Initiative pour la Transparence dans les Industries Extractives du Sénégal

ACEP Africa Centre for Energy Policy

Catching the Early Worm

An educational document on lessons learned from oil and gas in Ghana, for the Senegal Extractive Industry Transparency Initiative

Citizens of oil and gas producing countries often expect to experience transformative effects from their country's resource wealth, within their very lives. Senegal is no exception as she prepares to join the league of oil and gas producers by 2021. For Senegal to make the most of its oil and gas, there is the need to put in place legal and institutional frameworks that promote international best practices. In doing so, Senegal has a good opportunity to learn from its near neighbor, Ghana, which has been producing oil and gas for the past seven years.

Ghana is one of the few African countries that have been recognized for setting good laws for its oil and gas industry. However, in practice the sector has not been exempt from cases of corruption, limited transparency and other challenges.

This brochure maps out key governance interventions Ghana has made to try and ensure the extraction of oil and gas translates into socio-economic development. It examines where these have been successful, and where there have been gaps or challenges that Senegal could learn from. Overall it shows that achieving good governance is a collective responsibility of all stakeholders, to link oil and gas policy to tangible development outcomes.

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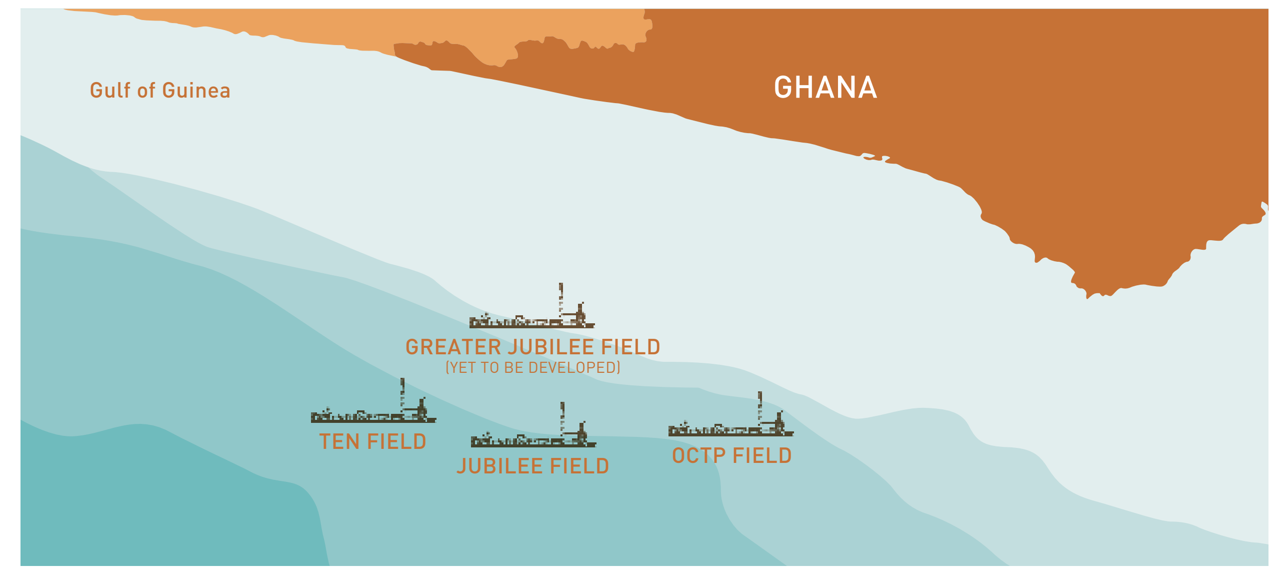
ACEP is an independent, African energy policy think tank based in Ghana. We work to influence energy-sector policies in Africa by providing professional analysis of energy policy, training, advisory services and policy advocacy for the efficient and transparent management of Africa's energy resources. This paper was developed independently.

Oil and Gas in Ghana

Ghana's first commercial oil discovery was made by Kosmos Energy in the West Cape Three Points in 2007. Subsequently that year, Tullow Oil made a discovery in the Deepwater Tano block. These were later unitized into the Jubilee Field which began commercial production in 2010. Today, there are three fields producing oil offshore Ghana: the Jubilee and TEN fields operated by Tullow Ghana Ltd., and the Offshore Cape Three Point (OCTP) Field, operated by Eni Ghana Exploration and Production Ltd.

Picture 1: GHANA'S OIL FIELDS



Source: Ghana Petroleum Commission

Since 2011 Ghana's oil revenues have become an important additional source of income. Oil became the second largest contributor to national exports in 2015; and as of mid-2017, Ghana had received almost US $4 billion as its share of oil production.

Since commercial production began, efforts have been made to ensure efficient and transparent management of the resources. These include the establishment of several laws and institutions governing decision-making and the use of oil and gas revenues. Important oversight institutions include the Public Interest and Accountability Committee (PIAC) and the Petroleum Commission. Whilst some progress has been made, the country's oil and gas industry has been fraught with some transparency and accountability challenges, particularly in contracting and revenue management.

Just like Senegal, Ghana enjoys a stable political and economic environment. Until the discovery of oil, agriculture was the mainstay of its economy. After the discoveries, Ghana was in a similar state as Senegal currently: big announcements by government on the prospects of oil and gas, high-level conferences to discuss how to maximize the benefits of oil, and high expectations of citizens. Unfortunately, the ordinary people were not carried along to moderate their expectations and be adequately informed about the true potential impact of oil and gas for the Ghanaian people, and the roles and responsibilities of different stakeholders. Over the years, Ghana has made strides to make its oil and gas resources relevant for sustainable development, but there remain some key constraints.

Ghana's Experiences and Lessons Learned

The opportunities, challenges, and lessons from Ghana's oil and gas industry are discussed in three areas:

1. **Oil and gas revenue management:** focusing on the legislative framework for contracting, revenue management, and transparency and accountability, and the role of oversight institutions such as the PIAC, the EITI and civil society.
2. **Local content:** including the legislative context and the practical experience of oil and gas investors in this area.
3. **Education and training on oil and gas:** focusing on how Ghanaian educational institutions responded to the opportunities presented by oil and gas in developing a Ghanaian workforce with the skills and specializations to participate in it.

OIL REVENUE MANAGEMENT

KEY POINTS

Ghana has developed a number of strong laws for its oil and gas sector – around contracting, revenue management, and the balance of spending vs. saving.

It also established innovative mechanisms for transparency and multi-stakeholder oversight of revenue management, by law.

But there are lessons to be learned from implementation of the laws in practice. There was fiscal irresponsibility and significant economic challenges when oil revenues fell lower than expected. The Ministry of Finance was also given some discretionary powers that left revenue management open to political pressure. Overall the government, companies and civil society all have a role to play in reporting on, monitoring or advocating around revenue management and must be empowered to fulfill these roles appropriately.

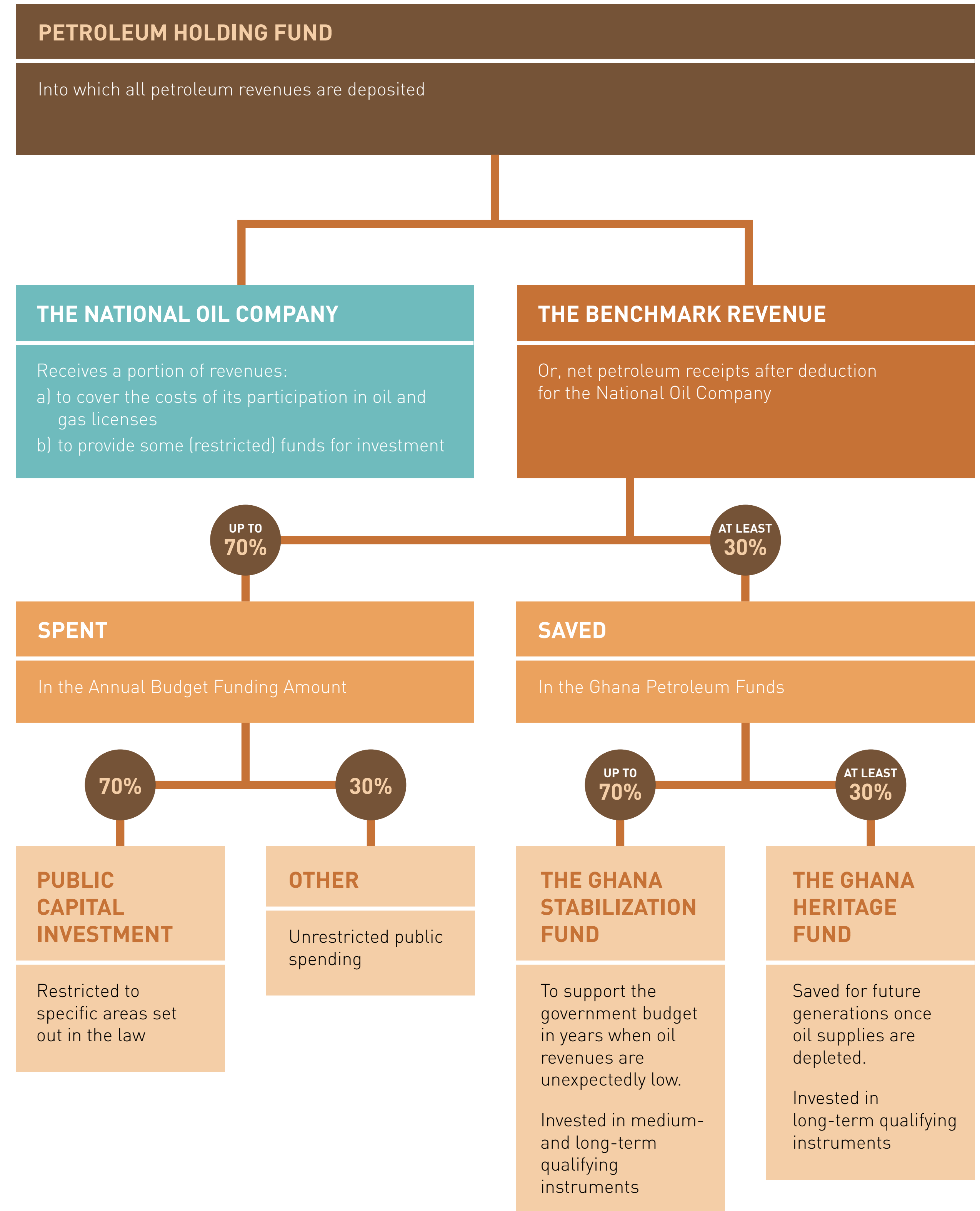
The Petroleum (Exploration and Production) Act, 2016 (Act 919)

Act 919 was passed in 2016 to replace the Petroleum (Exploration and Production) Act, 1984 (PNDCL 84), and ensure that the management of petroleum resources is done in accordance with international best practices. The new E&P Law aims to ensure safe, secure, sustainable and efficient petroleum activities which achieve optimal long-term petroleum resource exploitation and utilization for the benefit and welfare of the people of Ghana. Some of its key provisions include an open, transparent and competitive public tender process for the awarding of oil and gas contracts, and the publication of petroleum contracts in a petroleum register which will be available to the public. Revenues to the state are determined in petroleum contracts. Therefore the transparency provisions in the law has the potential to ensure that contracts are awarded based on merit to companies with technical and financial capacity rather than to politically aligned individuals and companies. In theory, the company that presents the best value through the bidding process wins the contract.

The Petroleum Revenue Management (amendment) Act, 2011 (Act 815)

The Petroleum Revenue Management Act (PRMA) was passed in 2011 to provide a framework for the collection, allocation and management of petroleum revenues. How this works is summarized in the diagram on the following page.

Figure 1: GHANA'S OIL REVENUE DISTRIBUTION FORMULA



Source: the Petroleum Revenue Management (amendment) Act, 2011 (Act 815)

As the diagram on the previous page shows, the PRMA stipulates the establishment of a Petroleum Holding Fund into which all petroleum revenues must be deposited.

A portion of those revenues is transferred to the national oil company, GNPC, to cover the costs associated with its participation in oil and gas projects (GNPC generally has a 10-15% stake in all licenses) and provide some funds for investment: an amount equivalent to up to 55% of the total value of GNPC's license interests.

The remaining balance is known as the Benchmark Revenue – or, net petroleum receipts after allocation to GNPC.

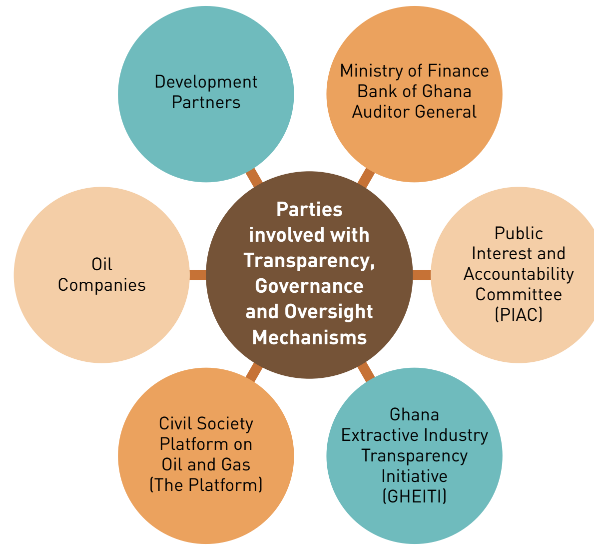
30% of the Benchmark Revenue must be saved: transferred to the Ghana Petroleum Funds (GPF), consisting of the Ghana Stabilization Fund (GSF) and the Ghana Heritage Fund (GHF).

- The GHF is to provide endowment for future generations when oil reserves have depleted. The fund has grown to about $240 million and has survived many political discussions about potentially spending the money.
- The GSF is meant to support the government budget in difficult years when government revenue expectation from oil is not met due to either low prices or lower than expected production, but as discussed below this fund has been less well-managed.

The 70% of the Benchmark Revenue that remains after these savings is to be spent by government in any given year: transferred to a consolidated account for budget spending known as the Annual Budget Funding Amount (ABFA).

70% of the ABFA must be spent on public capital investment, in specific areas that the PRMA prescribes. The Act provides a (non-exhaustive) list of priority areas to receive oil revenue investment and prescribes that the Ministry of Finance choose up to 4 sectors for investment every 3 years. The ABFA's objectives as spelt out in Section 21(2) of the PRMA are to maximize the rate of economic development, promote equality of economic opportunity with a view to ensure the well-being of citizens, undertake even and balanced development of the regions, and be guided by a medium-term expenditure framework aligned with a long-term national development plan approved by Parliament.

The remaining 30% of the ABFA can be spent at the Ministry of Finance's discretion.



Transparency, governance and oversight mechanisms

A number of mechanisms were put in place to oversee implementation of the PRMA and the transparent and accountable management of oil and gas revenues.

- Firstly, the **Ministry of Finance** is required by the PRMA to account for the receipt and expenditure of oil and gas revenues in two public reports: annual and reconciliation reports. The **Bank of Ghana** is also required to issue two semi-annual reports on the performance and activities of the Ghana Petroleum Funds (GHF and GSF). The **Auditor General** also has a responsibility to audit the utilization of the Petroleum Holding Fund. Government has over the years, provided relevant information through these institutions.
- In a particularly innovative move, the PRMA also established an independent, multi-stakeholder oversight body called the **Public Interest and Accountability Committee (PIAC)**, to provide additional revenue management oversight. The PIAC's members are drawn from 13 groups including faith-based organizations, trade unions, academia, the House of Chiefs, and the Association of Queen Mothers. The objectives and functions of PIAC are shown in Table 1 on the following page.

Table 1: SUMMARY OF OBJECTIVES AND FUNCTIONS OF PIAC

	OBJECTIVES	KEY FUNCTIONS
1	To monitor and evaluate compliance with the PRMA and use of petroleum revenues and investments as provided in the Act.	Consult widely on best practices relating to the management and use of petroleum revenues. Issue two reports every year, which must be published in two national daily newspapers and on their websites. Copies of the reports are also submitted to the President and Parliament. PIAC is also supposed to hold two public meetings on its mandate every year.
2	To provide a platform for the public to debate as to whether spending prospects and the management and use of revenues conform to development priorities (as provided for under section 21 (3) of the Act).	
3	To provide independent assessment on the management and use of petroleum revenues to assist parliament and the executive in the oversight and the performance of related functions respectively.[1]	

Source: the PRMA

- The **Ghana Extractive Industry Transparency Initiative (GHEITI)** provides further transparency around revenues. Ghana joined the EITI in 2003 and became compliant in 2011. The GHEITI has produced a number of reports that reconcile the payments companies report as having made to government around oil and gas licenses, with the payments the government reports as having received. The aim is to identify and account for any gaps in these two figures which could suggest revenue mismanagement. The reports also make important recommendations to government on management of the extractives sector.
- When oil was discovered, civil society organisations in Ghana formed a coalition called the **Civil Society Platform on Oil and Gas** (subsequently "The Platform") to present a unified voice for advocacy on the management of oil and gas resources. In 2011 the Platform led the advocacy for the establishment of PIAC in the PRMA. Today, The Platform represents more than 100 Non-Governmental Organizations working on oil and gas. ACEP for example (a member of the Platform), has led numerous technical policy engagements with government agencies on topics such as capacity building, petroleum contract analysis to support parliamentary debate on contracts, and the monitoring of oil revenue expenditures through value for money audits.[2] These have helped lead to more evidence-based debates and advocacy for a more efficient management of petroleum revenues. International NGOs such as Oxfam, the Natural Resource Governance Institute (NRGI), OSIWA and the Ford Foundation have played similar roles.
- The **oil companies** have also supported governance processes with access to information and technical capacity building for civil society, the media, and bodies such as the GHEITI. Kosmos and Tullow publish all payments to government at the project level, allowing civil society to demand accountability from government. Kosmos has also supported NGOs, the media and GHEITI with training on the basics of the oil and industry through its "101 Oil and Gas" program.
- Finally **development partners** such as the World Bank, DFID, GIZ, and NORAD have also supported capacity building for state institutions and civil society. A range of technical assistance has been received by the Ghana Revenue Authority, the Ministry of Finance, the Ministry of Energy, and the Ministry of Environment, Science and Technology to enable them effectively manage the oil and gas value chain. Development partners have also supported civil society organizations to encourage demand side accountability.

1 Read more at http://piacghana.org/faqs.php
2 Read more at http://www.acepghana.com/reports/

OPPORTUNITIES, CHALLENGES AND LESSONS LEARNED

Ghana's revenue management laws and oversight mechanisms have provided opportunities for improved oil revenue transparency over the years. However, there have been implementation challenges and some important lessons to learn.

	OPPORTUNITIES	CHALLENGES	LESSON
Contracting			
1	The E&P law provides an opportunity for Ghana to award oil blocks to well-qualified companies, requiring an open and competitive bidding process. This reduces the risk of awarding oil blocks to politically connected individuals.	The E&P law also provides unregulated discretionary power to the Minister of Energy to issue licenses through direct negotiation, where it determines this is most efficient. It can be important to maintain this flexibility but equally it can also be abused by a Minister not committed to transparency.	There should be clear regulations on the use of the Minister's discretionary powers in the contract awarding process. An open tender process is also not the only factor in ensuring blocks are attributed to serious, qualified companies; the level of competition and attractiveness of the country for oil and gas investment are of course also key considerations.
Revenue Management			
1	The PRMA has clearly defined formulae for balancing oil revenue spending with saving – allowing important savings for future generations and to support the budget when oil prices are low or production declines in a particular year.	The Ministry of Finance struggled with the formulae for the first three years and prioritized spending over saving. The PRMA had to be amended in 2015 to ensure the Heritage Fund also received money. But the minister can still cap the Stabilization Fund at its discretion. This has made the fund almost useless as the minister sets a low cap and channels excess revenue into debt servicing.	Ghana became fiscally irresponsible on the back of oil revenue with huge borrowings until the economy begun to fail when oil prices dropped. The country had to turn to IMF to provide fiscal support and credibility for the economy. This would have been avoidable if the government had been disciplined to stay within its means and saved enough in the Stabilization Fund to support the budget in difficult times.
2	The PRMA provides a non-exhaustive list of priority areas to receive oil revenue investment and prescribes that the Minister of Finance prioritize up to four sectors every three years. The intention is to allow focused investments to ensure that selected, priority sectors receive enough financing for accelerated development.	Although the Ministry of Finance had been prioritizing four sectors in the budget between 2011 and 2016, the scope of the priority areas always exceeded those prescribed by the PRMA. This is because the Minister has unregulated discretionary power to do so. Consequently, oil revenues were spread thinly over many projects leading to little or no visible impact on intended beneficiaries.	There should be clear regulations on the use of discretionary powers in the selection of priority areas for oil revenue investment. Also, civil society must develop capacity to monitor how the government interprets the law, as well as to demand proper oversight by parliament. Selection and execution of oil-funded projects should be guided by a long-term development plan, feasibility studies, and a public investment management plan.

	OPPORTUNITIES	CHALLENGES	LESSON
3	The PRMA requires the Minister of Finance to provide updates on how oil and gas revenues are spent. This affords citizens and civil society the opportunity to track government's investment of oil and gas revenues.	Some civil society organizations who have been tracking oil-funded projects, including ACEP, have encountered difficulty in locating projects that have been reported by the Ministry of Finance as having received support from oil revenues. Some projects have also been poorly executed, raising oil revenue use concerns.	Before oil revenues are disbursed, the Ministry of Finance should publish the list of projects that are earmarked to receive support. This will enable citizens and civil society to better track revenue disbursement and project implementation as originally intended.
Transparency And Oversight			
1	The PRMA compels the Ministry of Finance to publish revenue data. This makes information available to citizens on how oil and gas revenues are collected and spent.	The data is complex for the ordinary person to appreciate and use. Moreover it is published in newspapers and on the Ministry's website, while many Ghanaians do not buy newspapers or have internet access.	Revenue data should be presented in a simplified format, in local languages and through media that reach a large and diverse citizen audience, e.g. radio and television discussions.
2	Well-regulated companies like Kosmos and Tullow operate in Ghana. These companies publish payments to government either voluntarily or in fulfilment of transparency standards such as EU Directives and Stock Exchange rules. This helps citizens to compare the government's reporting on revenues with that of the companies.	From 2013-16, a number of oil contracts were awarded to small companies who do not subscribe to transparency standards or are not obliged to disclose payments to government.	If not otherwise required by law, subscription to transparency standards should be a fundamental requirement to qualify a company for an oil contract, and/or be an obligation in Production Sharing Contracts.
3	The PRMA establishes PIAC to ensure independent oversight of revenue use.	PIAC struggled to function in its early years because the Ministry of Finance did not provide enough funding for the committee to play its role effectively. This challenge was resolved in 2015 by legislating the source of funding for PIAC in the amended PRMA.	When CSOs were pushing for PIAC to be established, they forgot to identify funding for the committee as a priority and left it to the discretion of the Minister of Finance, which PIAC is supposed to monitor. Senegal will have to ensure that any independent oversight body is established with defined sources of funds for its operations.

Source: ACEP, 2017

LOCAL CONTENT

KEY POINTS

Ghana introduced a legal framework to try and encourage local content in oil and gas, but the regulation has had mixed results in practice.

Companies have made significant progress towards increasing the proportion of Ghanaian employees and the use of local goods and services. But to some extent it can be questioned whether legislation helped achieve these results or whether, being good business sense, the companies would have made progress anyway. Meanwhile the laws have had some unintended side effects.

The key lesson is to begin a robust conversation with industry early on about the shared goal of how best to achieve local content objectives – whether through legislation or other, joint initiatives.

Ghana introduced a legal framework to try and encourage local content in the oil and gas sector: the Petroleum Local Content and Local Participation Regulations, 2013 (LI 2204), which came into force in February 2014. It is the guiding document on inclusion of a Ghanaian workforce and Ghanaian businesses in the petroleum sector for value addition and retention. As with Ghana's revenue management laws however, what may have appeared good practice on paper has been more challenging and had mixed results in practice.

The legislative context: local content opportunities in the L.I. 2204

L.I. 2204 makes provision for the participation of Ghanaians and local businesses at various stages of the oil and gas value chain. Key provisions include that:

- A non-indigenous company providing goods or services to the oil sector must enter into a joint venture with local companies that must have a total equity participation of at least 10% in the case of upstream contracts or 5% in the case of midstream.
- Preference must be given to Ghanaian companies in the procurement of goods and services, with a 10% price advantage.
- The Petroleum Commission must approve any sole-source justifications for the procurement of goods and services above $100,000.
- Companies must submit an employment and training plan to the Petroleum Commission detailing the timeframe within which Ghanaians can be employed at each phase of the petroleum activity, and progress made for the accelerated training of Ghanaians. They must also submit a succession plan for any position occupied by a non-Ghanaian.
- Only Ghanaians shall be employed in junior and mid-level positions.

The regulations expect that by 2018, at least 50% of goods and services should be sourced locally, while the recruitment of local management and core technical staff should reach 50%-60% of the total oil and gas workforce.

Achievements

Some key achievements in these areas are summarized on the following page.

Examples Of Achievements

Succession planning and employment	1. At the end of 2015, the total number of people employed in the upstream sector was estimated at 7,000: 5,660 Ghanaians (representing 80% of the total), and 1,340 expatriates (20%) (SONA, 2016, p 20). (Although following the oil price fall these numbers are sure to have decreased somewhat.) 2. Both Kosmos and Tullow now have Ghanaians managing their Ghana offices in fulfillment of their local content commitments. Kosmos' staff in Ghana is 100% Ghanaian. 3. All 140 unskilled and semi-skilled employees at the OCTP Onshore Gas Receiving Facility in Sanzule were sourced from local project-affected communities (De Simone, 2016).
Local sourcing	1. In 2016, the Jubilee/TEN field Partners (including Tullow and Kosmos) awarded $489 million worth of contracts to Ghanaian companies – companies with at least 51% Ghanaian equity ownership – (representing 35% of the total value of contracts awarded), compared to $249 million in 2015, and $152 million in 2014, showing real progress. 2. Of the $6.3 billion spent in developing the OCTP Field about $1.76 billion worth (28%) of contracts were awarded to Ghanaian companies (again, companies with at least 51% Ghanaian equity ownership). Overall around 250 indigenous companies benefitted from these contracts.

A number of companies have also invested in social projects designed to benefit local communities and other stakeholders in Ghana.

1. Kosmos Energy constructed a $2 million water treatment, storage and pumping plant at Bayin in Ellembelle to provide potable drinking water to six communities around Atuabo (Kosmos Energy, 2015).
2. Kosmos established "Kosmos Innovation Center (KIC)" program in 2016 to facilitate the creation and growth of Ghanaian-owned and youth-run businesses. The program supports the generation of innovative ideas and the use of technology across sectors to catalyze development in the country.
3. Sri Emas (an indigenous Ghanaian company) constructed a $300,000 road bridge connecting the farming communities of Adubrim to the cocoa growing areas of Ellembelle in the Western Region.

Water treatment, pumping and storage plant constructed by Kosmos Energy.

Challenges

But despite some encouraging results, there have been challenges in implementation of the local content legislation.

1. The 5% and 10% local participation requirement does not necessarily lead to capacity building or technology transfer for local companies. In addition, the requirement can lead to 'fronting' where Ghanaian businesses misrepresent themselves as partners to help foreign companies satisfy local participation requirements, in exchange for some compensation.

2. Local companies have limited financial capacity and cannot participate in high-value contracts. This is compounded by the high cost of borrowing in Ghana. The New E&P law establishes a local content fund aimed at supporting local companies and skills development. There is the need for government to set up transparent and robust measures to vet companies that receive loans to avoid abuse of the fund.

3. The Petroleum Commission does not undertake effective monitoring of upstream petroleum activities to ensure compliance with L.I. 2204. The regulations set targets with timelines and benchmarks, but the Petroleum Commission has failed to monitor progress against these. This has also allowed less scrupulous companies to violate the law without appropriate penalties.

4. There has been recurrent local labor agitation on the Jubilee fields for improved salaries, which government and the companies have not been able to deal with comprehensively. The workers complain of wage discrimination compared to their foreign counterparts.

5. Ghana's Petroleum Agreements grant import tax waivers to international operators and their sub-contractors, provided the equipment is re-exported, installed or used up. Ghanaian companies do not enjoy the same benefits, driving up the price of Ghanaian goods and services compared to foreign companies. High corporate taxes also erode the profits of Ghanaian companies leaving them with little to invest in their business.

Key lessons learned

1. To some extent it can be questioned whether legislation helped achieve the local content results that have been seen, or whether, being good business sense, companies would have made this progress in the use of Ghanaian labor and supply companies anyway. In the meantime the laws have had some unintended negative side effects. A robust, realistic conversation with industry must begin early on how best to achieve local content objectives – whether through legislation or other, joint initiatives.

2. To ensure adequate financing for local participation, Senegal may set up a local content fund, provided it is managed transparently by a local content committee. The fund can also be invested in financial instruments to make returns. The fund must be well-governed to ensure it does not become a source of patronage.

3. Senegal should make provisions in its legal framework to address the issue of wage disparity among locals and foreigners in the oil and gas industry.

4. Senegal should institute an effective implementation and monitoring mechanism for the attainment of her local content objectives.

CAPACITY BUILDING, EDUCATION AND TRAINING

KEY POINTS

The commencement of commercial oil production in Ghana was met with excitement and high expectations for job opportunities, and knowledge and skills acquisition in the industry. Many tertiary education institutions began rolling out courses in petroleum engineering, oil and gas management, and other topics. In addition, most of the oil companies have their own training programs to build local content.

In practice, a number of the initiatives were not based on a realistic understanding of industry needs; there was poor coordination between the various institutions interested in offering courses; and there have been some sustainability challenges.

Opportunities

Some of the opportunities around capacity building, education and training in Ghana include:

1. The Jubilee Technical Training Centre (JTTC), established by the Jubilee partners[3] in partnership with the Takoradi Polytechnic to provide competency-based instrumentation, mechanical, electrical and process vocational courses to support oil and gas and other industries.[4]

2. The Enterprise Development Centre (EDC), set up by the Jubilee Partners to help train budding local companies in the business and management practices required to be competitive in the oil industry.

3. The GNPC Oil and Gas Learning Foundation, which provides scholarships in oil and gas and related fields of study, and supports and develops the capacity of oil and gas-related institutions. This was done with $3 million seed capital. About 16 individuals were beneficiaries in the first year. The foundation in 2017 has said that it will focus on supporting local institutions to train the youth rather than sending them abroad.

4. Scholarships from the oil companies such as Tullow, for Ghanaians to study in oil and gas related fields.

5. The World Bank's US $38 million Gas and Oil Capacity Building Project to strengthen local technical skills in Ghana's oil and gas sector. The project aims to promote institutional development and sector management, as well as education and skills development. It includes diverse support to the Ministry of Petroleum, the Environmental Protection Agency (EPA), the Extractive Industries Transparency Initiative (EITI) secretariat, vocational training schools, and tertiary education institutions.

3 Tullow Oil, Kosmos Energy, Ghana National Petroleum Corporation, Anadarko Petroleum Corporation, and PetroSA
4 See http://www.cwcghana.com/wp-content/uploads/2013/04/3.-matthew.-cwc_cbt-presentation.pdf

Challenges

1. There is no data from Petroleum Commission on the skills gap in the oil and gas industry. This has resulted in the misuse of resources for capacity building and for Ghanaians to study oil and gas courses that were not necessarily based in an understanding of the industry's hiring needs. Between 2012 and 2014, improper coordination of scholarships resulted in over 400 Ghanaians taking up bursaries to study oil and gas management courses whilst in reality the industry had no capacity to absorb them all. This has further worsened the unemployment situation as many of such graduates are still unemployed.
2. The training Centers such as JTTC and EDC are facing funding challenges after they were handed over to government, though it was known from the start that the Jubilee Partners would set it up, support it for 5 years and then hand it over.
3. The existing local training institutions need government's support to provide the necessary skills for the oil industry. Government scholarships in oil and gas supported trainings abroad at a very high cost, when – had they thought the idea through and taken a more sustainable approach – they could have retooled local universities to deliver the training and be more sustainable.

Key lessons learned

1. Countries should follow a needs-based approach to oil and gas capacity building and education and training. They should gather robust, realistic data on the likely demand for labor in the oil and gas industry and the skills gap – and design education and training projects to fill that gap. A key risk is creating a large number of graduates who are then unable to find jobs: the oil and gas industry is notoriously capital intensive and does not itself create a large number of direct jobs.
2. Senegal's upstream oil and gas regulatory agency should collaborate with local universities and education institutions to develop competency-based training modules that address the specific needs of the industry.

The Jubilee Technical Training Centre (JTTC), in partnership with Takoradi polytechnic, offers mechanical, electrical, instrumentation training to the workforce needed to operate and sustain Ghana's oil and gas industry.

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ACEP

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