
Final Report

15 February 2018
**ACRONYMS:**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AfDB</td>
<td>African Development Bank</td>
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<tr>
<td>AIPN</td>
<td>Association of International Petroleum Negotiators</td>
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<tr>
<td>BOPD</td>
<td>Barrel of oil per day</td>
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<td>EAC</td>
<td>East African Community</td>
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<td>EAPCE</td>
<td>East African Petroleum Conference and Exhibition</td>
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<td>EIA</td>
<td>Energy Information Administration</td>
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<td>FEED</td>
<td>Front End Engineering and Design</td>
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<td>IOC</td>
<td>International Oil Company</td>
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<td>KEPTAP</td>
<td>Kenya Petroleum Technical Assistance Project</td>
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<td>MPSA</td>
<td>Model Production Sharing Agreement</td>
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<td>NOCK</td>
<td>National Oil Corporation of Kenya</td>
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<tr>
<td>PDO</td>
<td>Plan for Development and Operation</td>
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<td>PSA</td>
<td>Production Sharing Agreement</td>
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<td>PAU</td>
<td>Petroleum Authority of Uganda</td>
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<tr>
<td>PURA</td>
<td>Petroleum Upstream Regulatory Authority (Tanzania)</td>
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<tr>
<td>SEA</td>
<td>Strategic Environmental Assessment</td>
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<tr>
<td>TcF</td>
<td>Trillion cubic feet</td>
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<td>TPDC</td>
<td>Tanzania Petroleum Development Corporation</td>
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<td>WTO</td>
<td>World Trade Organization</td>
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<tr>
<td>ZPDC</td>
<td>Zanzibar Petroleum Development Company</td>
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<tr>
<td>ZPRA</td>
<td>Zanzibar Petroleum (Upstream) Regulatory Authority</td>
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0. Executive Summary

The East African Community with their present member states Burundi, Kenya, Rwanda, South Sudan, Tanzania and Uganda are moving towards their target vision of forming an East African federation. As important steps on the way, the East African Community has established the Customs Union and the Common Market.

The issue of harmonisation of policies and frameworks is recognised as a pillar in the development of East African Community and is clearly reflected in the EAC Treaty. This is also valid for the petroleum sector, and the Treaty includes explicit statements on the adoption of common policies for joint fossil exploration and exploitation in the region.

The process of harmonising the institutional and legal framework of the petroleum sector within the East African Community is an essential measure to stimulate the integration process. As such, it is also closely aligned with the strategic priorities of the African Development Bank where one of the Bank’s “High 5” development priorities is to “integrate Africa”.

The first oil production from the region started in 1998 from Sudan, and the first gas production came from the Songo Songo field in Tanzania in 2004. The latest round of petroleum exploration within the East African Community member states has seen major onshore oil discoveries in Uganda and Kenya and giant offshore gas accumulations in Tanzania. There have also been major offshore gas discoveries in the EAC neighbour country Mozambique. East Africa is now widely presented as one of the emerging hydrocarbon provinces of the 21st Century.

Energy is a key pillar and ‘enabler’ of the East African Community Vision 2050. The type, level and intensity of commercial energy use in the region is a key indicator of the degree of economic growth and development. There are however, major differences between the Community’s member countries concerning the use of energy including oil and gas. The per capita consumption of petroleum products in Kenya, for example, is 14 times higher than it is in Burundi. There are also large variations concerning the hydrocarbon resource potential. This will put constraints on the degree of institutional and legal framework harmonisation that is feasible within the Community.

Despite these challenges, a harmonisation process can produce substantial benefits. Firstly, harmonisation of frameworks can potentially make operational processes more effective and efficient. Secondly, it could also improve the perception of the region as a stable and predictable area for investments. Finally, harmonisation will underpin the institutional and political process of developing the Community.

The petroleum value chain may serve as a useful tool to identify the most prudent areas for framework harmonisation. It will identify the key decision gates and the milestones where regulative interaction between the government and industry is most important from the perspective of value creation.

The reconnaissance part of the value chain stipulates different terms and conditions for the industry to receive a permit or license. In addition, the framework should provide for commercial acquisition of reconnaissance data. The area could benefit from harmonisation.

Both competitive licensing processes and direct awards have been applied to select companies for production sharing agreements. The difference in resource potential may justify that different approaches be followed. Good governance principles however, strongly suggest that the licensing should be based on transparency and competitive bidding.
The pre-qualification process stands out as an obvious process for common standards and simplified procedures. Hence, the validity of accepted qualifications of a company should be valid for all East African Community countries. Differences should be made in requirements between onshore and offshore and between roles as operator and participant.

 Decommissioning presently suffers from a lack of common understanding of the project life cycle. It is important that the plans for disposal and future use of petroleum facilities be considered when preparing the development plan. The decommissioning fund needs to be established with this reference, but should be revised when a decommissioning plan is prepared to secure adequate funding.

 The realisation of the value of the petroleum resources within East African Community critically depends on the development of adequate infrastructure. Hence, the process on harmonisation of land acquisition should aim at securing proper corridors to allow for the development of additional oil and gas pipelines in the future. Such corridors will also be important to secure downstream supply of petroleum products. Extension of present product lines are facing substantial challenging due to exorbitant cost of acquiring right of way.

 The downstream area is largely a deregulated and well working commercial sub-sector. The EAC region has done well in harmonisation of petroleum product standards.

 There is a common expectation among the East African Community member states that the development of petroleum resources should generate employment and additional economic benefits in the member country. However, it will be challenging to achieve compliance between the existing frameworks stipulating conditions for the development of national content and the principles and approved protocols for the EAC common market.

 The Community member countries in general use production sharing agreements to govern the commercial relationships with the oil companies. Hence, the key fiscal elements used are also similar. There are differences however, concerning which elements are negotiable. Although international best practices in general recommend that profit oil be shared based on profitability, production-based sharing of profit oil is still used by some countries.

 The institutional structures for governance of the petroleum sector in the East African Community have moved towards a separation of functional responsibilities and established separate institutions as sector regulators. This is a welcomed development in compliance with good governance principles. In addition, the establishment or reform of national oil companies to become organisations to focus upon the government’s commercial interests is also in compliance with best practices.

 There are still some principal differences concerning the institutional structures and responsibilities that may constitute challenges to the East African Community integration and harmonisation process. This includes the exclusive position on petroleum rights granted to the national oil companies in Tanzania (Tanzania Petroleum Development Corporation and Zanzibar Petroleum Development Company). There are also differences in the level of independence of the new regulators. Furthermore, the policy responsibility for the petroleum sector is not always vested in the ministry.

 It is essential that a harmonisation process be integrated with a communications strategy. The East African Petroleum Conference and Exhibition will serve as an important venue to present the status on harmonisation to the industry. Annual EAC meetings to review the work programs would be useful and could provide opportunities for member countries to present and update their harmonisation
status. The internet will be the best vehicle to disseminate current information and a new EAC petroleum sector portal can be an effective approach to present stakeholders with updated information.

1. Project background; strategic alignment

The East African Community (EAC) was established in 2000. Its current membership is made up of six countries: Burundi, Kenya, Rwanda, South Sudan, Tanzania and Uganda. These Partner States are moving towards their target vision of forming an East African federation. Important steps in this process are the Customs Union, the Common Market and the Monetary Union.

From the inception of the Community, the utilisation of natural resources has been regarded as an essential and common concern. The East African Community Treaty thus stipulates that the Partner States agree to foster cooperation to promote efficient management and sustainable utilisation of these resources. To achieve this, Article 114.2.c(v) of the Treaty stipulates that the Partner States agree “to adopt common policies to ensure joint fossil exploration and exploitation along the coast and rift valley”.

Although the East African Community membership relates to the six countries mentioned above, in terms of oil and gas issues, the special position of Zanzibar also needs to be reflected. During the process of revising the Constitution of Tanzania, agreement was reached that the oil and gas resources should no longer be a union matter. Zanzibar is presently developing its legal and institutional framework to manage its future petroleum resources.

East Africa has for several decades, been recognised as a highly prospective region for hydrocarbon resources. The inception of exploration efforts can be traced back to the 1920s. The first gas discovery, Songo Songo in Tanzania, was made in 1974 and the first oil discovery in South Sudan in 1978. However, it was clearly the exploration success in Lake Albert in Uganda from 2006 that served as a game changer and positioned East Africa as one of the key emerging hydrocarbon provinces of the 21st century. This position has been further strengthened through the recent oil discoveries in Kenya and the giant gas accumulations offshore Tanzania. Major offshore gas discoveries have also been made in the EAC neighbour Mozambique.

The importance of the petroleum sector for the development of the East African Community is well recognised. There is also a common understanding of the necessity of strong regional cooperation to realise the value of the oil and gas resources, which commonly also will have a cross-border perspective. To achieve this, it will be essential for the Community to harmonise frameworks to strengthen further integration.

Several arguments can be raised to support the benefits of harmonising the institutional and legal frameworks between the East African Community member states. This report will discuss these in more detail. There are broadly three categories. Firstly, a harmonisation of frameworks will have a potential of moving through the petroleum value chain more effectively and efficiently, increasing the net revenue from the petroleum sector for the Community’s member states. Secondly, harmonisation may improve the perception of the region as a stable and predictable area for investments. This could
result in more investments on better terms. Finally, harmonisation will underpin the institutional and political process of regional integration in the East African Community.

2. Scope of the Project

The East African Community is currently preparing an energy master plan for the region. The oil and gas sector constitutes an important part of this plan. Renewable energy and energy efficiency are other main areas to be addressed. In preparing the plan, the Community has recognised the importance of harmonising the policies and legal frameworks of the petroleum sector. Against this background, the East African Community has approached the African Development Bank to receive technical assistance on this process.

The key objective of the project is to contribute to the harmonisation process and to enhance the understanding of the potential impact. The initial intention of the project was to review the complete petroleum value chain covering both the upstream, midstream and downstream parts. During the course of preparing the inception report for the project and subsequently during the mission to East African Community member countries however, it became evident that it was not feasible to conduct a full analysis of all parts of the value chain within the timeframe at hand and the resources available for the project.

An important reason is that only a few of the countries have developed a separate framework addressing the midstream and downstream areas. In the absence of a separate framework, an analysis would have to review all the laws and regulations that may have a bearing on governing this part of the sector. This is too comprehensive a task to be carried out as a part of the original scope of the project.

In addition, no pertinent challenges related to this part of the value chain were raised in deliberations with the institutions involved in the petroleum sector during visits to East African Community member states. This is probably a logical consequence of the status of the sector’s development within the Community. It reflects the fact that the midstream and downstream part of the value chain are still in the initial planning phases and supported by limited operational experiences.

A decision was therefore made to carry out the project with focus on the upstream part of the value chain where most countries have a comprehensive policy and regulative framework and where they already have made significant experiences. However, some issues related to the midstream area are discussed. This relates in particular to cross-border projects and third-party access to infrastructure.

It should also be emphasised that this report is intended to serve as an initial review of the pertinent framework to identify key areas where harmonisation appears to be feasible. The aim is thus primarily to bring forward issues for policy dialogue that feeds into the harmonisation process.

Policy and legal framework

As pointed out above, there are significant differences between the EAC member states concerning how far the development of policies and legal frameworks for the petroleum sector has come. The general lack of petroleum laws covering the midstream and downstream part of the petroleum value chain is the main reason for the upstream focus of this report.
Most countries in the Community have a petroleum policy in place. The focus and scope of these policies however, are rather different. Some of the EAC member states have incorporated the petroleum policy as a part of a broader energy policy. These energy policies in general have more focus on the goals and development of the energy mix and the cross-cutting issues that are relevant for the energy sector. Hence, the key strategic issues along the petroleum value chain is commonly not given particular attention. In the cases where a dedicated petroleum policy has been developed, the policy is generally providing more clarity for the directions to be followed at the decision gates in the value chain. In the case of an energy policy, policy elements for the petroleum sub-sector commonly have to be identified in the petroleum laws.

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<tr>
<th>Country</th>
<th>Policy</th>
<th>Petroleum Law</th>
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<td>Kenya</td>
<td>• National Oil and Gas Policy for Uganda – October 2008</td>
<td>• The Petroleum (Exploration, Development and Production) Act 2013</td>
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<td>• The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act 2013 (26 July 2013)</td>
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<td>• The Petroleum Supply Act, 2003 (20 October 2003)</td>
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<td>South Sudan</td>
<td>• Petroleum Policy - 2013</td>
<td>• The Petroleum Act - 2012</td>
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<tr>
<td>Rwanda</td>
<td>• National Upstream Petroleum Policy Rwanda – (April 2013)</td>
<td>• Law governing Petroleum Exploration and Production Activities, 13/2016 (2 May 2016)</td>
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<tr>
<td>Burundi</td>
<td></td>
<td>• Code minier et pétrolier de la République du Burundi, 1/138 (17 July 1976)</td>
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It is also an observation that the high-level petroleum policy goals are very similar. These may for example include statements reflecting that the petroleum resources should be managed and utilized in a manner that benefits the entire society as well as similar broad goals where there are no diverging opinions between the countries. The differences in policy are not prominent before the lower levels of the policy hierarchy are considered. These differences however, will commonly not be found in the policy documents, but have to be identified in the petroleum laws. Due to these differences in policy scope, an independent harmonisation process of the approved policies will hardly be a workable approach. The petroleum laws are therefore used as the primary basis for analysis and recommendations for harmonisation.

The East African Community member states have some different traditions concerning the numbering of paragraphs in the laws. Hence, the term used in most cases are “Section” while Rwanda and Burundi use “Article” in their numbering. The MPSAs however, typically use “Article” rather than “Section”. In this report, the terms are used in line with the system in each of the EAC countries.
Some of the countries have more than one law relating to the petroleum sector. This report however, has its focus on the upstream part of the petroleum value chain, and it is in general the upstream law that is the reference in the analysis. To the extent no further reference is provided in the text, the use of “Article” and “Section” refers to these upstream petroleum laws.

3. The strategic context for policy harmonisation in the EAC

The African Development Bank (AfDB) has a Ten Year Strategy for the decade 2013–2022. It reflects the aspirations of the entire African continent and is firmly rooted in a deep understanding and experience of how far Africa has come in the last decade, and where it wishes to go to in the future.

The goal of the Strategy is to support Africa’s ambitions to be a stable, integrated and prosperous continent with competitive, diversified and growing economies participating fully in global trade and investment. Building on the Strategy, a new agenda reflecting 5 development priorities for the AfDB, “The High 5”, was developed by the current AfDB President, Dr. Akinwunmi Adesina. One of these priorities is to “Integrate Africa”. The Strategy says that Africa needs to integrate—to draw on its human resources more effectively, to consolidate its internal markets and to make resource use more efficient through regional approaches. Further, it is stated that fostering cooperation within trans-boundary basins will support growth, peace and stability.

AfDB’s new Regional Integration Policy and Strategy 2014-2023 is being used in operationalising the Ten year Strategy. In addition, the latest Eastern Africa Regional Integration Strategy paper has a focus on Regional Setting for East African Integration process.

In this perspective, the request from EAC and their initiative on harmonising the institutional and legal framework within the petroleum sector is closely aligned with the priority development priorities of the AfDB.

The vision of the East African Community is to eventually establish a political federation. This is also reflected in the EAC Treaty that was signed in 1999. Important milestones have been reached in this process including the Customs Union that was signed in 2004 and took full effect from 2010, signing the protocol for the Common Market in 2009, which entered into force in 2010 and agreeing on the EAC Monetary Union in 2013.

The foundation for the development of EAC rests on key objectives reflected in the EAC Treaty stating that this is to develop policies and programs aimed at widening and deepening cooperation among the Partner States. To achieve this the availability and use of energy is recognised as essential and the EAC energy sector program states:

“Energy is essential in the running of daily domestic activities and operation of industry. Availability of sufficient, reliable and affordable energy is crucial for the functioning of the economies of the EAC Partner States. As a service and productive sector, energy plays a catalytic role in stimulating investments and higher levels of productivity. Development of the energy sector covering both renewable and non-renewable energy sources is aimed at facilitating the broader EAC objectives of attracting investments, competitiveness and trade for mutual benefit.”

Energy is also supporting one of the key pillars of the EAC Vision 2050 and is regarded as one of the important infrastructure ‘enablers’ of this vision. The type, level and intensity of commercial energy
use in the region is a key indicator of the degree of economic growth and development. The objective of the energy sector development for Vision 2050 will be to ensure sustainable, adequate, affordable, competitive, secure and reliable supply of energy to meet regional needs at the least cost, while protecting and conserving the environment. The region will emphasise access, capacity, efficiency and sustainability of energy.

The countries in the East African Community still has a highly traditional energy mix. Hence, a dominant part of the primary energy consumption is generated through biomass. The share of biomass ranges from 68% in Kenya to 94% in Burundi. The utilisation of biomass is in particular dominant in rural areas where the access for the population to electricity from the grid is largely non-existent. The abundant use of biomass represents a major challenge for the environment through a substantial deforestation.

![Figure 1: Primary energy consumption within the East African Community. Source: energypedia](https://www.eac.int/energy/fossil-fuels/25-sector/energy)

The oil and gas discoveries made during the last decade within East African Community represent substantial values. Provided that these discoveries can be developed by applying prudent principles of managing petroleum resources and revenues and with due concern for safety and the environment, major sustainable benefits for the people of the member countries can be developed. At the same time, it will enhance the potential for increasing the regions’ self-sufficiency of petroleum products that will meet key objectives of the Vision 2050.

To realise the hydrocarbon potential the development of an optimized distribution network will be essential. EAC has identified the following proposed oil and gas pipeline projects as their priorities to facilitate efficient, safe and environmentally friendly distribution of the petroleum products:

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1. [https://www.eac.int/energy/fossil-fuels/25-sector/energy](https://www.eac.int/energy/fossil-fuels/25-sector/energy)
1. **East African crude oil pipeline**: Export pipeline to transport crude oil from the Albertine Graben to the Indian Ocean. A network of crude oil pipelines will transport crude oil from the oil fields to the planned Hoima refinery. A petroleum products pipeline from the Hoima refinery to Kampala will facilitate delivery to the market.

2. **Upgrading Kenya’s existing petroleum products pipeline**: An existing pipeline system runs from Mombasa port to Eldoret and Kisumu in Western Kenya. The upgrade project covers construction of a new pipeline from Mombasa to Nairobi and between Sinendat and Kisumu as capacity enhancement for the Eldoret depot.

3. **Kenya - Uganda - Rwanda - Burundi petroleum products pipeline**: The project sections include Eldoret (Kenya) - Kampala (Uganda), Kampala – Kigali (Rwanda) and Kigali - Bujumbura (Burundi).

4. **Uganda - Tanzania petroleum products pipeline**: A petroleum products pipeline is planned between Mbarara (Uganda) to Mwanza, Isaka and Dar es Salaam (Tanzania). The planned pipeline system from Kampala (Uganda) to Kigali (Rwanda) and Bujumbura (Burundi) will create a major depot in Mbarara (Uganda).

**Previous initiatives for framework harmonisation**

Initiatives for harmonisation have been taken previously in East African Community. Apparently, a series of meetings in this respect took place in 2007. At that stage only Uganda had made significant discoveries, and the urgency for harmonisation was probably not recognised. Unfortunately, it has not been possible to identify minutes from these meetings.

At its 11th extraordinary meeting held on 28 April 2013, the Summit of EAC Heads of State observed the need for partner states to use the recently discovered oil and gas resources for the benefit of the people of East Africa. In an effort to implement this directive the Secretary General of the EAC was directed to convene a multi-sectoral special meeting to provide a forum for partner states to share experiences and agree on best practices in the management of the hydrocarbon resources discovered in the region. The meeting took place in Nairobi 29-30 October 2014. The meeting identified a series of areas where harmonisation would be viable. The intention was for these recommendations to be further considered at a following minister-level meeting. There is however, no evidence that this meeting took place.

4. **Petroleum Sector in the EAC; historic development, resources, production, investments**

Oil exploration in the East Africa region actually commenced almost a century ago as reported by E.J.Wayland who documents identified seeps around the shores of Uganda’s Lake Albert in the early 1920’s. The first deep well, Waki-1, was drilled in the same basin in 1938 and verified that the

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2 EAC Secretariat: Report of the Permanent Secretaries from “Multi-sectoral Meeting on Oil and Gas to share Experiences in accordance with the Summit Directive”, October 2014

3 E.J.Wayland: Petroleum in Uganda (Geological Survey of Uganda Memoir 1), 1926
conditions for a viable petroleum system were present. The East Africa region was considered highly prospective by the world’s leading oil companies in the mid-20th century, but lack of success, among other reasons, saw interest fall away in the 1970s, revived in the 1980s and then fall almost to zero during the last decade of the century.

The Songo Songo gas field in Tanzania was discovered in 1974, but was not considered commercial at the time and first came on stream 30 years later. The first discoveries in Sudan (now South Sudan) was made in 1978, but also these fields had to wait almost two decades before production started.

The increase in oil prices after year 2000 created increased interest for exploration in East Africa. While several of the wells drilled in this wave of renewed interest were unsuccessful, the Mputa-1 drilled by Hardman Resources in the Lake Albert region in 2006 changed the picture. This was the start of an unparalleled exploration success with discovery rate exceeding 85% and presently estimated recoverable reserves of 1.7 billion bbl.

The oil in Uganda was discovered within the East African rift system. The eastern branch of this structural feature can also be recognized in Kenya. The Loperot-1 well was drilled by Shell in the Lake Turkana area in 1992. A minor accumulation of oil was discovered, but was not considered commercial. Building on the knowledge from the Lake Albert discoveries however, Tullow Oil started a new exploration campaign in 2012 and made a discovery with Ngamia-1 well. This has been followed up by a number of additional positive wells giving rise to a present reserve estimate of 750 million bbl.

Starting in 2010 exploration efforts in the deep offshore basins of Tanzania have resulted in discoveries of large quantities of natural gas in Blocks 1 and 4 by British Gas (BG) and Block 2 by Statoil. The operatorship of Block 1 and 4 was in February 2016 taken over by Shell (60%) with partners Ophir Energy (20%) and Pavilion Energy (20%). In Block 2 Statoil has an interest of 65% as operator with ExxonMobil as partner and 35% interest. The discoveries have increased the total estimated gas initially in place (GIIP) in Tanzania basins from 8 Tcf in 2005 to more than 55 Tcf today.

The development of petroleum resources in South Sudan has been greatly affected by long periods of unrest and civil war. Several fields were discovered, but moving into a development and production phase proved to be challenging also due to the sanctions imposed by the international society. It was not until 1997 that a pipeline northwards through Sudan to the Red Sea was completed and the first production of crude oil commenced. The fields that are still producing are believed to have remaining reserves of about 1 billion bbl.
Currently, South Sudan is the only country within the East African Community with oil production. The production from the South Sudan geographical area peaked in 2009 with close to 400,000 bbls as a daily rate (see figure 2). Following independence in 2011, the dispute with Sudan caused the production to be closed down. When production finally was resumed, the unrest within South Sudan made it difficult to build the production to previous levels, and South Sudan is presently producing about 150,000 bbl/day. This is significantly below estimated capacity. South Sudan is determined to increase the production and has targeted 290,000 bbl/day for the fiscal year 2018/19.

Tanzania is also among the world’s gas producers with production from the Songo Songo field starting in 2004 (see figure 3). The gas is being used for electricity generation, for industrial purposes, in commercial institutions and in a number of households in Dar-es-Salaam. Production of gas at Mnazi Bay gas field started in 2006 and is utilised to produce electricity.

Zanzibar has no discoveries. Wells drilled onshore more than 50 years ago had signs of oil and gas, but were not tested.

Rwanda has established an unconventional gas production scheme, extracting methane gas from the water column of Lake Kivu. The gas is presently used for industrial purposes and electricity generation. The total gas resources in the lake can be substantial and have been estimated at almost 2 Tcf.

Burundi has so far made no hydrocarbon discoveries. The potential is confined to the Rusizi Basin and Lake Tanganyika in the western part of the country. The geological setting as a part of the prospective East African Rift system and oil seeps on the Congolese side serve as positive arguments.

There is still substantial prospective acreage both onshore and offshore within the EAC region that has not been explored. Additional oil and gas volumes will be added to the resource account in the coming years. The discoveries in both Uganda, Kenya and Tanzania are considered commercially viable and will be developed. This calls for major infrastructure developments within EAC, where a close cooperation between member states are required for this development to be effectively and efficiently optimized.
The infrastructure development includes a new proposed refinery in Uganda with an estimated initial capacity of 60,000 bbl/day that could be developed in two trains of 30,000 bbl/day. Complementary to the refinery it has been decided to construct a crude oil pipeline with an end-point in Tanga port in Tanzania.

The final discussions on the development solution for the deep-water gas is ongoing in Tanzania with the construction of LNG facilities for the export to international markets.

In Kenya, the front-end engineering and design (FEED) phase for the upstream development is likely to commence in 2018. An agreement for the transport of early oil production has been signed. Recently, a “Joint Development Study Agreement” between Tullow Oil and the Government for the export pipeline was signed, strengthening the probability of the Turkana-Lamu alternative.

The six EAC member countries are very different in most dimensions with colossal variations in size, geography and geology. The situation concerning potential petroleum resources and future production is also very varied among the countries. The consumption of petroleum products will also show major differences in response to the size of the population and the structure and development of the various sectors in each country. Hence, Kenya consumes 60 times more petroleum products than Burundi. The differences are less pronounced if the consumption per capita is compared, but Kenya still consumes two times the level of Tanzania and almost 14 times the consumption in Burundi (see figure 4).

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East Africa is a growing market and the consumption of petroleum products has increased more than 70% over the last decade (see figure 5). This is in response both to a growing population and to the economic development that requires an increased use of energy. At the same time, efforts are made to use energy more efficiently also in response to the global initiatives to limit the emission of greenhouse gases. Still, the increase in the use of petroleum products is likely to continue. This also underlines the importance of the internal EAC market for the future petroleum strategy that will have a strong bearing on the infrastructure development.
5. The Petroleum Value Chain; processes and decision gates

The petroleum value chain may serve as a helpful tool when the institutional and legal framework is reviewed. In principal, the value chain is based on the process view of organizations and expresses a set of activities that a firm operating in an industry performs to deliver valuable products or services for the market. However, although the intention is to serve as a decision support tool for companies to formulate their competitive strategies, it will at the same time be a guiding tool for governments to determine where to have their focus. Further, it identifies where their regulative interaction is most critical to optimize the value creation from the perspective of the nation.

The industry will progress into a new phase of the value chain after passing a decision gate. These decision gates will also be major milestones of interaction between the industry and the government.

*Figure 5  Consumption of petroleum products in EAC, bbl/d. Source: EIA*

It is easy to envisage that the processes leading up to these milestones will also benefit from a harmonised framework. This will facilitate the situation for the industry, as they will meet similar requirements in different countries. Governments will in the same way benefit from sharing experiences and making processes more effective and efficient.

While the value chain will express the complete process from the initial reconnaissance activities in the search for oil and gas to the end user of petroleum products, the government influence and control is strongest in the initial phases. Hence, the licensing process calls for particular attention where the foundation for the long-term development is laid down. Further out in the value chain the operational situation will put constraints on the room for maneuvering.
The value chain has its focus on the operational phases. There will however, also be a series of cross-cutting activities that are of key importance from the government perspective. This will for example include Health, Safety, Security, and Environment (HSSE) to ensure that the sector development never will be at the expense of the safety of people and the environment. Good Governance is another major cross-cutting issue that affects the whole value chain. The lack of implementation of Good Governance principles has resulted in other large sub-Saharan oil producers being unable to translate substantial petroleum resources into sustainable growth and development and there is little if any benefit to the nation and its population at large from the exploitation of petroleum. Social consequences is also representing an important cross-cutting aspect and a continuous social assessment process is required to reflect the different cultural background of the people involved and their different understanding of inter-country projects.

6. Analyses of policy and legal frameworks

As pointed out previously the commitment towards adopting a common framework for the petroleum sector was agreed to when the EAC Treaty was signed in 1999. Initiatives have been taken previously, but it has probably taken time for the petroleum sector to gain enough momentum for the issue to achieve a prominent position on the agenda.

It should be observed that there already is some degree of harmonisation between the countries when it comes to the legal framework. There is a clear tendency that established frameworks that are considered to reflect prudent international practices are copied when a new framework should be prepared. Hence, many sections have a large degree of similar wording in the frameworks within the EAC.

Still, it should also be recognised that the differences between the member states are substantial and that this certainly represents a key challenge when it comes to harmonisation. These major variations however, represent a challenge for the integration process in all sectors and are believed to constitute aspects that have been extensively discussed within the EAC from its inception. Still, there are
fundamental differences in the petroleum sector in particular when it comes to the resource potential. This will have impact on how the investors will evaluate the opportunities and the strategy they will follow. This may suggest variations concerning both the scope and depth of the framework and governance mechanisms.

Another logical consequence of the variations of the geological promise between the countries is their current overall institutional capacity. These capacities will grow in response to the sector activity and resource potential. The wide difference observed today will represent a challenge for the harmonisation process.

6.1 Petroleum rights

The East African Community member states have different legal systems partly based on the common law or the civil law and blended with customary law. The common law reflects different principles concerning the ownership of natural resources, and as it applies in the US gives the rights to the petroleum subsurface onshore to the owner of the land above.

Despite the difference in legal systems and traditions, all the EAC countries are clearly stating that all petroleum resources both onshore and offshore are vested in the Government on behalf of the people of the country. This gives the member states an important common platform to develop harmonised principles for petroleum resource management based on international best practices. This common ground will also serve as a basis for strengthening the focus on environmental and safety aspects.

The same articles in the law will normally state the principle that no petroleum activities shall be conducted without a license or agreement granted in accordance with the national petroleum act.

6.2 Opening areas for petroleum activities

Petroleum activities may have major consequences for a society. This is a result of the nature of operation as well as the revenues that will be generated. Petroleum operations on land will commonly give rise to conflicts with indigenous groups, as it will require the use of land and possibly resettlement of displaced people. The extraction of oil and gas also embodies environmental risks of oil spills and other accidents that are harmful to the work force and the local community. Offshore petroleum operations will have less potential of bringing up conflicts with the indigenous groups, but may imply a more severe environmental risk.

The revenues arising from the production of oil and gas are crucial in particular in societies with a small national economy. If not properly managed the extraction of oil and gas may have a substantial negative impact on other sectors and the society.

On this basis, it is considered a prudent approach to conduct a thorough assessment of all consequences prior to opening an area for petroleum activity. This is commonly referred to as a Strategic Environmental Assessment (SEA). The SEA should be a comprehensive assessment where the environmental impact is evaluated together with the social and economic consequences. An important aspect of the SEA is that it should be an open and inclusive process where all stakeholders should be allowed ample opportunities to convey their viewpoints and adequate measures taken to address the identified adverse social and environmental impacts of petroleum activities.
While the SEA process is a responsibility of the Government and carried out before the investors are invited, the IOCs will still review the opening process in a political risk perspective. A thorough and open process will enhance the comfort of the oil companies as the probability of future conflicts is mitigated.

The EAC Treaty repeatedly underlines the principle of good governance as a core value of the organisation. Further, the protection of the environment is emphasised. To conduct an SEA with a public hearing will be in-line with these requirements, and the countries that have not reflected this process in the law are recommended to issue regulations to stipulate the principles.

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uganda</td>
<td>An SEA should be carried out prior to opening an area for petroleum activities and stakeholder comments within 90 days are invited. The mandate to open an area is vested in the Minister (Section 47).</td>
</tr>
<tr>
<td>Tanzania</td>
<td>An SEA should be conducted and public comments are to be submitted within 60 days. The decision to open an area will be made by the Minister, but requires the approval of the Cabinet (Section 33).</td>
</tr>
<tr>
<td>South Sudan</td>
<td>An SEA should be conducted before starting petroleum activities in an area. The general requirement for public consultation is stipulated. The decision is vested in the Council (Section 15 &amp; 59).</td>
</tr>
<tr>
<td>Kenya</td>
<td>There are no provisions in the Petroleum Bill stating requirements to the process of opening areas for petroleum activities. It is stipulated however, that the Cabinet Secretary may make regulations with respect to the opening of areas (Section 119). General provisions concerning the requirements are also stipulated in the environmental act and its regulations.</td>
</tr>
<tr>
<td>Rwanda</td>
<td>No requirements to an opening process is stipulated in the Act. The organic law 04/2005 however, states basic requirements for all industrial projects to conduct an EIA.</td>
</tr>
<tr>
<td>Burundi</td>
<td>No requirements to the opening process is stipulated.</td>
</tr>
<tr>
<td>Zanzibar</td>
<td>An SEA should be carried out and public comments may be submitted within 30 days. The decision to open an area will be made by the Minister upon the approval of Zanzibar Revolutionary Council (Section 34).</td>
</tr>
</tbody>
</table>
6.3 Reconnaissance

Reconnaissance is commonly a term used for the initial exploration phase after an area has been opened up for activity, but before a licensing round is conducted and any exploration license is awarded. The term is not commonly defined, but refers to an initial data acquisition period.

The main type of data in question is seismic, but other geophysical data as well as geochemical data may be included. While it was common some years ago for the IOCs to acquire their own reconnaissance data, it is today much more common that data will be acquired by service companies on a commercial basis. It is important that the regulations of this phase accommodate both alternatives.

The granting of rights for reconnaissance is named both a “reconnaissance permit” and a “reconnaissance license”. The normal use of the words implies that a license is associated with qualifications and gives a general right to conduct activity. The permit is more commonly linked to a specific activity. Reconnaissance projects are typically somewhere in the middle where the scope of the activity is basis for the application, but where the specific project may be defined at a later stage. Hence, these two terms can co-exist.

A reconnaissance permit/license is normally issued on a non-exclusive basis and is not subject to any competitive process. If the company is found to be qualified to carry out the project, the rights should
normally be granted. As pointed out however, data prior to licensing is today commonly carried out on a multi-client basis. This primarily relates to marine seismic data. A seismic contractor will in this case conduct the acquisition and processing of the data and license the data to oil companies considering applying for acreage. An essential condition for such an arrangement to take place is that the seismic company is granted exclusive rights for these data in the survey area. Granting an exclusive license for reconnaissance seismic should be based on a competitive process.

<table>
<thead>
<tr>
<th>Country</th>
<th>Legal Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Uganda</strong>:</td>
<td>The Petroleum Act stipulates that the reconnaissance permit should be non-exclusive (Section 48). Apparently, there are no provisions that can accommodate the acquisition of pre-license data on a commercial basis.</td>
</tr>
<tr>
<td><strong>Tanzania</strong>:</td>
<td>The Petroleum Act stipulates that the reconnaissance permit in principle is non-exclusive (Section 34). It is at discretion of the Regulator to issue the permit and it is assumed that the required exclusivity can be granted in an agreement with the data contractor.</td>
</tr>
<tr>
<td><strong>South Sudan</strong>:</td>
<td>The Petroleum Act stipulate the principle of the reconnaissance license to grant a non-exclusive right for data acquisition (Section 17.2). Still the act prescribes that these rights should be granted based on a competitive tender process (Section 17.1). The act also has a provision covering the situation for commercial data acquisition and recognizes that the principle for granting such rights should be an open, transparent and competitive public tendering process (Section 17.3).</td>
</tr>
<tr>
<td><strong>Kenya</strong>:</td>
<td>The principle of non-exclusive exploration permits is stipulated in the petroleum act (Section 49). It is further stated that the Cabinet Secretary may provide further regulations with respect of terms and conditions for such permits (Section 119).</td>
</tr>
<tr>
<td><strong>Rwanda</strong>:</td>
<td>No specific provisions are stipulated for reconnaissance activities.</td>
</tr>
<tr>
<td><strong>Burundi</strong>:</td>
<td>No provisions concerning reconnaissance activities are described.</td>
</tr>
<tr>
<td><strong>Zanzibar</strong>:</td>
<td>Zanzibar has provisions similar to Tanzania on this issue (Section 35).</td>
</tr>
</tbody>
</table>

Some of existing laws are not clear as to whether an exclusive reconnaissance permit can be granted. It is recommended that this be subject to harmonisation to establish similar conditions for multi-client data acquisition.
6.4 Exploration phase

One of the most important decisions of a Government for the petroleum sector development is the licensing process. At this decision gate, fundamental choices for the development over the next decades are made. Due to the significant strategic implications and the major values of the resources involved, it is essential that the process is associated with the best principles of good governance. It is widely recognized with reference to international practices and within the EAC that the licensing regime should be open and transparent with companies selected based on a competitive tendering process. This will preserve the integrity of the licensing regime and ensure that qualified companies are awarded petroleum rights with a potential of maximising the revenues to the nation as a whole.

It is also essential to recognise that countries will be facing a competition in attracting investments for the exploration phase, and there is globally always more opportunities offered to the industry than the risk capital available. The differences between the countries have to be taken into account when a harmonisation process is discussed. Hence, harmonisation should also imply balancing these differences to reduce the basis for internal competition. Overall, the harmonisation should imply that the whole EAC is perceived as more attractive for the risk capital.

**Licensing process**

Although the principle of a competitive process is regarded as important, it should still be recognised that in order for a competition to be feasible, the commercial resource potential or what is commonly named the “geological promise”, must be of a certain magnitude that can generate enough interests in the industry. Participating in a competitive licensing process will imply an investment of risk capital and resources by the IOC, and if the potential is considered limited, this competitive approach may be found unattractive.

In this situation, the alternative of an “open-door-policy” and direct negotiations with IOCs may be a viable alternative. A decision for direct negotiations should be a result of an open evaluation process where this approach comes as a recommendation based on a well-prepared analysis of the market conditions.

While it can be firmly argued that the principle of conducting an open and transparent competitive process follows from key principles of good governance, the different positions of the countries still have to be recognized. To conduct a competitive process requires that there is interest in the industry at a level that warrants such a process to be conducted. It is still recommended that the framework should stipulate that a competitive process should have been attempted before direct negotiations can take place. It should still be pointed out that the commercial interest of the industry is also largely a function of the preparations made by the Government. It should normally not be an acceptable reason for direct negotiations that an area is without an adequate coverage or quality of data.
Harmonisation of Petroleum Policies, Legal, Regulatory and Institutional Frameworks in EAC

Petroleum Agreements – basic terms

The different acts point out the requirement that petroleum operations can only be carried out if an agreement is in place. The EAC member countries keep to a various degree the door open to choose different types of agreement, but it is predominantly the “Production Sharing Agreement” (PSA) that has been used so far. These agreements are all based on the principle that the ownership of the oil and gas in the subsurface is vested in the Government. It is first when the oil and gas is produced that the volumes are shared and an agreed portion is transferred to the company to cover cost and required profit.
Uganda: The formal rights to conduct exploration is given through a petroleum exploration license. This license gives the exclusive right and obligation to conduct exploration activities in the defined area in accordance with the agreed work commitment. The license will be in force for 2 years and may be renewed two times, each time for a period not exceeding two years (Section 61).

The holder of a petroleum exploration license in case a discovery of petroleum is made, has the exclusive right to apply for the grant of a petroleum production license over any block in the area where a reservoir has been demonstrated (Section 69). The duration of the petroleum production license should not exceed 20 years, but may be renewed for 2 additional periods of 5 years (Section 80 (6) and (7)).

Tanzania: Formally, it is the National Oil Company that will apply for any petroleum exploration license. The exploration license will be valid for an initial period of 4 years, and may be extended with 3 years in a first extension period and up to 2 years for a second extension period (Section 57).

The holder of an exploration license may within certain deadlines, make applications for development license for blocks containing oil, gas or both (Section 66). The development license will be valid for a period not to exceed 25 years and may be extended for a period up to 20 years and to be determined based on optimized recovery of the petroleum (Section 73).

South Sudan: The petroleum agreement will grant the oil company an exclusive right to explore for petroleum and also to develop and produce the petroleum if a commercial discovery is made (Section 19 (1)). The petroleum agreement provides for an exploration period of maximum 6 years, including a first commitment period of up to 2 years and two optional commitment periods (Section 26 (1), (2)).

The duration of the petroleum agreement should be max 25 years and may be extended up to 10 years if necessary to secure optimal production (Section 25 (1), (2)).

Kenya: The Petroleum Bill is silent concerning the duration of the petroleum agreement. The model agreement however, stipulates a scheme with an initial exploration period followed by the option of two extension periods. The model agreement have no statements on the duration of these three periods. The Petroleum Bill however, gives the Cabinet Secretary a general mandate to issue regulations which includes the terms and conditions of the petroleum agreements (Section 119).

Rwanda: The rights for exploration is granted and is valid for 3 years (Article 9). The exploration license may be renewed for 3 years and for a second time not exceeding 2 years (Article 10).

If hydrocarbons are encountered, the holder of the exploration license is given the priority to apply for a production license before the exploration license expires (Article 19). The production license will be valid for 25 years (Article 24) and may be extended for an additional non-renewable period of 10 years (Article 25).

Burundi: An exploration Permit H (Article 15) will give the right to conduct exploration for petroleum for initial period of 3 years which can be renewed for two additional periods, each of 3 years (Article 52).

If a commercial discovery is made, the permit holder should immediately apply for a concession which is needed to conduct development work (Article 55). The duration of the concession is up to 25 years, but can be renewed twice for 10 years (Article 86).
The agreements are in principle similar, as they will provide the framework for how exploration, development and production should be carried out. There are however, also several differences concerning terminology and conditions for the different phases.

There are no rational reasons why the basic terms of the petroleum agreements including the duration of the different phases, should be different between the EAC countries. Hence, a harmonised structure is recommended based on a 3+2+2 year exploration scheme and 25 year duration of the production license. It should be emphasized however, that the exploration maturity and data coverage of a potential license area can vary and the validity of each period should reflect this situation. Hence, each exploration period should be “up-to” and may be shorter if the status of the area suggests this. Further, various challenges may be encountered in a license during the exploration and production phases. The framework should allow separate terms to be negotiated in such situations.

**Pre-qualification**

There are general statements in the frameworks underlining the requirement that any company entering into an agreement with the Government for petroleum operations should have the necessary technical and financial capacity to implement the agreed work program. The review and evaluation of the experience and competences can be done as an integrated part of reviewing the license application, or it may be done as a separate pre-qualification process. A pre-qualification process normally is a good way of organising the process for both the Government and the companies. Companies that do not have the required capacity will not waste resources on preparing a complete application document and the Government will conduct a more time efficient and focused evaluation of viable applications.

The pre-qualification of companies should be an obvious area where harmonisation between the EAC countries has substantial merits. The required capacity of an oil company should be the same for the type of area regardless of country. It will be most logical to make a differentiation between onshore and offshore. It can be considered if an additional differentiation between shallow and deep offshore also should be made.

There are commonly more than one company in a petroleum agreement. One of the companies will be the operator and the others having participating roles. The required capacity of an operator should obviously be more stringent than for a participant. Hence, a qualification system should allow a company to qualify as operator or only as a participant.

It should be further reviewed if the qualification process should be carried out by a separate body established by EAC or if the process should be made by each country, but that being qualified in one country also would imply that the company also was qualified in the rest of the EAC. The qualification validity period as well as the process of renewal has to be decided. Any qualified company will have an obligation to report any changes concerning its capacity that can have any bearing on its qualification status.

**Coordination of work programs**

It is clear that coordination of the activities in the work programs in the different PSAs across borders will be an advantage. This is particular concerning the drilling activities and the mobilisation of drilling rigs and other equipment for these operations. It should also be a target to identify spare materials
and equipment that can be utilised for upcoming petroleum activities within the region and avoid unnecessary waste.

It may be expected that the international companies will take the necessary initiatives in this respect, but the active participation of the host countries may also be required. It should be noted that the larger oil companies often focus on a geological “play” rather than a country. The East African Rift system (Uganda, Kenya) is an example.

It is recommended that regular joint meetings for all license holders are arranged where the plan for upcoming activities can be reviewed. These meetings will logically take place under the auspices of the East African Community.

6.5 Development phase

Unitisation

It is common that geology and the sub-surface does not comply with the surface graticulation and resulting license boundaries. Hence, accumulation of oil and gas may cross license boundaries and in some cases national borders. Developing and producing such reservoirs following the “rule of capture” will in general mean improper reservoir management and a lower recovery of reserves than could have been achieved.
The different frameworks clearly recognise the need for unitisation of accumulations crossing license borders in order to achieve an effective and efficient development of the petroleum resources. The possibility of accumulations crossing national borders has also been identified. No details are provided however, on how the unitisation process should be conducted and methods to be followed. This should be developed and harmonised. This in particular relates to the methods to determine tract participation. Further, it will be beneficial to develop standardised pre-unitisation and unitisation agreements. It may be efficient to consider standardised agreements available from AIPN (Association of International Petroleum Negotiators).

**Infrastructure development**

The on-going cross border infrastructure projects have revealed that harmonisation on issues related to these projects is required. One aspect is the environmental requirements where the principles...
reflected in the different national frameworks differ. As it is not possible to regulate a project using different frameworks, a harmonisation process is necessary.

Apparently, there are also challenges concerning the movement of workforces across the borders. The Common Market of EAC that has been in force since 2010 and as a bearing principle the free movement of goods, services, capital and workforce. Hence, it is surprising that major challenges associated with these principles still occurs. Apparently, the implementation of the EAC Common Market still has a distance to go.

The acquisition of land is a challenge for all infrastructure projects, but for African countries in particular where property rights are not fully secured. The formal legal title to land is only established to a limited degree and a large part of the land is still under customary tenure. The status on ownership structure will vary between the countries and so will the principles for compensation. This will obviously represent a difficult area to harmonise. When the acquisition of land is going on however, it is recommended that this be done according to a comprehensive master plan where any future additional requirements associated with gas development or product transportation is taken into account and that an adequate corridor is established to meet present and future needs.

**Access to infrastructure**

It is important for an effective and efficient development of the petroleum sector that the principle of third party access to infrastructure is secured and implemented with a common understanding. Most of the petroleum acts clearly reflects the “Third Part Access Right”. This both relates to production facilities and transportation systems. The framework is less clear on the principles that will apply. The Uganda and Tanzania acts state that profits should be earned at the producing field and not from the infrastructure. In other parts of the framework, the term “reasonable” is used for the profit to be earned by the facility owner.

It is considered a good principle that the use of infrastructure should not be organized as a profit center. It is recommended that common and clear principles on how tariffs should be calculated are established. These proposed principles need to be carefully scrutinized to preserve a motivation for both parties.
**Uganda:** The Petroleum Act stipulates that a third party has the right to use spare capacity of a facility and that the agreement should be based on the principle that profits from production shall be earned by the producing field, still securing the owner’s incentive to maintain the capacity of the facility (Section 167).

**Tanzania:** The Petroleum Act of Tanzania stipulates the right for a third party to have access to a facility on objective and non-discriminatory conditions. No principle for tariffs is stipulated other than stating that no party should have an unreasonable advantage (Section 96).

**South Sudan:** The Petroleum Act stipulate the right of a third party to access both production facilities and transportation systems (Section 35 & 38). The owner should be allowed to receive a reasonable profit.

**Kenya:** The Petroleum Bill stipulates that the owner of infrastructure shall provide access to third parties on reasonable terms. If the capacity is not sufficient, the owner is mandated to increase the capacity (Section 64) provided that the third party bears the cost of such expansion.

**Rwanda:** The Petroleum Act has no provisions concerning third party access.

**Burundi:** No provisions are stipulated concerning third party access.

**Zanzibar:** The Act stipulates the right of a third-party to have access to infrastructure, but provides no principles for the terms of an agreement (Section 88).

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**Decommissioning**

Although decommissioning is taking place at the end of production and obviously is an activity several years into the future, it is still prudent to harmonise the principles. The majority of frameworks clearly states the key principle reflecting the general liability of the contractor and the obligation to restore the land used for petroleum operation to, as near as possible, its original state when operations are completed.

To ensure that this process is properly done, all the countries have provisions for the preparation and approval of a decommissioning plan. The petroleum acts commonly also have requirements on the establishment of a decommissioning fund to ensure that the financial resources are available to undertake the decommissioning. It should be attempted to harmonise the principles for establishment of these funds.
Harmonisation of Petroleum Policies, Legal, Regulatory and Institutional Frameworks in EAC

<table>
<thead>
<tr>
<th>Country</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Uganda</strong></td>
<td>The Petroleum Act requires a decommissioning plan to be submitted at the earliest 4 years prior to expected termination of operations and at the latest 2 years before (Section 112). To secure implementation of the plan, a decommissioning fund should be established when accumulated petroleum production has reached 50% of the expected reserves or 5 years before expiry of the license (Section 113).</td>
</tr>
<tr>
<td><strong>Tanzania</strong></td>
<td>The Act requires the Decommissioning Plan to be submitted at least 5 years before termination of operations (Section 188). The requirements for when the fund needs to be established is either when the 50% production level is reached or 5 years after commencement of production (Section 188).</td>
</tr>
<tr>
<td><strong>South Sudan</strong></td>
<td>The Petroleum Act stipulates that the plan has to be submitted at least 2 years before the expected termination of operations (Section 39). The establishment of the decommissioning fund should be done immediately after the approval of the field development plan (Section 41).</td>
</tr>
<tr>
<td><strong>Kenya</strong></td>
<td>The Petroleum Bill stipulates that the decommissioning plan should be submitted before a production permit is issued (Section 66). The timing of establishing the fund is either at the 50% production milestone or 10 years before the expiry of the permit (Section 67).</td>
</tr>
<tr>
<td><strong>Rwanda</strong></td>
<td>The Petroleum Act stipulates that a Decommissioning Plan should be prepared (Article 28) and a Petroleum Fund established (Article 29). The Act gives no further details on these processes.</td>
</tr>
<tr>
<td><strong>Burundi</strong></td>
<td>No provisions are stipulated concerning decommissioning.</td>
</tr>
<tr>
<td><strong>Zanzibar</strong></td>
<td>The Oil and Gas Act requires that a decommissioning plan is submitted 5 years before a facility is permanently terminated (Section 110). The decommissioning fund should be established immediately after the production permit is granted to finance the decommissioning plan.</td>
</tr>
</tbody>
</table>

Apparently, there are some major differences in the frameworks concerning the timing of the preparation of the decommissioning plan and the establishment of the fund. This is however, largely reflecting a lack of comprehensive perspective on this issue. Hence, it is considered important that the issue of disposal of facilities and the potential future use is included as a mandatory point in the field development plans. This may have a bearing both on the choice of materials and technical solutions. This initial assessment for the PDO should also include a cost estimate that may serve as a basis for the design of the decommissioning fund.
The decommissioning plan is a later and specific plan for the termination process. The implementation of this plan should be financed by the decommissioning fund. Hence, some linkages between the two should be expected. If the PDO has not adequately addressed the matter and the decommissioning plan is not issued before two years prior to the completion of operation, there may be a serious mismatch between the size of the fund and what it should finance. Although the obligation of the contractor to cover any required additional funding if the fund proves to be insufficient is stipulated in some frameworks, there will always be a risk associated with such late commitments.

Hence, it is recommended that a harmonisation concerning the timeline for the decommissioning plan and process be done. The issue of the future disposal of a facility should be included as a mandatory item in a PDO. The fund should be established at an early stage based on these considerations. The framework should also provide an opportunity for revising the preliminary decommissioning plan when new information is forthcoming and adjust the decommissioning fund accordingly.

Further, the operations of the decommissioning fund is not described in any of the frameworks and should be covered under a harmonised framework.

It is also important to establish the same principles as to the liability of the industry in the process of closing the production, remove the facilities and restore the area.

6.6 National content, training and education

National content

It is a general policy of a majority of nations with a potential for oil and gas that the development of the petroleum sector should have a broader impact than just the extraction of hydrocarbons. Hence, it is a common ambition that the petroleum activities should serve as a catalyst for employment and supplying the sector with goods and services of local origin. Both the direct engagement of local people and industry and the ripple effect of this economic activity are believed to have the potential of generating substantial economic value.

The ultimate goal of the EAC is to establish the East African Federation. On the way to realise this vision, the EAC Customs Union has been established and is operational. The next step was the Protocol for the establishment of the East African Community Common Market that was signed in 2009 and became operational in July 2010. A key principle for this common market is non-discrimination of nationals of other Partner States on grounds of nationality. The Partner States are obliged to amend their respective national policies, laws and regulations to conform to the Common Market Protocol.

The Sections on national content in the Petroleum Acts have some clear challenges related to conformity with these principles of the EAC Common Market. The Acts give preference to nationals at the expense of all foreigners both from other Member States and from other foreign countries.

It is also a question to what extent the national content stipulations complies with the WTO principles. All EAC countries (except South Sudan) have been member of the WTO for more than 20 years and they will have passed the transition period granted for new WTO members.
Harmonisation of Petroleum Policies, Legal, Regulatory and Institutional Frameworks in EAC

Training and education

The Petroleum Acts in general stipulates the obligation of licensees to recruit nationals and conduct training. Commonly, a specific training fee is also reflected in the Production Sharing Agreements.

It should be pointed out however, that for a petroleum field development it will not be the oil company that generate the major demand for workers, but their subcontractors. Hence, if the obligation of stimulating local employment should have effect, it should be transferred to all companies engaged by the licensees.

More important for the sector development, and particularly for increasing the national involvement, is the establishment of institutions providing adequate training and competence. This applies to higher education as well as vocational training.

The curriculum of higher education and its academic awards should be harmonised and mutually recognized across borders, promoting easier exchange within the EAC of high-level skills. Similarly, the vocational education requires mutual recognition. This can be secured by bringing the education in compliance with international standards. This principle of harmonisation in education is already firmly recognized and is reflected in Article 102 of the EAC Treaty.

_Uganda:_ The goods and services from local companies should have preference. If these are not available from local firms, a foreign company in a joint venture with a local company where this company has at least 48% interest can be contracted (Section 125).

_Tanzania:_ The Petroleum Act stipulates the preference of local goods and services (Section 219). If these goods and services are not available in Tanzania, they may be offered by company in a joint venture with a local company where this company has at least 25% interest.

_South Sudan:_ National companies should be given preference when the offers are within 10% more than the similar goods and services offered from non-nationals (Section 64).

_Kenya:_ The Petroleum Bill stipulates the preference of locally offered goods and services (Section 77).

_Rwanda:_ No provisions concerning local content are given.

_Burundi:_ No provisions concerning local content are given.

_Zanzibar:_ The Act stipulates that preference should be given to goods and services available in the local market rendered by Zanzibaris or local companies. If these goods and services are not available in Tanzania, they may be offered by company in a joint venture with a local company where this company has at least 15% interest (Section 134).
It is understood that there are bilateral agreements in place on higher level training for the petroleum sector. This agreement should be expanded to include all member countries. The KEPTAP program that is presently being implemented in Kenya provides another opportunity to develop centers of excellence for training within certain areas.

6.7 Environmental protection

Emergency preparedness

The protection of the environment is an essential precondition for the petroleum sector development. The objective liability of the license holder and contractor for pollution damage is stipulated in most of the frameworks. It is also a general requirement that the license holder, contractor or any other person participating in petroleum activities maintain efficient emergency preparedness to deal with all types of accidents and emergencies including pollution.

The EAC countries will have petroleum activities both in open marine areas as well in the inland water bodies that will require different types of proper response. Although the industry has a clear and unlimited responsibility according to the legal framework, there will also be national plans in place to secure a proper response to any situation.

Major incidents however, also calls for regional plans to allow resources from all the countries to be mobilized and used. It is understood that such initiatives are ongoing and efforts to establish the framework of joint response is developing with UN as a coordinator.

Environmental standards

The protection of the environment is a common concern between the EAC member countries. Uniform environmental requirements and principles should be implemented. As pointed out above clear environmental policies should be reflected both in the opening of new areas and for the decommissioning.

A general harmonised policy would also be prudent for waste management. It has been suggested that the cost for waste management should be classified as a non-recoverable cost to motivate companies to minimize waste. It may however, be difficult to draw the line in relation to specific waste areas as produced water and well cuttings.

6.8 Standards

The use of standards is important for the safe, effective and efficient development of all sectors. Hence, the requirement for standardization is reflected in Article 81 of EAC Treaty. The term “standards” is very broad and refers to goods, services and operational practices. It is also used very broadly in the various petroleum sector legal frameworks. Tanzania links it closely to “best international petroleum industry practices” which they have defined as “practices in accordance with the most up to date international standards that are generally accepted in the international petroleum industry for the conduct of petroleum activities taking into account the relevant safety, economic, technological and environmental aspects.
Kenya promotes a nationalistic approach to standardization and stipulates that all petroleum operations must comply with the specifications or standard of the Kenya Bureau of Standards or where no such standard exists, any international standard approved by the Kenya Bureau of Standards.

It is advised that international accepted standards be used in all EAC countries. This is in particular of importance when regulations are going to be developed. The development of national prescriptive regulations are not recommended. This will both require major resources to be developed and is highly challenging to maintain in response to the technological development.

Other areas can be more easily subject to national standards. In these cases, it is important the national standards are harmonised and that one unique EAC standard can apply.

### 6.9 Fiscal provisions

As stated previously, the perceived resource potential or geological promise will have a major bearing for overall governance of the sector. This also relates to the obtainable fiscal terms, work obligations and other commitments. In short, high Government Take is possible only where the geological promise is good.

The perceived potential may vary from area to area within one country and will certainly vary between countries. It will also change with time as exploration develops with either disappointment or success. The solution to addressing this movable target is flexibility in the fiscal model and other terms. Harmonisation should therefore focus on systematic approach rather than specific terms.

![Fiscal terms in response to geological promise](image)

There are three types of payments that may apply related to the various petroleum activities or as a result of the petroleum agreement between a contractor and the government.

- Fees and payments from regulative requirements
- Bonuses, fees and “crypto-taxes” defined in petroleum agreements
- Cost recovery and profit sharing from production

**Fees and payments from regulative requirements**

It complies with international practice that a regulator can stipulate fees to cover the direct work done by the institution related to individual oil companies. This may include the evaluation of various applications, but also the control and audit functions. The evaluation of applications are commonly charged with fixed fees while other regulative functions can be invoiced based on the time and resources used.

Apparently, only South Sudan has included a clear provision in the petroleum act to allow cost-based fees for particular services to be issued (Section 68). It should further be reviewed if this lack of reference to the petroleum law represents any limitations to which services that can be charged to the industry.

For specific evaluations however, there are provisions in the framework allowing fees to be charged.

It is recommended that the principles used in EAC are harmonized and that standardised fees are applied for the different types of applications. The fees should be cost based. Further, the principle of charging companies for direct regulative work should be introduced using common principles.
Bonuses, fees and “crypto-taxes” defined in petroleum agreements

In addition, it is common that the legal framework or the petroleum agreement stipulates certain payments of various bonuses and fees. These may to a certain extent be related to the production or different phases of the petroleum value chain. It is common to request the payment of a signature bonus. The willingness of the industry to pay such up-front risk money is largely a function of the geological promise of the petroleum province in question. Bonuses may also be requested linked to the production and can be paid at the start-up of production as well as at different levels of production or cumulative production.

Further, the legal frameworks commonly stipulate the payment of an area fee normally related to the size of the license area. The area fee may be progressive and increase with time.

It is also common that the petroleum agreements include provisions for the payment of other fees, often called crypto taxes. These may include various funds to be used for development or social and welfare programs. Other payments may be earmarked for training or to the education institutions.
Bonuses is in general a biddable item and included as a criteria for the bid evaluation. Hence, this is an issue for the sovereign government.

The area fee can serve as a motivating factor for the license holder to relinquish areas. It would be beneficial to adopt a common structure within the EAC, but the charge per unit area may vary as a consequence of the original size of the license.

It is in general recommended to refrain from introducing other “crypto-taxes” that have marginal economic impact, but add complexity to the agreements.

Uganda:

Annual fee: The Petroleum Act stipulates that a licensee should pay an annual fee that is composed of two elements: the acreage rental and the training/research fee (Section 155).

The MPSA provides further details concerning these payments in two Articles in the MPSA.

According to Article 26, the acreage fee is the following:

<table>
<thead>
<tr>
<th>Period</th>
<th>Per km² licensed area</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Exploration Period</td>
<td>$ 20</td>
</tr>
<tr>
<td>Second Exploration Period</td>
<td>$ 30</td>
</tr>
<tr>
<td>Third Exploration Period</td>
<td>$ 50</td>
</tr>
<tr>
<td>Production license period</td>
<td>$ 1000</td>
</tr>
</tbody>
</table>

The training and research fee is stipulated in Article 19:

<table>
<thead>
<tr>
<th>Period</th>
<th>Annual fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploration periods</td>
<td>$ 200,000</td>
</tr>
<tr>
<td>Development period</td>
<td>$ 300,000</td>
</tr>
<tr>
<td>Production period</td>
<td>$ 400,000</td>
</tr>
</tbody>
</table>

Bonus: Section 156 of the Act stipulates that a Signature Bonus should be paid. The actual amount is a biddable item and the amount will be included in the PSA under Article 8.1. Only the signature bonus is described in the Act and no provision are stipulated for other types of bonuses. Still, provisions for payment of a production bonus is included in the MPSA. The following detail are given:

<table>
<thead>
<tr>
<th>Cumulative production</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 mill bbl</td>
<td>$ 5 mill</td>
</tr>
<tr>
<td>Each additional 25 mill bbl</td>
<td>$ 3 mill</td>
</tr>
</tbody>
</table>

South Sudan:

Surface rental fees: The Petroleum Act stipulates that rental fees for the contracts area retained should be paid as prescribed in the regulations (Section 68).
**Bonus:** The Petroleum Act also stipulates that bonuses should be paid as prescribed in the regulations (Section 69). There is no information confirming that these regulations have been issued.

The model for the Production Sharing Agreement for South Sudan and the specific conditions for fees and bonuses are not known.

**Tanzania:**

The Act further stipulate principles for payment of an annual fee by the contractor to cover acreage rental and training/research fee (Section 114). The contractor shall also pay a signature bonus and a production bonus on commencement of production. These payments are to be paid as may be agreed under the terms of the relevant agreement (Section 115). The payments of fees and bonuses should be made to the National Oil Company.

**Annual fees:** The contractor should be an annual fee to be composed of acreage rental, training and research fee and signature bonus (Section 114).

The MPSA provides details and the size of the acreage rental that is:

<table>
<thead>
<tr>
<th>Period</th>
<th>Annual charge per km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial exploration period</td>
<td>$ 50</td>
</tr>
<tr>
<td>First extension period</td>
<td>$ 100</td>
</tr>
<tr>
<td>Second extension period</td>
<td>$ 200</td>
</tr>
<tr>
<td>Development License period</td>
<td>$ 500</td>
</tr>
</tbody>
</table>

**Bonus:** The Petroleum Act only provides provisions for the payment of a signature bonus. The MPSA however, also stipulate the payment of a production fee at the commencement of production. The final bonuses will be a biddable item, but the MPSA stipulates minimum levels for the bonuses (Article 11):

<table>
<thead>
<tr>
<th>Bonus</th>
<th>Minimum level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature bonus</td>
<td>$ 2.5 mill</td>
</tr>
<tr>
<td>Production bonus</td>
<td>$ 5.0 mill</td>
</tr>
</tbody>
</table>

Article 21 in the MPSA stipulates that the contractor should have an annual budget of minimum $500,000 for training.

**Kenya**

The Act further stipulates that an annual fee should be paid to cover the surface fee and training fee and any other fee that are prescribed (Section 81). In addition, a signature bonus shall be paid as reflected in the petroleum agreement (Section 82).

**Annual Fees:** The Petroleum Bill stipulates that an annual fee should be paid as prescribed in the regulations and agreements. The annual fee is composed of the surface fee and the training fee (Section 81). There are provisions in the MPSA for the payment of surface fees (Article 5). These fees
should be paid by hectare and can differ between the initial exploration period and the two subsequent extension periods. There are no surface fee payments in the development and production period. The numbers are not stipulated in the MPSA and may be negotiable.

**Bonus:** The Petroleum Bill stipulates that a signature bonus should be paid prior to the award of petroleum agreement (Section 82). No details to the size of this bonus is provided in the MPSA and is a negotiable item.

**Burundi**

The regulations under the Mining and Petroleum Code stipulates that an annual fee should be paid according to the size of license. There are no provisions for payment of bonuses.

**Annual Fees:** Different fees apply for licenses up to 4km², between 4km² and 100km² and above 100km². This structure is used as the fees also should apply to mining licenses. The highest level results in a fee of $3/km² for the initial exploration period, increasing to $30/km² for the extension periods.

**Zanzibar**

**Annual Fees:** The Oil and Gas Act stipulates that an annual fee should be paid. This fee is composed of a surface rental and a training/research fee. Reference is made to future regulations for the amounts to be paid (Section 101).

**Bonus:** The Act also prescribes the payment of bonuses. The bonuses will be determined by regulations or agreements (Section 102).

**Cost recovery and profit sharing from production**

This category of payment is primarily related to the sharing of the oil and gas produced, through which the operator will cover his investments and operational expenditures. Although a Production Sharing Agreement in principle should be limited to determine the sharing mechanism, it is also common that the fiscal framework stipulates the payment of royalties that are inherited from the concessionary system. Further, it is normal that the profit of the oil company is subject to taxation (see figure 7).
The fiscal elements related to cost recovery and profit sharing will normally be considered to fall within the sovereign domain and not be subject to harmonisation. Obviously, the share of revenues used to cover the cost and the sharing of profit between the contractor and the government will be key fiscal elements for the application and subsequent negotiations and will be decided independently in each case.

It will be beneficial however, if the principles for the fiscal elements could be harmonized. Two areas are recommended for further consideration:

Royalty: The use of royalty is motivated by securing early revenues to the Government. A high royalty rate however, can give improper economic incentives and result in a pre-mature termination of production. The cost recovery limit provides an alternative to secure early revenues to the Government. It is recommended that the application of the cost recovery limit can replace the royalty element.

Profit Oil: It is a general international agreement that the sharing of profit oil should be based on profitability rather than volumes. It is recommended that all EAC countries adopt a profitability based sharing mechanism. It is further recommended that a common approach these calculations are adopted.

**Uganda:**

The Act stipulates that a royalty should be paid on the petroleum recovered. The petroleum agreement will have details for this.

Royalty: The general principle stipulated by Petroleum Act Section 154. Article 9 in the MPSA provides further details:
Gross Total Daily Production – BOPD | Royalty rate, %
---|---
< 5,000 | 2.5 + X
5,000 - 10,000 | 5 + X
10,000 - 20,000 | 7.5 + X
20,000 - 30,000 | 10 + X
30,000 - 40,000 | 12.5 + X
>40,000 | 15 + X

The factor X is a biddable increment in the license application process.

There are specific provisions for gas, but in general the terms for oil will apply.

Cost recovery and profit sharing: The PEDP Act only refers to that a production sharing agreement should be established, but gives no details as to the fiscal framework to be applied (Section 6). The details on this issue is stipulated in the MPSA that requires a cost recovery ceiling of 65% (Article 12).

The production sharing is following a profit-based system where the triggering factor is the ratio between cumulative net revenues and cumulative capital expenditures

<table>
<thead>
<tr>
<th>R-Factor</th>
<th>Contractor’s share, %</th>
<th>Government’s share, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>R ≤ 1.000</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>1 &lt; R ≤ 3.000</td>
<td>$Z = 50 - [25*(R - 1)/2]$</td>
<td>100 - Z</td>
</tr>
<tr>
<td>R &gt; 3.000</td>
<td>25</td>
<td>75</td>
</tr>
</tbody>
</table>

South Sudan:

Royalty: The Petroleum Act stipulates that royalty should be paid as prescribed in the regulations (Section 69). No details are reflected in the Act. The existence of these regulations have not been confirmed.

Profit sharing: The Petroleum Act has no details on the cost recovery and profit sharing mechanisms and refers to the petroleum agreements (Section 71)

Tanzania:

The Petroleum Act stipulates that a royalty should be paid in respect of the gross volumes of petroleum recovered (Section 113). The royalty rate is stipulate by Schedule 2 under the Act. The same schedule is titled “Royalty and Profit Share”. In the last revised version of the Petroleum Act of 18 September 2015 however, the details on volume tranches and corresponding shares have been removed.
Royalty: The Petroleum Act stipulates that a royalty should be paid (Section 114). The MPSA provides further details on the value of this rate. The deep offshore (below 500m) is given a separate status. Deep offshore has a rate of 7.5% royalty vs 12.5% in other areas (Article 16).

Cost recovery and production sharing: The Petroleum Act generally refers to the production sharing agreements without stating clear provisions that such an agreement has to be applied or the content of such an agreement. Details on this issue is stipulated by the MPSA (2013) and are outlined in the tables below. The sharing of the profit oil is different between deep offshore and other areas and differs between oil and gas.

<table>
<thead>
<tr>
<th>Onshore/shelf areas (bbl/day)</th>
<th>Government share, %</th>
<th>Deep water areas (bbl/d)</th>
<th>Government share, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 12,500</td>
<td>70</td>
<td>&lt; 50,000</td>
<td>65</td>
</tr>
<tr>
<td>12,500 – 25,000</td>
<td>75</td>
<td>50,000 – 100,000</td>
<td>70</td>
</tr>
<tr>
<td>25,000 – 50,000</td>
<td>80</td>
<td>100,000 – 150,000</td>
<td>75</td>
</tr>
<tr>
<td>50,000 – 100,000</td>
<td>85</td>
<td>150,000 – 200,000</td>
<td>80</td>
</tr>
<tr>
<td>&gt;100,000</td>
<td>90</td>
<td>&gt;200,000</td>
<td>85</td>
</tr>
</tbody>
</table>

For gas production, the following sharing is stipulated:

<table>
<thead>
<tr>
<th>Onshore/shelf areas MMSCFD</th>
<th>Government share, %</th>
<th>Deep offshore MMSCFD</th>
<th>Government share, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 20</td>
<td>60</td>
<td>&lt;150</td>
<td>60</td>
</tr>
<tr>
<td>20 – 40</td>
<td>65</td>
<td>150 – 300</td>
<td>65</td>
</tr>
<tr>
<td>40 – 60</td>
<td>70</td>
<td>300 – 450</td>
<td>70</td>
</tr>
<tr>
<td>60 – 80</td>
<td>75</td>
<td>450 – 600</td>
<td>75</td>
</tr>
<tr>
<td>&gt;80</td>
<td>80</td>
<td>600 – 750</td>
<td>80</td>
</tr>
</tbody>
</table>

The MPSA stipulate that the cost recovery limit should not exceed 50%. It is assumed that this is a biddable item in a license application process (Article 12).

The first version of the new Petroleum Act of 29 May 2015 included the details of the profit sharing in Schedule 2. This version included new Government share for oil at the different tranches compared with the MPSA. In the revised version of the Act of 18 September 2015 however, all details on the profit sharing has been removed. Hence, it is presently not clear what will be the future principle for the profit sharing.

Additional Profit Tax: Tanzania also has an Additional Profits tax to be calculated on a development area basis (Article 17).

Kenya:

The Bill stipulates the principle that the profit from the oil and gas production should be shared between the Government and the contractor in accordance with the terms in the Petroleum Agreement (Section 84).
The Model Petroleum Agreement provides further details on the sharing mechanism and stipulate a cost recovery limit of 60% (Article 36) and a profit sharing based on the R-factor principle where the Government’s share vary from 50% up to 75% (Article 37).

**Royalty:** There are no provisions in the Petroleum Law or the MPSA for the payment of royalties.

**Cost recovery and profit sharing:** The Petroleum Bill only states that the profit oil should be shared between the Contractor and the Government. The petroleum agreements should give the details on the sharing mechanism. The MPSA stipulates a cost recovery limit of 60%. This is a negotiable parameter however, and levels of 75% has apparently been agreed in current PSAs.

The production sharing is following a profit-based system where the triggering factor is the ratio between cumulative net revenues and cumulative capital expenditures.

<table>
<thead>
<tr>
<th>R-Factor</th>
<th>Contractor’s share, %</th>
<th>Government’s share, %</th>
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</tr>
<tr>
<td>1 &lt; R ≤ 2.5</td>
<td>35</td>
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</tr>
<tr>
<td>R &gt; 2.5</td>
<td>25</td>
<td>75</td>
</tr>
</tbody>
</table>

**Rwanda:**

No details concerning the fiscal framework are stipulated. The petroleum law provides flexibility on which contract type to be used, although a production sharing agreement appears to be the alternative on the agenda for future negotiations.

**Burundi:**

The Mining and Petroleum Code stipulates a concessionary system where the fiscal elements are royalty and tax.

**Royalty:** The regulations stipulate a royalty rate of 12.5% for oil and 5% for gas.

**Tax:** The taxation level is not provided. The Mining and Petroleum Code stipulates however, that an agreement should be signed before a permit is granted (Section 49). This agreement should include the applicable tax regime for exploitation.

**Zanzibar:**

The Oil and Gas Act stipulates that a royalty should be paid (Section 101). The royalty rate is stipulate by Schedule 2 under the Act. The same schedule stipulate the rates for the profit sharing of oil and gas produces. This sharing is based on production rates and allocates between 50 and 70% to the Government from production of crude oil and between 60 and 80% in the case of gas.
Royalty: Schedule 2 of the Oil and Gas Act stipulates that a royalty should be paid based on gross volumes. The same rate applies to crude oil and gas and constitutes 7.5% for the offshore areas vs 12.5% for the onshore/shelf areas. According to the definitions in the Act, offshore are areas with water depths exceeding 200 m.

Cost recovery and production sharing: The Oil and Gas Act stipulates that the profit oil and gas should be shared between the contractor and the Government according to the details provided in Schedule 2 (Section 101). The tables provided in Schedule make a distinction between crude oil and gas and have a different scheme for offshore vs onshore/shelf. The table is similar to the model included in the first versions of the Petroleum Act in Tanzania of 29 May 2015. However, while the MPSA in Tanzania defines the offshore to represent water depths of more than 500 m, the Oil and Gas Act of Zanzibar use 200 m for a definition of the offshore area.

<table>
<thead>
<tr>
<th>Onshore/shelf areas (bbl/day)</th>
<th>Deep water areas (bbl/d)</th>
<th>Government share, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 12,500</td>
<td>&lt; 50,000</td>
<td>50</td>
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<tr>
<td>12,500 – 25,000</td>
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</tr>
<tr>
<td>25,000 – 50,000</td>
<td>100,000 – 150,000</td>
<td>60</td>
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<td>65</td>
</tr>
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</tr>
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</table>

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<th>Onshore/shelf areas MMSCFD</th>
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<td>65</td>
</tr>
<tr>
<td>40 – 60</td>
<td>70</td>
<td>300 – 450</td>
<td>70</td>
</tr>
<tr>
<td>60 – 80</td>
<td>75</td>
<td>450 – 600</td>
<td>75</td>
</tr>
<tr>
<td>&gt;80</td>
<td>80</td>
<td>600 – 750</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;750</td>
<td>85</td>
</tr>
</tbody>
</table>

7. Institutional structures

The EAC countries all rely on the participation of the international oil companies in developing their oil and gas potential. The policies and functions of Government are to a large part designed to plan, facilitate and control the private sector activities to ensure concurrence with national goals. The overall functions of Government include:

- Establish petroleum policy.
- Establish and develop legislation.
- Organize the State’s petroleum administration.
- Manage data from petroleum operations.
• Plan and implement licensing.
• Monitor operations and administer compliance.
• Encourage the right national participation.
• Manage impact on economy and social life.
• Use petroleum revenue to create lasting benefits.
• Adjust framework conditions to meet changes.

These functions are commonly organised in levels of competence as illustrated below:

The ministry responsible for the oil and gas sector is typically the driving force in formulating the sector policy and preparing proper legal and fiscal framework that will ensure implementation of the policy.

The regulatory level monitors the activity of the companies involved and ensures compliance with legal and regulatory provisions. The regulatory role is commonly assigned to a separate entity from the ministry. The regulator should have the authority to enforce the necessary measures and corrective action. In some countries however, the regulative responsibility is maintained within the ministry, but by a department with this functional responsibility. It is important to be conscious on the different levels of governance and their respective responsibilities.
It is often underlined that there is a risk of undue pressure on the institution with the regulative responsibility. To meet this concern, institutional measures may be taken to secure the independent position.

A core function that is closely integrated with the policy and regulative functions of the petroleum sector is the revenue management. The collection and administration of the Government’s share of the revenues resulting from the production and the collection of taxes is an essential part of the overall governance of the sector.

In addition to the policy and regulative functions of the government, there is commonly also an intention or option of the state to engage in the commercial side of the petroleum sector. This is often executed through a national oil company (NOC). In the early days, the NOCs often had a combined commercial and regulatory responsibility. This structure is challenging when the NOC has direct interests in the licenses and in particular should they have ambitions to act as an operator. It is generally recommended to keep the regulatory responsibilities and commercial engagement of the state separate.

There may be circumstances however, where some degree of joint organization is prudent. One situation can be where the government’s total capacity is limited and it is difficult to implement parallel staffing of different organisations. Hence, it may be possible to have one resource group shared by the regulator and national oil company to carry out regional resource assessment. It is essential however, that common organisations are established from a conscious understanding of the different functional responsibilities.
Harmonisation of Petroleum Policies, Legal, Regulatory and Institutional Frameworks in EAC

Kenya: The Petroleum Bill outlines an institutional structure that separate the responsibility of policy and regulative functions. The policy functions are described as the responsibility of the Cabinet Secretary, which in other terminologies will be the minister with responsibility for the petroleum sector (Section 10, 11). It is also stipulated that a Petroleum Advisory Board should be establish with a broad representation of institution with a functional responsibility that reach into the sector. This Board only has an advisory function and presents its advices to the Cabinet Secretary (Section 12, 13).

The institutional structure further includes a Petroleum Regulatory Authority with the regulative responsibility for the sector (Section 14-16). The independent position of the authority is clearly stated and the act stipulates that it should not be subject to the direction or control by any person or authority. To preserve this independency the management of the authority is vested in a Board of Directors (Section 17).

The National Oil Corporation of Kenya was established in 1981 and is engaged in the full petroleum value chain. National Oil only has commercial functions and no regulatory responsibilities. The national oil company is recognized in the Petroleum Bill as one of the options the Government may use to conduct petroleum upstream operations (Section 8). No further details on the functions of the NOC are stipulated in the Bill.

As the Petroleum Bill remains to be enacted, the institutions described have yet to be established.

Tanzania: The Minister is assigned the policy function and shall among others develop and implement the policies and plans (Section 5.1). He is also specifically instructed to seek guidance from the Cabinet on strategic decisions and consult relevant sectoral ministries if the issues affect their functional responsibilities (Section 5.3).

Figure 11: Generic functions of Government

- **Policy**
  - Propose oil and gas policy
  - Prepare draft legislation for Parliament
  - Approve petroleum regulations
  - Negotiate and endorse PSAs
  - Approve PDO and state participation

- **Regulations/monitoring**
  - Establish and maintain resource estimates
  - Propose and implement regulations
  - Recommend in licensing and for PDO
  - Monitor and regulate petroleum operations
  - Ensure compliance with HSE standards

- **Commercial**
  - Managing the State direct interest in petroleum assets
  - Monitor the sales of oil and gas produced
  - Financial management
  - Develop expertise within areas of strategic importance

- **Revenue**
  - Administer and collect petroleum taxes
  - Assess impact on national economy from petroleum revenue
  - Ensure proper revenue management
  - Administer the Petroleum Fund

- **Policy**
  - Establish and maintain resource estimates
  - Propose and implement regulations
  - Recommend in licensing and for PDO
  - Monitor and regulate petroleum operations
  - Ensure compliance with HSE standards

- **Commercial**
  - Managing the State direct interest in petroleum assets
  - Monitor the sales of oil and gas produced
  - Financial management
  - Develop expertise within areas of strategic importance

- **Revenue**
  - Administer and collect petroleum taxes
  - Assess impact on national economy from petroleum revenue
  - Ensure proper revenue management
  - Administer the Petroleum Fund

Figure 11: Generic functions of Government
The act further stipulate that an Oil and Gas Advisory Board should be established within the Office of the President. This Board shall advise the Cabinet on strategic matters relating to the oil and gas economy (Section 7).

The act further stipulates that a Petroleum Upstream Regulatory Authority (PURA) shall regulate and monitor the petroleum upstream sub-sector (Section 11). Among the duties of PURA is advising the minister on matters related to the granting of licenses and permits and advise the Government on field development plans (Section 12).

There will be a Board to oversee the operation of PURA and to be responsible for the general directions and supervision of this institution (Section 17, 18). The Board will also advise the Minister on petroleum related policy and strategic issues.

Although the Petroleum Act was approved in 2015, the full implementation has not been completed and PURA still is in a state of interim organisation.

Tanzania Petroleum Development Corporation (TPDC) is the National Oil Company in Tanzania and acted as the petroleum sector regulator under the previous framework. According to the new Petroleum Act, the functional responsibility of TPDC covers the country’s commercial aspects in the petroleum value chain and the participating interest of the Government in petroleum agreements (Section 8). TPDC will also provide advice to the Government on policy matters pertaining to the petroleum industry (Section 9).

According to the Act, the National Oil Company have the exclusive right over all petroleum rights (Section 44). Other companies will subsequently enter a partnership with TPDC in order to take an interest in petroleum blocks. This arrangement is probably motivated from the perspective of exercising national control of the sector. It may have served as a logical arrangement when the national oil company had a regulative responsibility, but it is more challenging to comprehend under the new regime with a separate regulator. It is appreciated however, that Tanzania still considers the exclusivity of TPDC to be the best way to safeguard the national interests.

**Uganda:** The petroleum sector policy functions are vested with the Minister (Section 8). This includes the development and implementation of oil and gas policy, the preparation of legislation and endorsement of petroleum agreements.

Further, the Act stipulates that a Petroleum Authority of Uganda be established with the functional responsibility to monitor and regulate the exploration, development and production of petroleum in Uganda (Section 9, 10). The Act further stipulates the independence of the authority in performance of its functions, duties and the exercise of its powers (Section 14).

The Authority shall have a Board of Directors as their governing body (Section 17). The Board is responsible for the general direction and supervision of the Authority, but shall also advise the Minister on petroleum related policy and strategic issues (Section 25).

The Act also stipulates the establishment of the National Oil Company (Section 42-46). Its objective is to manage Uganda’s commercial aspects of petroleum activities and the participating interest of the State in the petroleum agreements.

**South Sudan:** The Petroleum Act stipulate that the Ministry shall be responsible for the management of the petroleum sector in accordance with the provision of the Transitional Constitution and the Act. The Ministry has a responsibility to formulate the necessary strategies and programs (Section 12). It
is the National Petroleum and Gas Commission however, who has the responsibility of making the policy (Section 9). The role of the Ministry is to implement the policy. The Commission is composed of representatives of the key ministries with functional responsibilities within the petroleum sector as well as representatives of the producing states (Section 10).

The Ministry may establish a Petroleum Exploration and Production Authority to oversee petroleum operations and advise the Ministry (Section 12). The Act provides no further details on this organisation or its functional responsibilities.

Rwanda: The institutional structure and functional responsibility is not stipulated in the Petroleum Law. According to the Upstream Petroleum Policy document however, the policy responsibility is vested in in the Ministry in charge of petroleum upstream. The regulative responsibility lies with the Rwanda Natural Resource Authority. This institution is responsible for the implementation of policy and legal framework.

Burundi: No information is available on the institutional structure.

Zanzibar: The Minister is assigned the policy function and shall among others develop petroleum-related policies (Section 6). The responsibility further includes granting licenses and approving petroleum agreements.

The Act further stipulates an Authority titled Zanzibar Petroleum Regulatory Authority (ZPRA) shall be established. The ZPRA regulate and monitor the exploration, development and production of petroleum in Zanzibar (Section 7). In principle, the Authority shall advise the Minister on all issues referred to under the Minister’s functional responsibilities. There will be a Board to oversee the operation of ZPRA (Section 13). The Board will also advise the Minister on petroleum related policy and strategic issues.

The Act also states that a national oil company should be established under the name Zanzibar Petroleum Development Company (ZPDC). The company shall participate in the upstream activities of the oil and gas sector on behalf of the Government. ZPDC should act as commercial entity and will be subject to the framework as other companies (Section 32).

Table 2 Petroleum sector institutions in EAC

<table>
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<th>Kenya</th>
<th>South Sudan</th>
<th>Tanzania</th>
<th>Zanzibar</th>
<th>Uganda</th>
<th>Rwanda</th>
<th>Burundi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy</td>
<td>Ministry + Advisory Committee</td>
<td>National Petroleum and Gas Commission</td>
<td>Ministry</td>
<td>Ministry</td>
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In summary, the EAC member countries are to some degree harmonising their institutional framework through the establishment of a petroleum regulator as stipulated in the new petroleum laws that are in force or in the process of being enacted. This provides a basis for the separation of the policy functions from the regulative functions. This should ease the communication lines within EAC and will benefit the companies who will have a more common way of approaching governments.

Further, there is also a development of making a clearer outline of the government’s commercial role. The new national oil companies being established have a clear commercial mandate, and existing NOCs are divesting their regulative tasks. This will make cooperation easier and potentially open up for shared interest in the same projects.

Some organisational issues however, reflect major differences and may be represent challenges for the EAC sector development. One is the position of TPDC in Tanzania as the sole holder of all exploration and development licenses. This may make the sector development also on the regional perspective too dependent of the capacity of the national oil company. As pointed out previously, using the NOC as an instrument to exercise control of sector is less pronounced now when the regulator comes into operation. Zanzibar has also adopted a similar structure reflected in the recently approved Oil and Gas Act, although the implementation remains.

Further, there is a difference in the reporting lines of the Authority. Some countries emphasise the need for independence of this Authority and have as a structural consequence the main reporting to the Board. An argument raised for independence is to protect the Authority against undue political pressure. In other countries, the Authority will act independently according to its institutional mandate, but report to the ministry. This model will normally strengthen the required communication and in general be in-line with international practices.

Normally the minister responsible for the oil and gas sector will also be responsible for its policy development. South Sudan however, has decided on a different institutional model where the policy function is vested in the Commission of Petroleum and Gas rather than the Ministry. This may represent a challenge in the further dialogue on harmonisation within EAC.
8. Harmonisation of framework; general perspectives

The preceding chapters has revealed major differences in both the legal and institutional framework for the petroleum sector in the EAC countries. These differences both relate to the policy the framework is expressing, but also the level to which the framework is developed. In general, there are petroleum laws in place for the upstream part of the value chain. The completeness of laws covering the rest of the value chain varies. When it comes to regulations, these are just developed to a limited degree.

There are two main considerations in pursuing petroleum sector harmonisation in EAC:

- Necessary steps to comply with EAC Common Market
- Potential for creating added value in the sector

Political perspective

It is a vision of EAC to eventually establish an East African Political Federation. To establish the federation will be the fourth step after the Customs Union, Common Market and Monetary Union. Harmonisation is a key building block for this process. This is also clearly reflected in the EAC Treaty. References have previously been made to explicit commitments stated in the Treaty to implement common standards and harmonise educational curriculums and certification. This foundation of commitment towards harmonisation applies to all sectors including the petroleum sector.

The Common Market of the EAC has been in force since 2010. This implies that the free flow of goods, services, capital and people across the EAC countries’ borders should be in place. Apparently, these principles are not fully implemented which also is a challenge for infrastructure projects crossing the borders. Hence, rectifying this problem is not primarily about harmonisation of the legal framework within the petroleum sector, but is more an issue related to the implementation of the agreed principles for the Common Market in EAC.

Industry perspective

In general, harmonisation can always be considered as a factor to promote effectiveness and efficiency, both for governments and for the industry. Oil companies working internationally are used to meet different frameworks and will not be concerned if terms are different between EAC countries. PSAs are also negotiated individually and consequently a set of terms may be different between the agreements in a country.

The IOCs are more concerned on the clarity of the framework and how this promotes the ease of doing business. Unfortunately, this is perceived as being slow and bureaucratic in many of the EAC countries. This can be changed however, and Rwanda has succeeded in positively changing the perception of with regard to the ease of conducting business in the country[^5].

One area where measures are recommended is for coordination between different institutions that regulate the petroleum activities. Many of the petroleum operations require consents or approvals from different Government institutions. Without challenging the functional mandate of institutions,

it should be possible to reduce the number of contact points for obtaining approvals. The “one stop shop” is much preferred by the companies.

A general focus from the industry is on risk and risk management. This concern is logical based to long-term time perspective of a petroleum project from exploration to the final decommissioning. A key aspect for the risk assessment is stability and that agreed terms and operational conditions remains as initially agreed. The Act approved in June 2017 in Tanzania on “The Natural Wealth and Resources Contracts” will clearly not work in favor of strengthening the perceived stability.

A harmonised framework within EAC however, will obviously serve to improve the stability perception. A common commitment from 6 countries to implement the same framework conditions will have more credibility concerning the possibility of these to remain without changes.

9. Impact of the harmonisation

As pointed out in previous chapters, one of the key pillars of EAC is harmonisation. This principle is clearly reflected in the EAC Treaty and brought forward into the Customs Union and the Common Market. The harmonisation is an essential process to foster cooperation, integration and economic development within EAC. Hence, the harmonisation of the petroleum sector framework complies with the fundamental policy of the EAC and will be expected to stimulate the business activity and value creation.

Trade and markets

International companies are used to meet different frameworks in the countries where they are engaged and it is more important to their investment attitude to what extent the framework is considered business friendly. Still it is received positively if they are meeting a uniform set of frameworks across the borders. In particular, this may have impact on how they view the political risk factor.

The petroleum operations are technically advanced and there is high technology core that require specialised services from large international companies. There will however, also be a demand for a large amount of supporting services which are less technologically demanding and can be provided from companies within EAC. Still, the direct demand for goods and services to the petroleum operation is modest in particular in the exploration phase. There will however, be a ripple effect of all economic activity and the total economic impact can still be substantial. Studies of other petroleum provinces suggest that the number of indirect jobs created as a result of the petroleum activities can be more than 3 times higher than the direct jobs and the induced jobs generated can be more than 8 times higher.

Value chain development
There is a common ambition for most countries with petroleum resources not to be confined to an exporter of oil and gas, but also to benefit from the value creation further down the value chain. Hence, projects for the development of refineries and petrochemical industries are often proposed. It is of course essential that these projects be decided based on sound commercial principles and not political ambitions.

The review of the petroleum sector frameworks has not identified particular bottlenecks preventing such projects to go forward. As these projects will serve the EAC area and possibly beyond, the cross-border regulations are essential. Again, this is more about ensuring that the agreed principles for the EAC Common Market are implemented.

**Environment**

As pointed out in the analysis of the frameworks it is essential that a comprehensive and transparent process be conducted concerning environmental consequences before any activity commences. Hence, it is recommended that all countries follow a process where an SEA is conducted which is open for the public to review and comment. This will provide a proper foundation for the EAC region in securing that environmental concerns are properly addressed.

Further, a common plan for emergency preparedness and response is important to ensure that all resources of EAC can be mobilized if an environmental catastrophe or incident occurs. It is understood that such initiatives have been taken for the marine areas and that a joint plan already exists for Lake Victoria. These initiatives are in principle a matter of cooperation that do not require any specific harmonisation of the legal structure.

**Infrastructure**

Pipeline projects crossing borders will need a harmonised framework to be effectively and efficiently implemented. Although the concept of open borders is the foundation of the long agreed Common Market, the reports suggest that infrastructure projects still meet challenges. The need of harmonisation is more an issue for the labor legal framework than it is for the framework for petroleum. It is also important to harmonise rules for any international work force working on a cross-border project. It would facilitate the implementation if a work permit issued in one country also would be valid in the other countries through which the pipeline will run.

Another aspect where harmonisation would have a potential of adding value is if similar processes could be followed in the different countries to secure land areas to establish corridors that could allow additional future pipelines to be constructed. This will probably require other parts of the legal framework to be harmonised than the petroleum framework.

The development of the petroleum sector also can have an impact for construction of other infrastructure. To carry out exploration and development, large amount of material and equipment has to be mobilised. This require a road system constructed to bear heavy transport.
Revenue management

All EAC countries are using Production Sharing Agreements as the basic contract type between the government and licensee. Hence, the countries should be meeting the same challenges when it comes to the economic aspects related to the contract implementation. However, although the same category of contract is used largely including the same fiscal elements, there are still variations. A more harmonised fiscal framework would offer an improved basis for sharing common experiences.

Just as important as the income side is also the cost of the petroleum investments and development. The cost control and cost monitoring is a common challenge where the development of common procedures would be of value. This could also include establishing a common database for international benchmark cost for various operations. Again, this is more a matter of finding good cooperation models and less about harmonisation of the framework.

10. Communication strategy

It is essential for framework harmonisation processes and the establishment of procedures for cooperation that good communication lines are established between the EAC member countries. A key motive for the harmonisation of frameworks is to improve the attractiveness of the EAC region for the investors and ultimately receive an increased interest that could lead to better terms. To achieve this it is fundamental that the industry receives updated and comprehensive information. This is essential to build confidence and through this contribute to a more favorable risk assessment.

The EAC countries have already established the East African Petroleum Conference and Exhibition as an institution in the region to convey a comprehensive status on the sector development within EAC. It is important that a process on harmonisation will be properly reported at the EAPCE.

In a previous chapter, the benefit of an annual meeting to review the work programs for the region has been raised. The objective of this meeting will be to achieve operational coordination to harvest cost benefits from joint approach to the procurement of required services. This meeting would also serve as an opportunity to convey any steps in the harmonisation of frameworks.

The internet serves as the main channel for current information. It is vital that the information presented is updated. In a process of harmonisation it would be logical that an EAC petroleum sector portal is established both conveying common information and with an entrance point to each of the member countries where the information is structured with a common template.

11. Conclusions

A key pillar for the ongoing process of regional integration of the East African Community is harmonisation. This is also clearly reflected in the EAC Treaty. Hence, the harmonisation of the framework for the petroleum sector is in full compliance with the policy and strategies of EAC. The EAC Common Market has been in force since 2010 and harmonising issues in the petroleum sector is to a large extent a matter of implementing agreed principles for this Common Market.
The existing legal frameworks are to some degree already harmonised as they are developed with a common reference to international standards.

As a platform for harmonisation it should be recognized that the resource potential of the member states of ECA is very different and may call for different approaches in particular in terms of attracting investors. Further, the international oil companies are familiar about meeting different framework and investment conditions, and will probably be more concerned on the clarity of the framework than that conditions between East African states vary. Still, a harmonised framework may add comfort and reduce the perceived risk of investment.

Several issues along the value chain will benefit from harmonisation: The reconnaissance part of the value chain is associated with different terms and conditions for the license issued and should be harmonised.

The difference in resource potential may justify different licensing approaches, but the licensing approach should still reflect a transparent and competitive process.

The pre-qualification process stands out as an obvious process for common standards and simplified procedures. Hence, the validity of accepted qualifications of a company should be valid for all EAC countries. Qualification criteria should be different between onshore/offshore and between operator/participant.

Decommissioning presently suffer from lack of general approach to common plans and how the decommissioning fund should be developed.

The objective of having a sector development with results outside the direct employment is an explicit goal in the national petroleum policies. It will be a challenge however, to ensure compliance between the articles in the petroleum framework promoting national content and the approved principles and protocols of the EAC Common Market.

The principles for charging the industry for regulative services should be harmonised and a fee structure for different types of applications adopted.

The fiscal terms and conditions to be agreed between oil companies and governments are within the sovereign domain. The fiscal elements to be applied and their principles however, will benefit from harmonisation.

The institutional structures for the governance of the petroleum sector in EAC have moved towards a separation of functional responsibilities and established separate institutions as sector regulators. This is a welcomed development in compliance with good governance principles. In addition, the establishment or reform of national oil companies to become organisations to focus upon the government’s commercial interests is also in compliance with best practices. There are still some fundamental differences concerning the institutional structures and responsibilities may represent challenges in the EAC integration and harmonisation process. This includes the exclusivity for petroleum rights granted to the national oil companies in Tanzania and Zanzibar (TPDC and ZPDC), the differences in independence of the regulator and that policy responsibility for the petroleum sector in South Sudan is not vested in the ministry,

It is essential that a harmonisation process be integrated with a communication strategy. The EAPCE will serve as an important venue to present the status on harmonisation to the industry. Annual meetings to review the work programs is proposed and may at the same time serve as opportunities
to present harmonisations status. The internet will be the best vehicle to present current information and a new EAC petroleum sector portal can be an effective approach to present updated information to the stakeholders.