team. While oil and gas is a male dominated sector, the environmental sector tends to be more gender balanced.

4.6 Sustainability

The formally approved framework tools – laws, regulations, SEAs – are key improvements that are sustainable as long as Ghana maintains them. The collaboration with the Norwegian counterparts, with fellow institutions in the region through the regional trainings and exposure to relevant UN agencies have also provided the Ghanaian institutions with a network of professional peers that they can call upon when considering changes to these and other formal management instruments. It is now also a government policy that no policy or regulation can be presented to Cabinet for approval without an implementation plan, which has to be developed with the Planning Commission. These factors all contribute to that such frameworks and their changes being implementable and sustainable.

MESTI and EPA focus on implementing tasks internally instead of contracting external consultants. This is a conscious strategy to ensure internal capacity building, sustainability and institutional memory. As with the resource component, however, this strategy is vulnerable to loss of skilled staff, since the training focuses on staff in place and relies heavily on the use of non-Ghanaian (Norwegian) expertise. MESTI and in particular EPA send large numbers of staff for training, so there is an internal pool of skills to choose from when more specialist skills leave. There is however no clear policy on how to replace senior or specialist expertise – there is no national "capacity to produce capacity" put in place by the OfD programme and the Training-of-trainers activity has been delayed.

The units handling the oil and gas sector appear well organized, with clear routines and job descriptions, so most organizational *structural* changes are probably sustainable. There is however a lack of staff, leading to those in post often being over-worked, and there is for instance not enough people with experience to do environmental audits. While there is little or no political interference with the contracting of technical staff – a major problem in some countries – the ceilings on the staff salary tables create barriers to a more sustainable staffing situation.

While the exploitation of a non-renewable resource can never be sustainable, it is possible to extract while ensuring sound environmental management. The environmental programme is to promote environmental sustainability through EIAs, SEAs, monitoring and evaluation of the activities. The SEAs look at four impact dimensions: (i) natural and environmental; (ii) social and cultural; (iii) economic; and (iv) institutional, done under varying scenarios. This provides decision-makers with better documented options, and thus provides a better basis for more sustainable choices.

The social issues will become more important with more land-based petroleum exploration, as exemplified by the on-going process in the Keta region. The Government notes that no decision has been taken regarding petroleum exploitation since drilling in the 1970ies found nothing of interest, but a recent scoping report raised concerns among the local population. The area is a Ramsar site, and a very vulnerable lagoon https://www.youtube.com/watch?v=mepAWqqx2X8. Keta beach is the main national nesting site for the critically endangered leatherback sea turtle (www.iucnredlist.org). Local chiefs and the local NGO "Centre for Natural Resources and Environmental Management" (CNREM) claim that over 90% of the 600,000+ population in the area is against oil and gas exploration, and want instead to focus on tourism and fish farming (see 2017 TV interview with CNREM's Executive Director https://www.youtube.com/watch?v=efZCaPVW6z0). CNREM claims that the

local consultation was inadequate and rushed, while some officials believe that there is misinformation behind some of the reactions. This reflects the complexities that such consultations face, and hence the need for well trained staff and resources to ensure that consultations are run well and are constructive.

4.7 Issues for the Future

In March 2018, MESTI sent a letter to OfD requesting a further NOK 5 million due to: (i) more expensive than anticipated consultation process related to environmental management policy for the oil and gas industry; (ii) more expensive than anticipated consultation process for the SEA, which was stopped during the elections; and (iii) delay in achieving environmental data from the Nansen programme.

MESTI also proposes additional resources for 2018-2019, to finalize the SEA; finalize regulations on environmental management both off-shore and on-shore; develop a data base system for EIAs; map environmental sensitive areas, also offshore; continue training; develop reporting guidelines to make environmental management more sustainable; and continue the sensitization of civil society.

So while the environmental component has delivered important results, with many of the overarching ones have signs of largely being sustainable, both MESTI and EPA see that there are important tasks that remain to finalize. Some continued external collaboration is seen as important, since without this Ghana's incipient capacities may be overwhelmed as the sector expands and must address more and more complex challenges.

One opportunity is that a possible next phase could support Ghana establish a sector-wide approach (SWAP) that would include all/most of the external assistance to the sector. Within such a framework, owned and managed by Ghana, Norwegian assistance could address issues such as off-shore drilling, risk mapping, environmental monitoring, etc., while other areas could be covered by other agencies (World Bank, DFID), partner agencies (such as UNEP, including co-financed by Norway), NGOs and the private sector. Such a broader field of support actors would require strengthened donor coordination but would improve financial sustainability for the sector at a critical stage till Ghana can generate sufficient own resources to finance its oversight and quality assurance activities.

5 The Revenue Component

The Revenue component is the most recent addition to the OfD programme. The Programme Document is from June 2017. This is at the same time one of the more complex components in terms of actors involved, since on the Ghanaian side there is the Ministry of Finance (MoF), the Ghana Revenue Authority (GRA), the Ghana Statistical Service (GSS) and the Bank of Ghana (BoG), while on the Norwegian side the Oil Taxation Office (OTO) and Norway's Central Bureau of Statistics (SSB) are the technical advisory partners. In addition, the OfD Secretariat has framework agreements with the IMF and consultancy consortia whose services have been applied for some of the activities of program implementation.

5.1 The Results Framework

The Programme Document contains the results framework in Annex 1, where the core components are presented in columns 1 and 2 in table 5.1 below, with specific targets per Outcomes, baselines and defined Outputs. Since the component agreement is to run through 2020, the results achieved by early 2019 will of course not be achieved in full. Instead the on-going activities have been assessed.

The revenue component differs in its structure from the other two, both because more actors are involved both on the Ghanaian and Norwegian sides, but also because other major actors are engaged in providing support in the area of public finance management (PFM). The World Bank, Germany's GIZ and DFID have all assisted the Ministry of Finance (MoF) and the Ghana Revenue Authority (GRA) while the IMF's Africa Regional Technical Assistance office (AFRITAC West-2) is working with the Bank of Ghana (GoB) and MoF. Norway supports the IMF's *Managing Natural Resources Wealth thematic fund* that also assists petroleum and mining revenue management in Ghana. The OfD has therefore targeted the particular issues that arise in connection with petroleum revenues within this larger PFM picture. The discussion of this component therefore includes references to some of the technical assistance (TA) provided by these other actors where relevant.

Table 5.1: Revenue Management Results Framework

Planned Results	Indicator - Target/s	Achievements
Outcome 1 – Institutional Capacity: Modelling tools used by MOF incorporate the macroeconomic effects of the petroleum sector.	2019: 2: MOF uses the macroeconomic model to project GDP for the 2019 budget. Five MOF staff with essential modelling skills.	The FY 2019 budget process target now planned for FY 2020 process. New organizational set-up that can provide opportunity for setting capacity and skills needs, potential synergies. GDP was rebased in 2018. IMF/FAD provides TA to use the Fiscal Analysis of Resource Industries (FARI) methodology, a project based tool for fiscal regime design, evaluation .
Output 1.1: Assist MOF to develop an operational macroeconomic model and database, including documentation and users' guide.	Model and database operational with complete documentation in place	Draft user guide in place. Good progress.
Output 1.2 Train MOF staff on maintaining and using the model to produce model-based analyses.	MoF staff able to use and maintain model and database	Unit has 2-3 staff who can use model. Training sessions often involve 5-7 technical staff.
Outcome 2: MOF has implemented a sound governance framework for the Ghana Petroleum Funds.	• 2018: Sound GPFs investment guidelines adopted and adhered to. • 2019: Indicator 3: Five (GPFs) and Five (IAC)	• The organization is growing, expect management to sign off on guidelines • Not yet: Started Nov 2018, based on visit from Norwegian consultants

Output 2.1: Train GPF secretariat and IAC members on strategic asset allocation and risk management	GPF secretariat, IAC staff carry out fund allocations with risk management analyses applied	The first introductory missions carried out in November 2018. Experience so far very positive, IAC has so far not been trained. Expressed needs include: • More training. • Want to be able to manage the equity portfolio ourselves. Currently not using benchmarks – want benchmarks that incorporate hedging. • Training to reinforce existing knowledge base on fixed income since new developments all the time.
Output 2.2: Assist MOF and IAC to establish clear and effective division of roles and responsibilities for the management of the GPF.	Division of roles in place and understood and implemented by staff	
Output 2.3: Assist MOF with preparation and funding of Annual Report on Petroleum Funds	MoF presents Annual Reports on Petroleum Funds	
Outcome 3: GRA effectively assesses and collects petroleum revenues from the upstream oil and gas companies.	• 2018: GRA petroleum tax manual ready for use. • 2019: GRA undertaken at least one full tax (cost and revenue) audit of each E&P company during the period 2017-2019. • Four coordination meetings between GRA and PC during 2019.	• GOGIC has provided a consultant and financed three working retreats of a total of 21 days to draft the manual. OTO has commented on the draft. Received well. Now: shortly sent for approval internally in the GRA. • Premature – no activity yet • Premature – no activity yet
Output 3.1: Assist GRA to develop and utilize a petroleum tax manual.		Limited assistance beyond a review of the draft manual
Output 3.2: Assist GRA, GNPC and PC to develop and implement procedures that facilitate efficient cooperation.		Not yet
Output 3.3: Train GRA staff in risk identification of adverse tax planning schemes, including transfer pricing.		Not yet
Outcome 4: GSS produce petroleum related statistics as required for modelling and policymaking.	• 2018: Core elements in place for a comprehensive statistical business register. 2019: • Business register reflecting petroleum activities in place. • Up-to-date Supply and Use Table developed. • GSS produces volume statistics for petroleum sector and fairly comprehensive petroleum investment statistics	• AFRITAC has provided training, mainly on pricing. • GSS has requested assistance to rebase the Producer Price Index – work in progress. • Some delays in achieving the planned results. An integrated business establishment survey was initiated before the OfD support. The SSB has assisted mainly in the data processing and in the public summary reporting.
Output 4.1: Train GSS to conduct economic surveys enabling GSS to measure contribution of petroleum activity to GDP.	GSS measures petroleum sector contribution to GDP	Investment data survey for petroleum sector prepared and data for 2018 received through the PC. Some delays. The PC assisting GSS in gathering the data, with data so far received from 7 companies for 2018. They will also provide 2017 data soon
Output 4.2: Assist GSS to establish a business register that comprises petroleum activities.	Business register in place for petroleum sector activities	In progress. A workshop is under preparation and planned first half of 2019

Output 4.3: Assist GSS to develop an up-to-date Supply and Use Table (SUT).	SUT table in place and regularly updated	In progress – assistance from AFRITAC.
Output 4.4: Assist GSS to rebase national accounts from base year 2006 to 2013.	Rebased national accounts to 2013	Done with assistance from AFRITAC
Output 4.5: Assist GSS to produce volume statistics and other related indicators relevant for improving economic statistics from IBES II.	Volume statistics in place	Done
Output 4.6: Assist GSS to produce comprehensive and regular petroleum investment statistics.	Regular petroleum sector investment statistics being produced	Initiatives taken but not yet implemented – workshop planned first half of 2019
Outcome 5: GSS disseminates official petroleum related statistics free of charge.	• 2018: GSS disseminates investment statistics • 2019: GSS publishes annual economic survey	Work not yet begun
Output 5.1: Assist GSS to publish report on business statistics based on IBES II.	Business statistics report published	Summary report was published September 2018
Output 5.2: Assist GSS to publish report of annual economic survey.	Annual economic surveys published	Planned second half of 2019
Output 5.3: Assist GSS to publish annual petroleum investment statistics.	Annual petroleum investment statistics published	Planned
Output 5.4: Assist GSS to develop and distribute online questionnaire for the conduct of economic and periodic surveys.	GSS carries out on-line survey on key economic topics	
Output 5.5: Actively and regularly liaise with civil society stakeholders to further transparency and accountability	GSS engaged in dialogue with civil society stakeholders	

The OfD assistance to the MoF has targeted the real sector unit responsible for macroeconomic modelling. Results have been slightly delayed in relation to the target set for 2018. However, a test-run of the macroeconomic model to project GDP for the 2019 annual budget preparation was carried out and a draft User's Guide has been developed. The plan is to have a fully operational macroeconomic model for the preparation of the 2020 annual budget, starting in 2019. The "what" to do is largely in place but the "how" to do is not yet fully shared by all the actors involved in the macro-modelling process. The real sector macro-modelling unit relies on collaboration and input/data from other government units to enable strengthened performance of the modelling process. Seen in isolation the achievements so far are commendable.

The IMF has different channels to assist the Ghanaian authorities that intersect with the OfD programme under this component: Thematic Trust Funds, targeted technical assistance from the Fiscal Affairs Department (FAD) and the support through its Ghana/Accra office AFRITAC West2. AFRITAC has an on-going programme that includes organisational restructuring, rebasing of GDP, rebasing of the Producer Price Index (PPI), the Fiscal Analysis of Resource Industries (FARI) model training and implementation and institutional development initiatives involving the real sector unit staff. The FARI model, although a project-based tool mainly for fiscal regime design and evaluation though not actively used in Ghana for this purpose, can be used to strengthen the macro-economic forecasting by providing better data on revenue streams from the petroleum sector. There is a potential for a strengthened link to for example the Medium-Term Fiscal framework.

Within these initiatives AFRITAC and IMF/FAD are engaged in activities with the shared objective of strengthening the macroeconomic modelling. In the immediate future the IMF/AFRITAC will continue to assist in the consolidation of the recent merging of the real sector with another unit and will start working on the procedures and functional processes of the unit (and beyond). So far, the new organizational set-up has been put in place. The more detailed organisational development will continue in 2019.

Synergies between the IMF/AFRITAC, unplanned in this case, have definitely taken place but duplications cannot be excluded. However, these seem so far to have been limited, largely due to the very targeted task-specific support of the OfD.

The assistance to GRA has so far concentrated on technical advice to the development of a tax audit manual for the petroleum sector. Here also results are slightly delayed in relation to the target. A draft manual has been completed but is still subject to appraisal and needs to be approved internally by GRA top management. No initiatives or activities have taken place in relation to the adoption of strengthened procedures in relation to petroleum tax audits or to train the auditors so as to adopt the petroleum tax manual by GRA staff. Also, in this case, unplanned synergies have taken place and interdependencies with other donor funded initiatives are high. The drafting process of the tax audit manual itself has mainly been carried out by GRA staff in collaboration with an external consultant financed by the DFID-funded Ghana Oil and Gas for Inclusive Growth programme (GOGIG). GOGIC contracted the former head of the GRA petroleum tax unit as a consultant and financed three working retreats of a total of 21 days to draft the manual. The GOGIC support has undoubtedly been instrumental to the successful development of the manual, and as such for the OfD activities. The Oil Tax Office-Norway (OTO) main contribution has been to backstop the process and provide technical advice and comments to the draft. The value-added lies in their practitioner expertise from a highly specialised tax management area/sector. Relating again to the concept of capacity development, the "what" to do is largely defined at a technical level but has not been shared and endorsed by top management. The "how" to do is not in place and the GRA staff express gaps in knowledge about the specific cost structure of the industry, how to assess risk, how to access industry data etc. Currently the GRA staff feel at a loss on how to implement the new procedures. Inter-organisational collaboration, such as with Ghana National Petroleum Corporation and the Petroleum Commission (PC) also needs to be further strengthened to enable them to apply the manual in their tax audit work.

The assistance to the Ghana Statistical Services (GSS) targets two different sections: the National Account section and the Industrial Statistics section. The technical assistance to the National Accounts section was rescoped early on due to the existing collaboration with IMF/AFRITAC for the National Accounts and re-basing of the GDP. OfD currently supports the oil investment statistics. A screen for data capturing and a questionnaire for data gathering has been developed. The plan was to get the PC to disseminate the questionnaire. This has delayed the process and is an illustrative example of the challenges in relation to cross-organisational collaboration among beneficiary organisations of the OfD. The questionnaire has still to be disseminated. In relation to the Industrial section, an integrated business establishment survey was initiated before the OfD support. Norway's Central Bureau of Statistics (SSB) has assisted mainly in the data processing and in the public summary reporting. A comprehensive statistical business register is under development. The OfD technical assistance to the GSS is targeted with an individual and organisational scope and addresses the "what" to do and the "how" to do within the competencies and the organisational boundaries of the GSS. Once inter-organisational collaboration is needed, the challenges in the shared acceptance of new roles and responsibilities, deemed necessary for the successful implementation of new procedures seem to be limited and slow down the processes, or put the process to a halt, limiting the potential for institutional capacity development.

Beyond the support defined in the Programme document, some activities have recently taken place in collaboration between the BoG and OfD. This collaboration has started with mutual visits to Norway

and Ghana, and an exchange between the respective institutions. So far, the experiences have been very positive and has given a promising start to further future collaboration. BoG staff expressed the value added in meeting practitioners and referred to the similar governance structures and organisational set-up between Norway and Ghana regarding aspects of funds management. The result framework in this area contains future expectations rather than the achievements to date.

5.2 Efficiency of the Revenue Component

The current contractual and administrative set up has not been seen as in any way hampering the efficiency of the programme.

This review raises some concerns related to the need to give more attention to how the programme design can incentivize cross-organisational/inter-organisational collaboration and accountability. This is needed to attain the desired institutional capacity development and strengthening performance in complex functional processes with many stakeholders crossing organisational boundaries and even sectors. A partial solution can be to look at the contractual and administrative set up which, if pursued, could imply a need to revisit some of the administrative procedures. However, no concerns were voiced by stakeholders.

In relation to the revenue management component, the external interdependencies with other programmes potentially undermine efficiency seen from a Ghanaian perspective in that they require the institutions involved to multiply/duplicate efforts to manage and administer separate financing modalities and streams of technical assistance provision that hold close inter-relations/inter-dependencies, and even entanglements. These interdependencies may complicate the programme's result framework, particularly if the scope of OfD support is to be expanded. There is some coordination on planning of interventions both at programme implementation/expert and at head office levels, such as OfD Secretariat´s coordination of the multi-bilateral assistance through the IMF's MNRW fund, but more could be done to improve collaboration and division of labour regarding issues like monitoring of activities on the ground. One possibility could be to "piggy-back" on AFRITAC´s country presence to strengthen programme implementation between missions. The Programme Document mentions some of these initiatives, though the design has not taken technical assistance provided by other institutions much into account. An important exception is the design of the framework for statistics, where the assistance provided by the World Bank for the IBES survey is recorded. Furthermore, the new organisational set-up and organisational development seem to provide further opportunities for strengthening OfD efficiency.

5.3 Effectiveness

In relation to the division of labour between Norwegian experts and Ghanaian staff, one observation is that Norwegian support appears most successful in the two institutions where individual and organisational capacity is relatively solid, and where the IMF/AFRITAC have had broader and more substantial interventions and, in the case of AFRITAC, a local and more permanent presence in Accra, as in the cases of the MoF and GSS. Both institutions have been reasonably successful in achieving expected results. At the same time, the OfD support has also strengthened the AFRITAC work, so the Ghanaian institutions have benefitted from these basically unplanned synergies. For the remainder of the programme implementation strengthened collaboration and coordination would therefore be beneficial. The impression is that the technical experts have found flexible and pragmatic ways of attaining a relatively clear division of labour without duplication. This, however, is not due to fine-tuning in the programme design but has happened because of the good judgement and capabilities of the Norwegian experts engaged.

In relation to the relatively weaker GRA, the lean approach that consists of periodic and relatively short visits and backstopping does not seem to work that well. The conclusion is that limited value added can be expected from the OfD programme without putting in place or organizing, through for example partnerships with AFRITAC, more permanent follow up between visits. The result(s) achieved have been dependent on the GOGIC support that has functioned as a necessary complementary contribution. In two aspects there has been a value added of the Norwegian expertise: in their practitioner backgrounds, and in that they can advise on the specialization of the petroleum sector tax audit.

In relation to the BoG the OfD collaboration has just started yet the Ghanaian partners feel that they have benefitted from the initial visits to and from Norwegian institutions.

The basic finding is the need to establish collaboration with organisations/institutions on the ground that can provide more complementary assistance with a permanent or more regular presence. This enables a more regular follow-up, which appears to be required to achieve the expected capacity development. Greater impact is also more likely to be achieved by looking at the macroprocesses across organisational boundaries and sectors so as to strengthen actual performance at process level. One example is the macro-modelling that requires disclosure of and updated and regular high-quality data from different organisations/institutions included in other components of the OfD program. Another example is to link the MoF assistance more explicitly to the medium term fiscal framework and annual budget preparation process so as to measure the outcome of the capacity development on the quality of the planning and budget documents presented, the macroeconomic assumptions, the fiscal policy etc.

5.4 Impact

For the Revenue management it is far too soon to start looking for Impact. The concerns raised in relation to Effectiveness should be addressed so as to strengthen the potential for future impact. With the current design and scope of activities, and without factoring in the support from IMF/AFRITAC and GOGIC etc., the impact is likely to be limited.

In relation to attribution it is not possible to isolate the effects of Norwegian technical assistance from that of the IMF/AFRITAC and also to some extent GOGIC (where it should be noted that GOGIG, with its flexible funding of activities on the ground – much appreciated by the Ghanaian actors – is to close at the end of 2019). The contrafactual must be guesswork but it is doubtful that the results would have been achieved without the other engagements implemented in the same areas over the same period.

5.5 Relevance

While the Norwegian support is quite limited and focused, its relevance is very high: Norway has unique experience and expertise in how large-scale economic rents from the extractives sector can be managed in a way that is transparent and accountable, both on the revenue mobilization and collection sides, but also on the disbursement and investments (sovereign wealth funds) dimensions. The Ghanaian partners very much appreciate being able to speak with senior staff who have the public sector administration perspective on how to manage these challenging issues.

5.6 Sustainability

It is too soon to discuss sustainability in relation to the Norwegian interventions since they are quite limited and very specific in their focus and hence dependent on the larger organisational dynamics. But some factors raised above point to limited sustainability without corrective actions in relation to a number of issues – see the next section.

5.7 Issues for the Future

From what has been discussed above, there are perhaps in particular three concerns that need to ber borne in mind when considering the further OfD involvement in the revenue component:

- There is a need to look at the broader picture and understand the macro-processes that are to be strengthened in order for the specific petroleum sub-issues to be tackled optimally; Even for strictly petroleum-related issues, some business processes are cross-component and inter-organisational, and these need more attention and awareness from design to implementation.
- Some core priorities for the Ghanaians have not yet been addressed by the programme: cost control, transfer pricing, how to strengthen tax compliance based on control activities *in situ* rather than desk-based compliance verification, which is the approach in Norway. One question raised is if Norway is in fact the best source for this kind of tax compliance capacity building.
- There is a need to plan and design synergies with other interventions and programmes into the revenue component and cater for these as part of the design, implementation and evaluation phases. These interventions all influence efficiency, effectiveness and of course attribution.
- Since the OfD inputs are limited, it is important to collaborate with organisations with stronger permanent presence and capacity to follow up between the periodic visits by OfD experts.
- While Norway should continue its targeted interventions, the basic processes in the partner institutions should be comprehensively designed, agreed, accepted and understood by all parties involved, to improve overall coordination and thus efficiency of all the external assistance being provided to the sector. Being able to come up with an overarching work plan and results framework under which the OfD inputs can be identified would lower the transaction costs to all parties considerably, but first and foremost for the Ghanaian institutions that would then have a much better ability to manage the various inputs according to their own work plans and priorities.

6 Looking Ahead

This chapter summarizes the overall achievements of OfD support, and in particular the consolidation of gains made during this last 2015-2018 phase (section 6.1) before presenting changes taking place in Ghana's petroleum sector that may have a bearing on future OfD support (6.2). It then lists some of the challenges that future OfD support needs to consider (6.3) before reviewing options for the future (6.4). Given that a number of avenues might be open for future Norwegian support, some of the organisational-administrative challenges are then discussed (6.5).

A key issue that will determine what is realistic and desirable regarding possible continued Norwegian support is what Ghanaian stakeholders themselves want and are willing and able to commit. This has been discussed by component in chapters 3, 4 and 5 since challenges and conditions vary across sectors, and will not be repeated here.

6.1 OfD Achievements by 2019

Institutional development is substantial and appears sustainable with regards to the resource and environment components: Key laws/acts for the sector have been established/updated and aligned with international good practice. New institutional arrangements, where appropriate, have been established or strengthened, in particular with regards to national regulators: the PC in the resource field and EPA in the environment field while the GNPC is focusing on its commercial and development roles. Key regulations for implementing laws and policies have been developed and/or updated and are now largely in place. Policies defining priorities and relations to other actors, sectors and issues have been produced. Roles and mandates of key public bodies have thus been clarified and relations established and to some extent functioning, though it is clear that work processes that require collaboration across administrative boundaries are still lacking in a number of fields. Staffing tables have been clarified/established, job descriptions developed/improved in light of new responsibilities, providing more institutional solidity, clarity on requirements and responsibilities for individual positions.

Institutional development in the revenue component is will most likely continue to be more limited: OfD is not assisting overall institutional development but is focusing on key instruments for managing the economic rent/revenue streams from the petroleum sector, such as a petroleum sector module in the country's macro-model; oil/gas taxation principles and audits; sovereign wealth fund management. Because revenue management involves a number of different public bodies, there are also more actors involved in this component: the MoF, GRA, GSS and BoG, and with several Norwegian partners: the OTO, the Central Statistical Bureau, and consultants, including a focus on strengthening joint processes such as sharing of data.

Ghana can point to organizational development successes regarding both structural improvements and linked-in staff skills/ human resources development: The ***Petroleum Commission*** is the single most impressive development, as it is a totally new organization with a developed organizational structure and staff in position who have received relevant training and experience to begin exercising their responsibilities. This has included the delegation of specific tasks from those previously exercised by the GNPC, which functioned as a *de facto* regulator till the PC was established. This is an achievement where the contributions by the OfD are easily identified and appreciated. Within the ***Ministry of Energy*** – which has gone through some overarching restructurings – the increased focus on the petroleum sector is reflected in new positions and skills. Similarly, in ***MESTI*** where the fairly new gas and oil unit in the environment department has received training and experience from the OfD programme. The ***EPA*** has been the major partner in the environment component, and since OfD is been the dominant external partner in the petroleum field, improvements can to a large extent be attributed to this collaboration.

Human resources development has therefore taken place in the context of organisational development, with the exception of some training under the environment component done in collaboration with UN Environment directed towards non-state actors, largely local community representatives, CSOs and academics, and trainings targeting civil society and media carried out by EPA with NEA support.

Main findings when applying the capacity development matrix (table 2.1) are thus:

- At the ***institutional level,*** the capacity building has been highly successful in clarifying overarching frameworks ("*performing tasks*") and setting forth principles for resolving uncertainties ("*solve problems"*). Ministries, however, feel that they have not received as much assistance as they had hoped in how to develop new policies ("*set/achieve new objectives"*). While they have received technical advice on new laws and regulations, they have not had much interaction with policy decision makers since the Norwegian partners have been technical directorates and not ministries.
- At the ***organisational and individual levels,*** the PC has seen major progress, as noted, and the EPA as well, reflecting good understanding of responsibilities and how to address them. Where both organizations seem uncomfortable is with implementation of oversight and control functions, where they need more practical experience with on-site audits and verifications, so the skills required to "*solve problems"* need to be developed further. In the revenue field, capacity building is incipient so even the ability to "*perform tasks"* is not fully in place.

6.2 A Dynamic Context

The oil industry is facing critical choices as the world moves from fossil fuels to renewable energy. The uncertainties regarding what future demands and prices for oil and gas will be means that investments in new fields must have a reasonable likelihood of generating a surplus over a 20-30 year horizon. This requires faith in the long-term framework conditions for the sector and being in a state that will respect and enforce these.

For Ghana, the situation is also changing as it expands its off-shore activities while also opening up blocks on land. Overall activity levels will therefore expand rapidly but will also become more complex as land-based production develops. This will put growing strains on the public sector's abilities to resolve issues that arise, ensure oversight and control, facilitate dialogue and consultations with all stakeholder groups, and control the growing financial resources from the sector.

Each of OfD's three components will therefore face a more challenging future. The resource component will have to cope with the problems of overseeing an increasing number of actors and activities under a greater diversity of contexts and uncertainty. The environment component will need to address the problems of demands from industry to work in sites with contested demands, including such difficult issues as drilling in sensitive areas such as Ramsar sites, as is being discussed in the Keta area. The revenue component will have to manage the macro-economic threats from "Dutch disease" and other economic dislocations as the sector expands, manage the pressures to spend more funds on politically attractive activities while trying to strengthen the financial integrity and reduce the possibilities for corruption. The sector is therefore likely to face growing *governance* and *management* challenges simultaneously – a tall order for any country.

Regional collaborations are increasing, e.g. in the framework of the Abidjan Convention ("*the Convention for the Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region*") that builds cross-border responses to environmental disasters such as oil spills. UN conventions and UN agencies provide access to a larger universe of support options, as do regional and international financing institutions and technical assistance bodies.

The private sector, both international but in particular national, is expanding. The Minister for Energy in a recent press briefing noted that nearly 600 national companies are registered with the PC and have so far won contracts worth USD 780 million, thanks in part to Ghana's Local Contents legislation but primarily due to the business acumen of local entrepreneurs.

Civil society actors are important in Ghana, with active local communities, traditional leaders with prestige and influence, CSOs with competence and integrity, active media and trade unions. The space for civic action exists, including local communities taking the government to court to challenge what they see as insufficient consultation and administrative over-reach regarding the granting of permissions in the sector. Several national umbrella bodies that allow the various actors' voices to be heard are important in the national debate, such as the Ghana Extractive Industries Transparency Initiative (GHEITI) and the Public Interest and Accountability Committee (PIAC). These are pushing innovation in transparency and accountability, where GHEITI has been important in supporting national registries of beneficial ownership and contracts, while PIAC is providing Parliament and the public with critical assessments of the collection and application of public revenues from the sector. The Natural Resource Governance Institute (NRGI), largely with GIZ funding, runs annual "summer schools" for decision-makers, academics and CSOs for Anglophone Africa in Accra while the African Centre for Energy Policy (ACEP), in cooperation with partners, runs a continent-wide annual Africa Oil Governance Summit for CSOs, among many other training and experience sharing events.

Ghana thus has an unusually rich web of organizations and organized interests that present opportunities for collaboration and mutual learning. The (admittedly few) conversations the team had points to an interest across the range of actors to find mutually acceptable solutions to controversial problems even when actors have diverging core concerns.

It is within this context that possible continued OfD support should be considered.

6.3 Issues for the Future

Given the more complex future that Ghana is facing, local partners note features of the OfD programme that merit reflection:

- While Norwegian expertise is very good with regards to public administration of sector issues, the examples from Norway are not always relevant to the Ghanaian context while the Norwegians' knowledge of local conditions may be limited. The number of examples and cases from other countries and regions provided is limited, so the universe of "lessons learned" for reflection and adaptation is restricted. There is an interest in including more Ghanaian and regional expertise, where the regional workshops have been very welcome.
- Since Norwegian advisors come largely from technical directorates, ministry staff miss the *political* dimension of policy development. While this issue is context dependent, one request is for OfD to provide more inputs in how to think *politically* about a sector that can be highly contentious and requires deft political handling.
- The capacity building so far has focused on staff in post. Once staff begin leaving, what is the strategy for replacing skills lost? There is a need to develop "capacity to reproduce capacity". In this connection there may be a need to look at Ghana's personnel policies to attract, train and retain critical skills for the long term. This includes policies and attitudes to staff rotating into and out of public sector roles – how "smooth"/efficient is the labour market for relevant skills?
- As petroleum activities move on-shore and Norwegian experience becomes less relevant for this situation, can OfD assist Ghana access "good practice" expertise from elsewhere?
- Becoming good at the job means moving from *understanding* issues to *addressing* them well. This normally takes time, but as Ghana's petroleum sector is changing so rapidly, is Norway able to assist with such labour-intensive on-the-job mentoring over time?

- Can OfD assist in extending governance capacity development to non-state actors, including strengthening the Nordic approach to collective action and tripartite collaboration?
- In the revenue field many donors are involved. Issues of better coordination, harmonization of technical assistance etc. call out for alignment of OfD inputs to larger sector programmes, perhaps even a formal Sector Wide Approaches (SWAPs) if Ghana so wishes. Can Norway support such a programming framework, perhaps also for the environment sector?
- And possibly the thorniest issue: Good performance and long-term impact do not depend just on good frameworks and formal agreements, but on the ability and commitment of units and individuals to work across administrative-organizational boundaries towards common goals. This requires trust and positive experiences from working together but also strong support from management and a "corporate culture" that recognizes and values joint work. Building networks and the informal relations that underpin them take time, but experience shows that without them, units cannot deliver what is expected – everybody depends on inputs from others. OfD is already encouraging this in several areas, and stakeholders feel OfD has credibility as facilitator and mentor for improving such processes. But this requires a commitment to achieving results rather than a fixed time horizon for the collaboration.

6.4 Options for the Future

Given the above, the future OfD support to Ghana can cover a range of possibilities, from the current thinking of consolidating but phasing out what has been achieved, to more ambitious scenarios for overarching sector governance development. While the programme till now has focused on building core systems and competencies necessary for the public sector to *manage* the petroleum sector, attention might now turn to larger *governance* challenges in the extractives sector.

This discussion comes at a time when Ghana is becoming a more important partner for Norway. It is a priority country for Norwegian development cooperation. It is of growing interest to Norwegian private sector. It is a critical actor in the larger political-economic-environment nexus in West Africa including the Sahel, with its complex set of concerns. From this perspective, the OfD stands out as a pillar around which Norway and Ghana might agree to build further, including moving beyond the public sector and perhaps transcend the boundaries of the OfD programme itself.

A range of options are therefore presented as "modules" that can be combined to form differing scenarios for the future, depending on what Ghana wants and is willing and able to commit to.

6.4.1 Consolidating Achievements

Both the Ministry of Energy and MESTI have requested additional funding for the current resource and environment components, to consolidate the achievements made and to ensure that the agreed Outputs can be produced. The Ministry of Energy has also formally requested a new three-ear programme period beyond 2019. The revenue component has just recently become active, so it may also need an extension beyond its currently planned completion date of end 2020.

The formal rationale for extensions seems reasonable – it makes sense to complete agreed tasks, and the financing required is limited. An equally valid argument perhaps is that continued collaboration with known and trusted partners helps solidify achievements – results attained are more likely to be sustainable the longer the support and advice is available to staff taking on new responsibilities.

At the same time, OfD support is premised on providing time-limited support to address priority concerns in fields where Norwegian experience is relevant. An exit strategy based on achieving pre-defined deliverables helps improve efficiency and effectiveness of the collaboration and makes impact and sustainability Ghanaian responsibilities – a clarity that is useful. Extending and possibly

expanding the program locks more OfD resources to Ghana, preventing assistance to other emerging petroleum economies, and may lessen the pressure on Ghanaian actors to perform.

6.4.2 Implementation of Responsibilities

The key concern voiced by several public sector officials was the realization that actually carrying out their mandates of supporting, monitoring and controlling sector activities is extremely complex and dynamic since issues keep arising. While getting institutional frameworks in place is critical, it is the appropriate *implementation* of responsibilities that constitute the real challenge. Learning about roles and procedures is one thing – carrying them out may be quite a different matter.

Questions have therefore come up whether OfD could consider a new phase of collaboration that is more mentor and practical field based. While this may require more manpower – there are many different tasks and roles to perform – there may also be labour-saving approaches that can be applied, first and foremost internet-based real-time communications, reducing the need for face-to-face and physical presence in the field, and instead provide demand-driven advice as issues unfold.

This becomes a different phase and may imply a different mode of operations, and thus requires careful planning and dialogue. At the same time, if Ghanaian staff receive support in implementation, it is in the application of new knowledge that it is confirmed and truly internalized – the capacity development at task level becomes more sustainable, and thus may be a very cost-effective manner in which to improve probability of longer-term success.

6.4.3 Strengthening Regional Links

While the Norwegian experience is appreciated, it is also clear that peer-learning and experience sharing with neighbours facing similar situations provide important value-adding contributions to overall learning. Ghana already feels it has benefited from hearing about Uganda's experiences of working in sensitive inland areas; it has carefully studied the environmental and other negative experiences of the Nigerian case; and a number of regional events has exposed it to experiences and concerns from other countries in Africa that are useful for its own learning and practices.

While Ghana has access to a number of regional contacts and networks, there is a felt need for support to strengthen and systematize various forms of regional exchanges. The informal groups that UN Environment creates on WhatsApp for the participants of its trainings under OfD have become popular: once staff from different countries understand the positions and experiences of each other, they feel comfortable discussing issues and asking advice. The experience with such "communities of practice" in larger organisations like the World Bank is very positive as it allows staff to interact with known peers. There are, however, costs involved in setting up and maintaining such groups, and if there is no hub that assumes these responsibilities they can easily die out.

One proposal is therefore that OfD could provide resources for more regional workshops and trainings, and for innovate small-scale regional networks. This would in part also allow Ghana to more effectively share its experiences and lessons with its neighbours – a role several countries are encouraging Ghana to take on.

This initiative would have to be something that is managed by the field and not from Oslo, so it would imply some reflections around the best way to structure it, and also what the results framework for such a programme might look like.

6.4.4 Building Capacity to Produce Capacity

The donor community typically over-invests in project-based capacity building and does not support the formal educational system to provide the necessary skills for the national labour market. As the Ghana petroleum sector expands, this issue becomes more urgent as it is likely that the competition for the highly skilled but relatively few staff in the public sector may lead to a number of them

changing careers. OfD may therefore be "training for failure": public officials are acquiring skills that are highly valued in the private sector and thus will be aggressively courted by actors that can offer much more attractive terms.

There is already some cooperation between Norway's University of Science and Technology (NTNU) and the Kwame Nkrumah University of Science and Technology (KNUST) in petroleum-related fields. Norway may consider a more structured set of twinnings, including South-South linkages, based on a medium-term perspective for the energy sector, not necessarily just petroleum. This may not have to be only within the OfD program as Norway has a tertiary-education support program that might be called upon.

Whether this will become a priority in a more expansive Norwegian programme is for Ghana to decide. Developing such a programme that could cover both sustainable energy and the petroleum sector could, however, make sense.

6.4.5 Strengthening Sector Governance

The petroleum sector is and will remain vulnerable to governance weaknesses. The economic rents generated in the sector will attract attempts at rent-grabbing; contracts are large and can be highly lucrative; jobs in companies and the public sector are attractive. The need for transparency in decision making and accountability for results will therefore only grow as the sector expands, and the need for strong and functioning systems and processes to underpin good governance performance is critical.

One usually distinguishes internal versus external accountability systems, sometimes referred to as horizontal versus vertical, respectively. The internal accountability system looks at how the various parts of the state – the executive, the judiciary and the legislature – play their assigned roles. While external assistance tends to support the executive, it is increasingly recognized that bodies like the Parliament, the supreme audit institution, the accountant-general's office, the investigative and prosecutorial services that can pursue economic malfeasance, are critical for a credible internal accountability system.

The external or vertical accountability refers to the extent to which the public sector is and can be held accountable to the citizenry. This requires free and fair media with resources to carry out evidence-based investigative journalism; civil society and other interest groups that have sufficient political space and own capacities to pursue and defend the interests and concerns of their constituencies; political parties that are able to play their role as mediators between citizenry and the political system.

OfD provides some support to civil society organizations that work to strengthen accountability, but the question is if this is done on a scale and with the systematicity required to strengthen the critical actors and systems for genuine accountability to be possible. While this is presumably a task that goes beyond the remit of OfD, Norway may consider a more comprehensive and coherent accountability program built around the petroleum sector. This could again lean on other parts of Norway's development cooperation, but if Ghana so requests a more careful analysis of where governance systems could benefit from external assistance may be very useful. Exactly what this would consist of and which parts could be covered under an OfD programme and which parts could draw on other dimensions of Norwegian assistance remains to be seen. Given the level of resources that Ghana hopes to generate from petroleum, building a credible and robust governance program for the sector may make a lot of sense.

6.4.6 Building the National Knowledge Base

As in many other emerging petroleum economies, the academic community and public knowledge centres are largely absent from the public discussion regarding the issues surrounding the sector. Linked to the possible capacity building through the twinning idea (see 6.4.4), Ghana and Norway may also discuss how the local academic community – professors, researchers, students – can become

active in producing evidence-based contributions to the public debate through academic studies, MSc theses and popular summaries of work done elsewhere. Such a program should encourage engineers, economists, sociologists, historians, natural scientists etc to get involved in a broad-based research effort to document and understand the opportunities and risks that the petroleum sector offers.

Norway is already engaged with the "Fridtjof Nansen" research vessel but has a number of other research programmes and initiatives that could also be applied in Ghana if the national authorities so wish. This would again presumably be a programme outside OfD, but that could be focused around and linked in with the OfD as Norway has a lot of experience researching the various dimensions of a large petroleum sector.

This could also be an area where the private sector and its resources could contribute, since it employs a large number of scientists and highly-educated staff who can make valuable contributions to the national conversation around oil and gas.

6.4.7 Linking Environment to Climate Change

One of Norway's core concerns in general is environmental degradation and climate change. One proposal made was that Norway and Ghana could extend the work done under the environment component to the larger climate change concerns.

This would again most likely have to come out of discussions between the two countries regarding what a possible expanded development cooperation programme is to support. The linkages between the environment concerns in the petroleum sector, and climate change more generally, is one that Norway might assist Ghana develop, and having this more holistic understanding might in fact help the petroleum sector become a more relevant partner in Ghana's efforts to address climate change.

6.5 Administration and Management

Norway's embassy in Ghana has seen its responsibilities expand over the last years. The Embassy now covers seven countries, including some in the Sahel, and thus is to track the complicated dynamics in the region. The number of Norwegian private companies engaged in Ghana and neighbouring countries has grown rapidly, also requiring Embassy attention. An expansion of the OfD, which is management intensive since it is largely technical assistance, may therefore pose staffing and internal capacity challenges. Norad/OfD and the Embassy may therefore consider various ways of addressing a possible growing OfD programme.

The starting point is that any increase in administration of a larger petroleum sector engagement will generally have to be handled in Accra. One thing is that the programme may include components that are not OfD funded. But the main issue is that most of the issues need to be handled on the ground, not least of all the liaison with the various national parties.

One approach is to add a petroleum sector manager in the Embassy, even transferring one post from the Oslo secretariat to the field. However, postings abroad are typically twice as expensive as in Oslo, so there is an important cost component to consider.

On the other hand, since most of the work will be administrative, there is no reason why this has to be handled by the Embassy. Several approaches can be considered.

One is setting up an external programme management unit, PMU, that is given the responsibility of handling funding (disbursements, accounting, audits), administrative tasks such as setting up meetings, organizing reviews, missions, ensuring that documentation is available on time, and following up routine tasks with national partners. The unit could be set up as an independent project with only an administrative budget, or it could be given some management responsibilities with funding for particular activities such as web-based platforms for regional networks. The task could then be put out to tender as a separate project. A further argument for such a model is that other

programmes under Norad's *Knowledge Bank*, such as Fish for Development and Tax for Development, are being considered or have been approved for Ghana. Like OfD, these are technical cooperation activities that are management and administration intensive, and it might make sense for such an external management unit to take on all such labour-intensive responsibilities.

DFID has structured its GOGIG support the way it organizes most of its programmes, as a fully-funded project that includes professional staff who handle some of the sector issues. This could include local trainings and advisory services, as some projects have very senior international experts on their rosters, normally on a part-time stand-by basis. The project would have a carefully designed results framework and close monitoring of performance by DFID against which it is measured, where companies bidding for the contract would have to document considerable experience and capacities to run such an undertaking.

6.6 Summing Up

Oil for Development and Norwegian support for strengthening petroleum governance in countries like Ghana is presumably by far the most cost-efficient development cooperation Norway finances.

When the local partners, such as in Ghana, have shown serious commitment and can document tangible results, Norway should build on success and assure sustainability and not walk away too soon. Capacity development is the most challenging and time intensive field of development cooperation: Norway cannot expect impact or sustainable results without a realistic time horizon for its collaboration. In the case of Ghana substantive steps have been taken – but Ghanaian management is concerned that some of the gains are vulnerable because there has not been sufficient time to institutionalize good practices based on acquired own experience. The dynamic of the sector that is constantly throwing up new issues also points to the classic dilemma of capacity building efforts: staff in post are to carry out their daily tasks; they are to acquire new skills and responsibilities; and – most time-consuming of all – need to learn to work in cross-sectoral teams to find the optimal solutions to difficult issues that require consideration of trade-offs.

In some sectors, like revenue management, core priorities have not even begun being addressed, such as cost control, transfer pricing, strengthening of tax compliance.

The bottom line is therefore that Norway and Ghana should consider taking a broader and more long-term perspective and see where and in what ways Norway can best assist Ghana develop an accountable and sustainable management of its petroleum resources, and if this is the right time to exit or instead to scale up the commitment to improved sector governance.

Annex A: Terms of Reference

Near-End Review of the Oil for Development Programme «Ghana Petroleum Cooperation» (GHA-2023)

1. Background

Since the discovery of the Jubilee oil field in 2007, Ghana's oil industry has advanced at at a steady pace despite the drop in oil prices. Three offshore projects have come onstream, and a maiden licence round for new fields was launched 15th October 2018. With gas now also onstream, the industry is expected to generate revenue, jobs and electricity. In addition, the Voltaian Basin, which cover 40% of Ghana's land mass is emerging as a promising site for onshore oil and gas production.

In October 2007, Ghana applied for assistance through the Norwegian Oil for Development (OfD) Programme. In February 2008, during Ghana's National Forum on Oil and Gas Development, a Memorandum of Understanding (MoU) was signed for long term cooperation within the OfD programme.

During the subsequent two and a half years, Norway assisted in the development of Ghana's petroleum policy and the master plan for the sector. It helped in the evaluation of the development plan and the agreement for the Jubilee Field, and Norway supported the Jubilee Environmental and Social Impact assessments. During this period, assistance was also provided for the development of petroleum legislation and the management of petroleum data.

While focus initially was on the petroleum resources, in 2009 environmental matters were added. Marine environmental surveys began with the "M/S Fridtjof Nansen" research vessel, a programme that continued through 2012.

During this period the more long-term collaboration was also designed, which was finally signed in the form of the first five-year programmes (phase 1):

In December 2010, Ghana and Norway signed two Programme Agreements under the Oil for Development programme: "Strengthening Resource Management in the Oil and Gas Sector in Ghana" (GHA-09/018) and "Strengthening Environmental Management in the Oil and Gas Sector in Ghana" (GHA-10/0010). The objectives were to strengthen resource and environmental management in the oil and gas sector in Ghana over the period 2010-2014 with budgets of NOK 50 million and NOK 40 million, respectively.

In 2014, the Norwegian Embassy in Accra contracted a combined mid-term and end review (an assessment of results so far produced), and a first appraisal of proposals for continued collaboration requested by the Government of Ghana (see Scanteam 2014).

In 2015, the current second phase of the Environment Management Programme started, with a financial frame of 21 mill NOK until end of 2019. Also in 2015, the second phase of the Resource Management Programme commenced with a financial frame of 31 million until end of 2019. The third component of the Ghana Oil for Development Programme, the Revenue Management Programme, was signed in March 2018, with a financial frame of 15 million NOK until end of 2020.

The current Ghana Oil for Development programme ("the Programme") thus consists of three agreements:

GHA-14/0008 **Ghana Environmental Management 2015-2019**, 21 mill NOK

GHA-14/0009 **Ghana Resource Management 2015-2019**, 31 mill NOK

GHA-10/0013 **Ghana Revenue Management 2018-2020**, 15 mill NOK

The Programme is managed by the Norwegian Embassy in Accra. Norad, as the Oil for Development Secretariat, has a coordinating role for the Norwegian institutions.

The Programme, except the Revenue Management component, will come to an end in December 2019.

The current agreements for the Resource Management Programme and for the Environment Management Programme (both dated 17 September 2015) include provisions for "a mid-term review and an end review focussing on progress to date and the effectiveness of the Programme, i.e the extent to which the Impact and Outcomes are being achieved". It has since been decided that these provisions shall be implemented as a "near-end review" during the fall of 2018.

The review will be a joint review between Ghana and Norway. In accordance with the Programme agreement, Norway, through the Royal Norwegian Embassy in Accra, shall be the contract partner for the selected Consultant.

2. Purpose and Objectives

Two of three agreements in the current programme are ending in 2019 which will mark 11 years of continued OfD-support to Ghana. The main purpose of this near-end review is therefore to assess the impact and results of the programmes's second phase (2015 to 2019), with a main focus on the resource management and environmental management components, and to consider sustainability and the need/appropriateness for continuing OfD support after 2019 (and 2020 for Revenue Management Agreement) in light of the Ghanaian government's vision of "Ghana beyond aid" and the Norwegian government's plan to include Ghana as a socalled "Partner Country". Against this background, the objectives are the following:

- Identify results achieved (impact) and experiences made in the two agreements since the inception in 2015.
- Identify and asses the present capacity and sustainability of the Ghanaian institutions.
- Consider the need for further OfD support and possible scope for such continued support.

3. Scope of Work

With a basis in the objectives above, the review should seek to address the following issues/questions in accordance with the OECD-DAC criteria for evaluation of development programmes:

a) Assess the **impact** of the Programme:

- What is the impact of the programme on the institutional framework of the partners in Ghana?
- Can any changes in how the involved Ghanaien institutions carry out their responsibilities be attributed to the Programme?
- To what extent has the Programme contributed to economically, socially and environmentally responsible management of petroleum resources i.e. increased revenue, more sustainable resource management, good governance, anti-corruption, transparency, and accountability in Ghana? Can any negative impact be attributed to the Programme?
- To what extent have other countries benefited from peer learning with neighbouring countries through the Programme?

b) Assess the **effectiveness** of the Programme:

- Has the current division of labour in the Programme, including financial streams between partners and corresponding budgetary responsibilities, been condusive and effective?
- How is the dialogue on technical and policy issues (capacity building) progressing, and to what extent do Ghanaien partners at working level feel the programme is benefitting Ghana in concrete terms?

- To what extent will the planned outcomes be achieved, and what are the main obstacles and success factors?
- Where are the results of the current Programme likely to have most impact and in which areas is no or little impact be expected?

c) Assess the **sustainability** of the results achieved and to be achieved, in particular with regard to sustainable capacity- and institution building in the target institutions.

- To what extent have the programme partners addressed sustainability and developed an exit strategy?
- What are the major factors that influence sustainability?
- Has the results framework in the Programme Document been appropriate for measuring results?

d) Assess the extent to which the Programme scope and the Norwegian experience and expertise have been **relevant** to meet the different needs of Ghana.

e) Assess the **efficiency** of the Programme, in particular an assessment of results achieved compared to resources invested.

- Has the contractual and administrative set up been condusive to efficiency?
- What measures are taken that contribute to good value-for-money?
- Could additional measures have been, or be taken to operate more cost efficiently?
- How is the efficiency for the use of local funds (environment component) and the funds managed from Norway in the Programme?

4. Implementation of the Review

The review shall be carried out through studies of available documentation, both general documents and project specific documents as listed in Annex 2. At the approval of the partner institutions, the Consultant may request additional information as perceived relevant in order to deliver on the requirements as specified in this ToR.

Interviews shall be conducted with relevant actors in Ghana and Norway in the implementing institutions, as well as other relevant stakeholders, including major exploration and production companies in Ghana and relevant civil society organisations.

Prior to commencement of interviews, the Consultant shall discuss and agree the list of institutions, organisations and companies with the Norwegian Embassy in Accra and the Program management representatives in Ghana.

The review shall be carried out in close cooperation with relevant authorities in Ghana and Norway. The Norwegian Embassy in Accra shall be the main point of contact.

5. Reporting Requirement and Time Frame

A draft final report in English of a maximum forty pages, including an executive summary (no more than four pages) of main findings, conclusions and recommendations shall be submitted to the Norwegian Embassy in Accra, no later than 4th March 2019. The Embassy will then forward the report to the Ghanaien partners.

Any comments to the draft final report shall be forwarded to the Consultant by 11th March 2019. The final report shall subsequently be submitted by 22nd March. The final report shall be submitted in 3 hardcopies as well as an electronic PDF version.

Annex B: Persons Spoken With

Ghana

Ministry of Finance

Mr. Joseph Sarpong, Senior Economics Officer

Mr. Erick Asuman, Economics Officer. Energy Oil and Gas

Mr. Eric Okumko. Economics Officer

Bank of Ghana (BoG)

Ms. Nana Aba Ashun, Head Petroleum Secretariat

Mr. Emmanuel Kwaku Asantey

Mr. Daniel Bedele

Mr. Bright Eklu

Ms. Lydia Apronti

Ministry of Energy

Mr. Kwesi Adusei-Baidoo, Director Energy

Ministry of Environment, Science, Technology and Innovation (MESTI)

Mr. Fredua Agyeman, Director of Environment

Mr. Kwamena Essilfie Quaison, Deputy Director, Head, Oil and Gas unit

Ms. Freda Atsem, Assistant Director, Oil and Gas unit

Mr. Peter Adagnine, Senior Development Planning Officer, Oil and Gas Unit

Petroleum Commission

Mr. Vincent Yankey Finanu, Finance

Mr. Kojo Kyerematay, Data Manager

Mr. Henry Mensa, Engineering

Mr. Kwasi Agyeman Manu Senya, Manager, Business Advisory & Enterprise Development

Energy Commission

Mr. Ismail Ackah, Local Content Coordinator, Petroleum Affairs Department

Environmental Protection Agency (EPA)

Mr. Kojo Agbenor-Efunam, Chief Programme Officer, Oil and Gas

Mr. Samuel Agbetsiafa, Principal Programme Officer, Offshore permitting and audits

Mr. Larry Kotoe, Senior Programme Officer, Onshore Oil Spill Contingency Planning and Legislation

Ghana Revenue Authority (GRA)

Ms. Boahene, Assistant Director Petroleum Tax Unit

Mr. Amishadai, Technical Officer

Ghana Statistical Service (GSS)

Mr. Francis Mensah,

Mr. Isaac Dadson,

Africa Regional Technical Assistance Center – Accra (AFRITAC West-2)

Mr. Oral H. Williams, Center Coordinator

Private Companies

Mr. Jan Helge Skogen, Country Manager, **Aker Energy**

Mr. Paul Twum-Barimah, Stakeholder engagement and Regulatory affairs Coordinator, **ENI**

Mr. Charles Kwarteng Antwi, Permitting officer, **ENI**

Mr. George Sarpong, Director, Corporate Affairs, **Kosmos Energy**

Mr. Pierre-Emmanuel Boulanger, Country manager, Ghana and Senegal, S**ubsea 7**

Civil Society Organisations

Mr. Benjamin Boakye, Executive Director, **Africa Centre for Energy Policy (ACEP)**

Mr. Samuel Bekoe, Technical Lead, accountability, **Ghana Oil and Gas for Inclusive Growth (GOGIG)**

Ms. Dela Quarshie-Twum, Regulatory Work Stream Leader, **GOGIG**

Ms. Nafi Chinery, Country Manager, Natural Resource Governance Institute, **Natural Resource Governance Institute (NRGI)**

Ms. Edna Osei, Economist, Ghana, Zambia, Tanzania governance and EITI issues, **NRGI**

Mr. Adams Fushenini, stakeholder coordinator, **NRGI**

Ms. Aisha Adam, Economist, revenue management and SOEs, **NRGI**

Mr. Francis Ayamga Agbere, Extractives Industry Programme and Campaign Manager, **Oxfam**

Mr. Guideon Ofosu-Reasah, **PenPlusBytes**

Ms. Marilyn Aniwa, Coordinator, **Public Interest and Accountability Committee (PIAC)**

Stakeholders met during visit to Keta

Mr. Francis M. K. Azorliadey, Journalist / CEO Respect Consult

Mr. Togloi James-Oesoo Y, Chief of Keta

Ms. Mama Torkomi, Chief II ("Queen of Keta")

Mr. Dan Sallah, Treasurer Keta Vegetable Farmers and Marketers Association

Mr. Abdul-Kareem Fuseini, Site Manager, Keta Lagoon Complex Ramsar Site

Mr. Solomon K. Kwawukume, Director, Centre for Natural Resources and Environmental Management (CNREM)

Mr. Torgbi Adaku V, Chief from Keta region, CNREM

Norwegian Embassy

Mr. Gunnar Andreas Holm, Ambassador

Mr. Øyvind Udland Johansen, Deputy Head of Mission

Mr. Stein Inge Nesvåg, Counsellor

Mr. Fredrick Pappoe, Advisor, Private Sector

Norway

Norad – Oil for Development

Mr. Trond Kvarsvik, Senior Advisor

Mr. Per Landberg, Senior Advisor

Mr. Svein Erik Heglund, Senior Advisor (retired)

Norwegian Petroleum Directorate

Mr. Svein Arne Svilosen, Senior Advisor

Norwegian Environment Agency

Ms. Kristin Eine, Senior Advisor

Ms. Anne-Grethe Kolstad, Senior Advisor

Oil Taxation Office

Ms. Ine Kristiansen

Norway's Statistical Bureau

Mr. Robin Choudhury