King Abdullah Petroleum Studies and Research Center

The Expectations of Stakeholders in Eastern Africa's Oil and Gas

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About KAPSARC

The King Abdullah Petroleum Studies and Research Center (KAPSARC) is a non-profit global institution dedicated to independent research into energy economics, policy, technology, and the environment across all types of energy. KAPSARC's mandate is to advance the understanding of energy challenges and opportunities facing the world today and tomorrow, through unbiased, independent, and high-caliber research for the benefit of society. KAPSARC is located in Riyadh, Saudi Arabia.

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Key Points

Local content is a political imperative in Eastern Africa, and how it is implemented has implications for the economics of oil and gas projects and could also affect expected government revenues. Policymakers need to weigh the trade-off between encouraging local content against endangering the viability of a project by loading it with ill-equipped, untrained or costly local options. Highlights from a KAPSARC workshop on this issue include:

Stakeholder expectations about local content should be tempered by an understanding of the size of the reserves and the development plans under consideration.

For most new-producing countries, the opportunity to create meaningful local content is front-loaded in the value chain; primarily in the upstream activities. This is a significant point in Eastern Africa because the time needed for workforce and SME development will exceed the CAPEX phase of many upstream projects. Consequently, the promise of midstream and downstream local content would have missed the opportunity.

Getting the expectations of stakeholders “right” will help maintain the social license to operate. One of the simplest ways to do this is to begin discussions, in real terms, on what an individual or family can expect in gains in welfare from the windfall revenues that will go to the government.

Summary for Policymakers

The expectations of citizens are some of the most important, yet overlooked aspects of developing oil and gas reserves in new-producing countries. These expectations are closely tied to the forecast income from developing the oil and gas reserves, but these revenues are only part of the value proposition. The economic spillovers of local content may also be part of the prize, but the complexity of these benefits are not always well understood by domestic stakeholders.

Local content has recently been seen as a political imperative to extract more rent from the value chain, but often these are conceived without concern for how they affect the economics of the projects. Local content could be recast as an economic imperative that seeks to maximize domestic participation in the sector, but not to the detriment of the project and the total revenues to be received by the government.

The timing and complexity of developing oil and gas reserves will have a significant impact on the amount and economic impact of local content. Upstream projects generally present the earliest opportunity for maximizing local content in new-producing countries. Despite having commercially viable amounts of oil and gas reserves that could generate significant windfalls, the reasonable expectations of stakeholders in Uganda and Mozambique should be radically different:

> The scale and timing of developing Uganda's reserves mean that the bulk of investment will be completed before the skills and capacity to undertake the complex engineering and fabrication have been developed. Unless development plans for their oil reserves are materially delayed, the opportunity for local content will probably be restricted to service industry jobs supporting the international oil companies (IOCs) and oilfield service companies. There is an implicit trade-off between the rents and the spillovers.

> By contrast, the scale and timing of developing their gas reserves provides Mozambique with an opportunity to build a natural gas-driven economy with high levels of local content. This is true even if initial levels of local content are low.

Getting the expectations of stakeholders "right" is key to maintaining the social license to operate. With low oil and gas prices shrinking the fiscal prize, policymakers in new-producing countries are beginning to see local content as an economic imperative. Realistic expectations for stakeholders in the areas where oil and gas projects will be undertaken will be essential to prevent the political imperative from denying them the benefits of the economic spillovers.

Background to the Workshop

Several countries in Eastern Africa expect to receive significant revenues from their recently discovered oil and gas reserves. Responsibly extracting and developing these reserves to promote inclusive economic development is the greatest challenge for policymakers managing these energy sectors. Beyond developing the reserves, policymakers have the additional challenge of managing the expectations of other stakeholders in the oil and gas projects.

The primary stakeholders are the political representatives that are ultimately accountable to the public, private sector foundations that represent the domestic business community, technocrats in the ministries that oversee the sector, the national oil company, international oil companies and financial institutions that fund the projects. We recognize that there are additional key stakeholders such as international donors, civil society organizations and regional bodies, but exclude them in an effort to sharpen the discussion.

These stakeholders interact in the planning, development and execution of these large energy projects, and in doing so contribute, even unwittingly, to the expectations that are created in a country. The specialized nature of these projects inevitably leads to significant information asymmetry that often widens the expectations gaps between stakeholders.

KAPSARC hosted a workshop on August 4-5, 2015, in Dar es Salaam, Tanzania, to discuss the expectations of stakeholders in Eastern Africa's oil and gas projects. This workshop brought together some of the principal stakeholders from Uganda, Mozambique, Kenya and Tanzania to explore these issues. KAPSARC's research partners from leading economic think tanks in Eastern Africa joined them, along with international experts working on issues of local content and indigenization of industry. This workshop explored topics that included:

- Local content: An economic imperative?
- Local content vs. windfall revenues.
- Expectations for midstream and downstream development.
- Implications for the social license to operate.

This brief summarizes the issues and considers possible implications of these expectations in Eastern Africa's upstream oil and gas sector.

Local Content as an Economic Imperative

Determined not to repeat the past mistakes of other countries, local content requirements are now accepted as an "imperative" that must be addressed by policymakers in Eastern Africa. The question is no longer whether to have local content requirements for the energy sector, but how much local content should be required and how to implement it. The answer to these questions lies in how the debate is framed and by which stakeholders.

In our previous workshop (Maputo, Mozambique, in January 2015) local content was presented as a political imperative with its roots in the unrealized prosperity from developing mineral resources (see KS-1521-WB19A for the brief from this workshop). Many of the "new-producing" countries in Africa, determined to avoid the same fate, embraced a new resource nationalism during the time of >$100/bbl oil prices. Oil and gas reserves were seen as a "cake" that was meant to be shared between the IOCs and the domestic industry/workforce in the country where the resources were discovered, and political leaders sought policies that would maximize the share of the cake going to their constituents.

IOCs, international bodies such as the World Trade Organization, and a growing number of researchers, have pointed out that politically-driven calls for local content are potentially very harmful to the economics of these large projects; in effect reducing the overall size of the cake so that there is less for everyone. In a low oil price environment, local content requirements that negatively impact project economics are no longer viable. This has led to local content being recast as an economic imperative that calls for the highest level of domestic participation in the sector without harming the viability of the project. The amount and type of local content, then, is highly dependent on size of the reserves and the development plans being considered for each country. The examples of Uganda and Mozambique well illustrate this.

Uganda has approximately 1 billion barrels of recoverable oil reserves to be developed over three areas. The exploration phase is finished and the production phase has begun with first oil expected in 2020. While the production life for these reserves is around 30 years, nearly 80 percent of all the capital expenditures (CAPEX) will be made within the first five years of the development – when the field would have only just begun producing. KAPSARC estimates total CAPEX on Uganda's three fields to be more than $8b. Operating expenditures are less than $350m a year until decommissioning begins.

For Ugandan energy officials, the front loaded nature of their development plans means that the opportunity for local content is very short. There is not enough time to create new industrial sectors to yield exploration and production companies or directly service the IOCs and achieve high percentages of local content to the same extent as, say, Nigeria. There's also little opportunity for Ugandan firms operating in other sectors to diversify and "pivot" to the energy sector where they can win contracts. Perhaps only with the discovery of new commercially viable reserves could Uganda begin to develop the industrial base necessary to sustain a highly-skilled energy sector workforce.

The economic imperative for Uganda's local content, then, is to maximize the participation of Ugandan firms in service industry jobs supporting the IOCs and oilfield service companies. Firms working in areas such as administrative and support services, food and beverage services, accommodation, freight transport, basic civil engineering projects, and waste collection and treatment are most likely to win contracts in support of the upstream business. Ugandan officials are pushing hard for local content in these support roles in the first years of development. By contrast, specialist oil development skills such as welding and construction cease to be large opportunities for Ugandan firms in the absence of new discoveries.

Now let us consider the case of Mozambique with recoverable reserves of 120tcf and potential reserves of more than 250tcf of natural gas, according to Wood MacKenzie. Mozambique's exploration and production phase is expected to last more than 25 years and involve more than 20 fields. According to Rystad Energy, the total CAPEX required is more than $100b, with peak spending approximately eight years after construction of the liquefied natural gas (LNG) facilities begins, but generally equally distributed throughout the 25-year development. In other words, Mozambique's energy sector development is not front loaded, but instead has a long period of significant foreign direct investment through which it could develop an industrial base. Mozambican energy officials have the opportunity to incentivize IOCs to develop local firms that can participate in the sector over time.

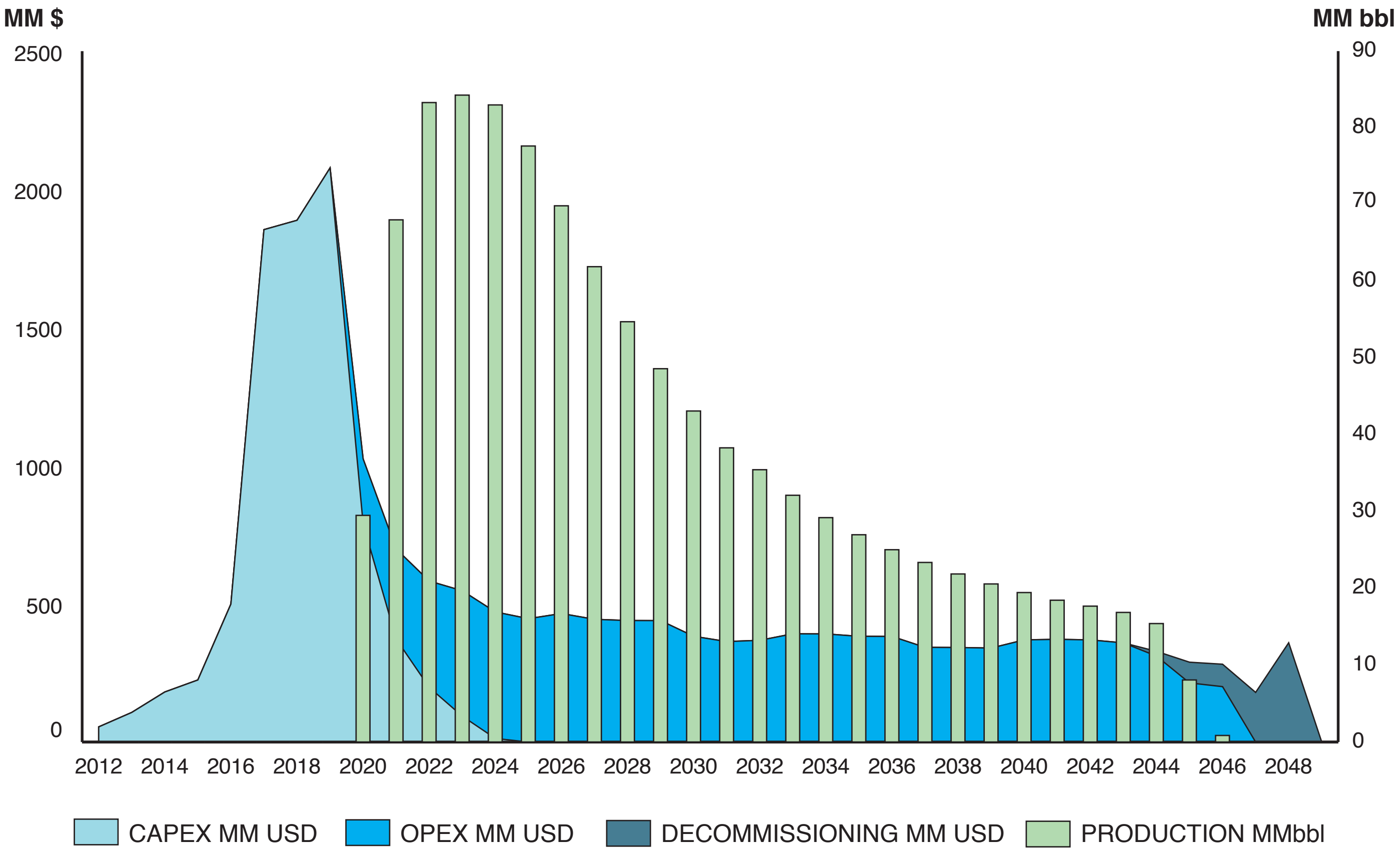

Figure 1. KAPSARC estimates of Ugandan upstream oil production and expenditures.

Source: KAPSARC analysis.

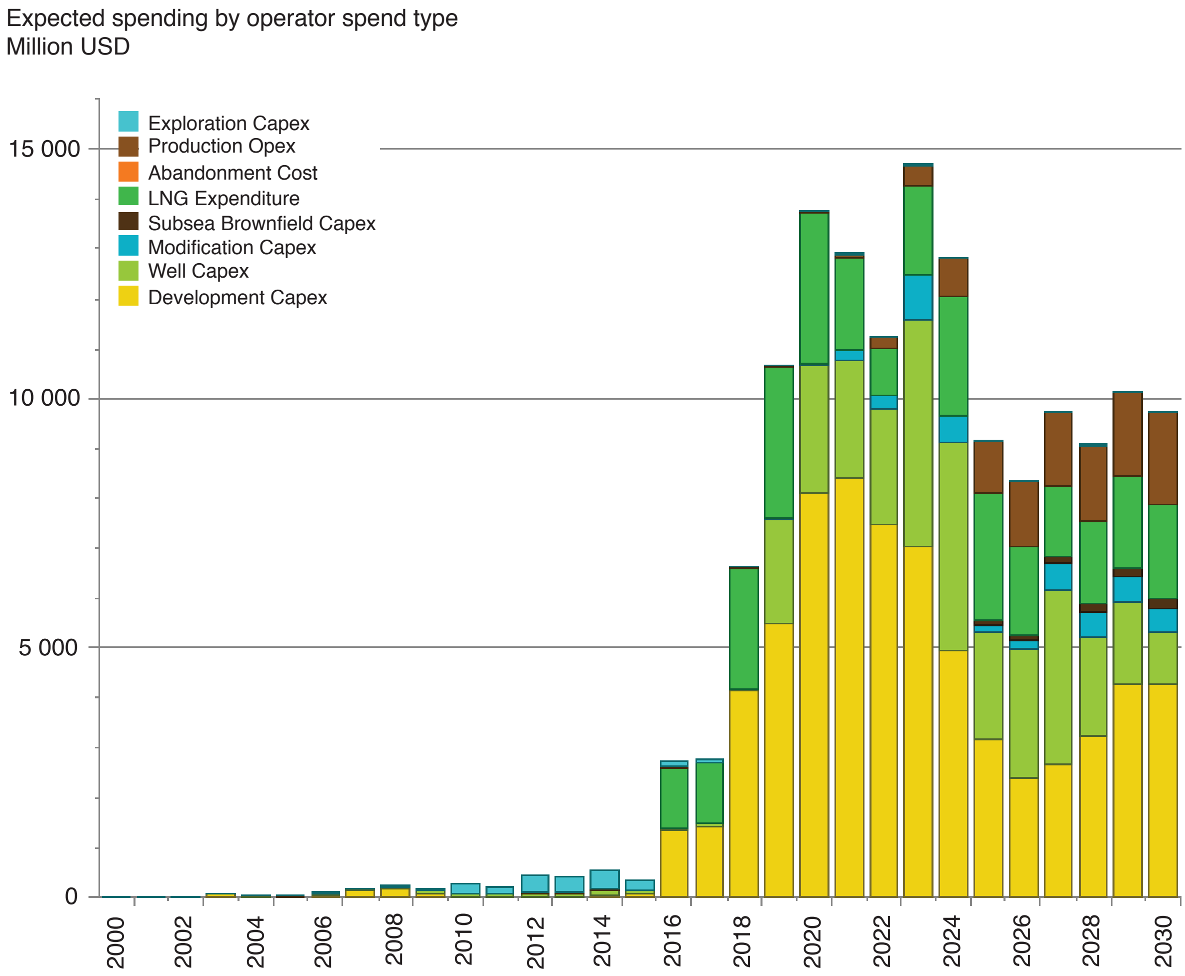

Figure 2. Rystad DCube estimates of Mozambique upstream & LNG expenditures.

Source: Rystad Energy DCube, version 2015-05-15.

The economic imperative for Mozambique's local content, then, is to create an industrial base where currently none exists, which can forge the necessary linkages to other parts of the economy. In the short run, Mozambican firms that can properly provide services and basic civil engineering works should be able to win contracts, but the real value of local content is fostering new industrial sectors that can generate positive economic spillovers over time. The question remains what is the best mechanism to achieve this goal.

For now it seems that Mozambique is content to allow the sector to develop organically. The local content requirements being considered build on existing laws and regulations and are not prescribing manpower quotas or supply targets that could negatively affect the project. While a slew of new companies purporting to offer high-tech exploration, logistics and production expertise are opening in Mozambique, the government is not yet considering local content requirements in this area. Consider the example of Empresa Nacional de Hidrocabonetos (ENH), the national oil company of Mozambique, where they have identified the following short and medium term (1-5 years) opportunities for local firms to supply the exploration and production companies (EPCs) developing the gas fields:

- Cabotage
- Shipping
- Demining
- Storage
- Mechanic services
- Site preparation and basic civil engineering
- Quarrying
- Supplying basic construction materials
- Power supply
- Water supply
- Car rental
- Education and training
- Certification and inspection
- Topographic surveys
- Aviation (helicopters)
- Catering
- Personnel protection and equipment

None of these jobs are specific to the energy sector and should easily be filled by Mozambican firms initially while the government and the IOCs work out the necessary workforce development, specialized training and institutions to begin participating in jobs directly supporting the IOCs as Mozambican EPCs. However, this is just the start of the country's local content. In the eyes of Mozambican policymakers, it is an economic imperative, over the long term, to build a natural gas-driven economy with a high level of local content across the entire value chain similar to Nigeria or Trinidad and Tobago.

The Expectations of Stakeholders: Local Content versus Windfall Revenues

The cases of Uganda and Mozambique present two very different examples of how a country's reserves can determine the economic imperative for local content. However, understanding these cases and appreciating the complexity of each country's reserves requires significant specialized knowledge that is often not possessed by stakeholders in a new-producing country. Most stakeholders' expectations are tied to the expected economic benefits to be reaped from developing these reserves.

The primary economic benefits are in the form of rents paid by IOCs to explore, develop, produce and sell the oil and gas found in a country. Managing the revenues, and the expectations of these revenues, is a significant challenge and has been discussed previously in the KAPSARC Energy Workshop Series on Eastern Africa (see KAPSARC papers KS-1520-WB18A and KS-1525-DP020A). In the case of most new oil and gas producing countries in Africa, the windfall of government revenue from these rents will surpass the economic impact of any local content created or increased productivity gains from existing industrial sectors.

A discussion of local content requirements, especially those driven by a political imperative rather than economic, should be a part of the larger discussion about the economic benefits of natural resource development. In other words, the political imperative to create jobs in an emerging energy sector should not come at the expense of resource revenues due to flow to a country's national treasury.

Stringent unrealistic local content requirements can create costly delays to oil and gas projects that increases the capital expenditure required to develop the reserves. These cost increases are not usually absorbed by the IOCs, but are instead passed on to the host country ultimately reducing the revenues received by the government. The political imperative to create jobs notwithstanding, it is difficult to conceive a scenario where onerous local content requirements, which delay oil and gas projects causing major cost overruns, could end up creating robust forward linkages that spur economic growth in excess of the foregone rents. Policymakers in new-producing countries advocating for strong local content requirements as a political imperative should be aware of this trade-off.

The Expectations of Stakeholders: Midstream & Downstream Development

As we saw previously in the Uganda and Mozambique examples, the opportunity for local content in the upstream business varies widely depending on the scale of the discoveries and the complexity of the development plans. As such expectations of stakeholders need to be managed accordingly. Many stakeholders view midstream and downstream projects as opportunities to push for higher levels of local content than in upstream projects. Midstream and downstream projects would include building:

- Pipelines to transport gas and liquids.
- Refining, gas processing and liquefaction facilities.
- Transportation, loading, unloading and regasification facilities for LNG.
- Petrochemical plants.
- The point of sale network for selling refined products in the country.

Compared to upstream projects, these are all quite technical projects with high CAPEX and very low operating expenditures (OPEX). The opportunity for local content in the absence of such technical capacity is quite small and usually restricted to indirectly supporting IOCs and EPCs with basic services such as catering, site preparation, etc. In some development plans, the engineering processes required are so advanced (such as LNG and petrochemical plants) that direct local content can never be meaningfully achieved, regardless of how long the development window is. This can be especially challenging for local stakeholders to accept, especially because the amount of foreign direct investment required for some of these midstream and downstream projects is significantly greater than that for the upstream projects.

In Uganda, the Ministry of Energy and Mineral Development has linked the production of oil in the Lake Albert region to a refinery that will be built in Hoima. The refinery will have a capacity to produce 60,000bpd with more than $3.5b in CAPEX required for its construction. Rostec-Global Resources, the Russian state-owned industrial conglomerate, estimated that peak labor for Hoima refinery will be 4,517 jobs with approximately 60 percent local content (~2,700 Ugandan jobs). More than 2,400 of these Ugandan jobs will be unskilled labor and 255 will be low-skilled.

Similar to the upstream business, very few Ugandan workers and firms will participate in the high-tech industrial jobs involved in building and operating the refinery, largely because there is no industrial base in the country from which to develop this industry. Because these are largely unskilled jobs performing basic services, it is unlikely that any of these jobs will create significant linkages or spillovers to the broader economy. This will inevitably create a gap between the expectations of the stakeholders in Uganda's emerging oil sector and the promised impact on the economy.

It is worth noting that Uganda is the most advanced country, in terms of planning its energy sector, in Eastern Africa and is expected to be the first new oil producer in the region. The challenges experienced by Uganda described here will probably be experienced by all the other new oil and gas producing countries in the area, perhaps even to a greater extent.

Implications for the Social License to Operate

As we discussed previously, the expectations of stakeholders are closely linked to the expected economic benefits to be reaped from developing these reserves. The foreign direct investment in developing commercially viable reserves is significant, at $10b+ in the case of Uganda and more than $100b for Mozambique. Such large numbers create huge expectations that could lead to impatience and frustration in the minds of some stakeholders. Some of these stakeholders, especially those in areas where the reserves are being developed, control the social license to operate in that they have to accept the projects and the operators executing the projects.

The social license to operate is usually granted with promises of economic development and great fanfare about transforming a region with proceeds from the resource development. However, as these projects take years or decades to execute, the gap in expectations grows and operators risk losing their social license to operate when stakeholders do not believe that they are properly benefiting financially from these projects.

Beyond the corporate social responsibility programs run by the IOCs, properly managing these expectations is placing the expected economic benefits of developing resources into a proper context. One of the simplest ways to do this is to begin to discuss, in real terms, what an individual or family can expect in terms of gains in welfare from the windfall revenues that will go to the government. Presenting local content as an economic rather than a political imperative focuses the discussion on the capabilities of the host nation’s workforce and domestic industries to meaningfully participate in the sector without harming the economics of the project.

Conclusions

The expectations of stakeholders are some of the most important yet potentially overlooked aspects of developing oil and gas reserves in new-producing countries. These expectations are closely tied to the expected economic benefits to be gained from developing oil and gas reserves, but the complexity of these benefits are not well understood by stakeholders. Local content has, in a time of high oil and gas prices, been a political imperative to extract more rents from the value chain, but often without concern for how these requirements affect the economics of the projects.

Low prices have caused local content to be recast as an economic imperative that seeks to maximize domestic participation in the sector, but not to the detriment of the project and the fiscal revenues to be received by the government. The timing and complexity of developing oil and gas reserves will have a significant impact on the amount and economic impact of local content, and upstream projects generally present the greatest opportunity for maximizing local content in new-producing countries.

Getting the expectations of stakeholders “right” is key to maintaining the social license to operate. Policymakers in new-producing countries are pursuing local content as an economic imperative and emphasizing this with local stakeholders in the areas where oil and gas projects will be undertaken.

Next Steps for KAPSARC

KAPSARC is examining the efficacy of local content policies in the petroleum sector. This research project will assess local content policies being considered in Eastern Africa. Our approach involves:

Estimating plausible development and production scenarios for oil/gas reserves to understand the direct and indirect manpower and supply requirements for each country.

Surveying the enterprises that are most likely to participate in the oil and gas industry in each country and systematically assessing their capacity through structured interviews and survey instruments administered by our research partners.

Assessing the impacts of local content policies using a macroeconomic model that incorporates economic costs, local content requirements and fiscal terms of a petroleum sector into a calibrated model of the economy of each country.

KAPSARC's next workshop on this project will be held in Kampala, Uganda, and will consider macroeconomic issues of developing Eastern Africa's oil and gas.

About the Workshop

KAPSARC convened its third workshop focused on natural resource-driven development in August 2015 with some 40 international experts to facilitate a dialogue on the expectations of stakeholders in Eastern Africa's oil and gas projects. The workshop was held under Chatham House rules.

Participants included:

Dr. Jennifer Anderson – Second Secretary U.S. Embassy, Kampala

Mr. Jason Bordoff – Director, Center on Global Energy Policy, Columbia University

Mr. Lambert Botha – Director, Hilton Lambert

Ms. Andrea Buser – Coordinator – Issues Monitor World Energy Council

Dr. Ananth Chikkatur – Manager, ICF International

Ms. Denise Cortes-Keyser – Executive Director Associação de Comércio e Indústria (ACIS)

Mr. Ronald Goboola – Ministry of Energy and Mineral Development, Uganda

Mr. Bashir Hangi – Ministry of Energy and Mineral Development, Uganda

Mrs. Sumayya Hassan-Athmani – Chief Executive Officer, National Oil Corporation of Kenya

Mr. Clovice Irumba – Ministry of Energy and Mineral Development, Uganda

Dr. Christine Jojarth – Lecturer, Stanford University

Ms. Sheila Khama – Director, African Natural Resources Center (ANRC), African Development Bank (AfDB) Group

Mr. Andrey Kozenyashev – Regional Representative – East Africa, RT Global Resources

Dr. Bohela Lunogelo – Principal Research Associate, Economic and Social Research Foundation

Dr. João Machado – Local Content Coordinator, Associação de Comércio e Indústria (ACIS)

Mr. Agostinho Machava – Researcher, Centro de Estudos Economicos e Gestao (CEEG)

Mr. Amad Mamad – Operation Director, ENH Logistics

Dr. Osmel Manzano – Principal Economist, Inter-American Development Bank

Mr. Joseph Mawejje – Research Associate, Economic Policy Research Center

Mrs. Anthea Middleton – Workforce Planning Manager, Energy Skills Queensland

Ms. Mary M'Mukindia – Oil & Gas Consultant, Board Resourcing Ltd

Mr. Paul Mollet – Senior Advisor to the Secretary General – Middle East/Gulf States, World Energy Council

Mr. Martin Mungai – Chief Accountant, National Oil Corporation of Kenya

Ms. Betty Namubiru – National Content Officer, Ministry of Energy and Mineral Development, Uganda

Mr. Vasco Nhabinde – Director, National Directorate for Studies and Policy Analysis (DNEAP)

Mr. Julião Nhaquila, Social Projects Manager, ENH Logistics

Mr. Fernando Nhantumbo – National Content Manager, Anadarko Mozambique

Mr. Tony Okao Otoa – Public Affairs Coordinator/ National Content Leader, Total E&P Uganda

Mr. Charles Nyangi – Director of Internal Audit, Tanzania Petroleum Development Corporation

Dr. Babu Ram – Chief Power Engineer, African Development Bank/African Development Fund

Mr. Ernest Rubondo – Director of Petroleum, Ministry of Energy and Mineral Development, Uganda

Ms. Claire Scott – Co-Chairman, Global Local Content Council

Mr. Godfrey Simbeye – Executive Director, Tanzania Private Sector Foundation

Mr. Stephane Sole – VP East Africa, Technip

Dr. Sarah Ssewanyana – Executive Director, Economic Policy Research Center

Mr. Thomas Viot – Senior Extractives Officer, ANRC, AfDB

Professor Harrie Vredenburg – Suncor Energy Chair, University of Calgary

Mr. Gituro Wainaina – Director Social and Political Pillars, Kenya Vision 2030 Delivery Secretariat

About the Team

Anne-Sophie Corbeau

Anne-Sophie is a research fellow specializing in global gas markets. Before joining KAPSARC, she worked for the International Energy Agency and IHS CERA.

Baltasar Manzano

Baltasar is a visiting research fellow at KAPSARC. He is an associate professor and researcher at Universidad de Vigo in Spain.

Daniel Mabrey

Daniel is a research fellow in the Human Geography of Energy program and is project lead on KAPSARC's studies in Eastern Africa. He is also an associate professor at the University of New Haven in CT, USA.

Atrem Malov

Artem is a senior research associate primarily focused on East Africa indigenization project. Prior to joining KAPSARC, Artem worked as a subject matter expert in IHS Global Energy.

Roger Tissot

Roger is a research fellow specializing in local content research for the Eastern Africa project. He previously worked for CERI, EnCana Corp., and PFC Energy (IHS CERA). Roger holds a MA in Economics and an MBA from the University of Calgary, Canada.

Akil Zaimi

Akil is a senior research fellow, previously advising governments and companies on oil and gas investments, deals, financing and upstream fiscal terms. Akil graduated from Ecole Centrale Paris as an engineer and from the French Institute of Petroleum as an engineer economist.

About the Project

Our project is titled Energy Development in New Producing Countries and seeks to understand how natural resource development can achieve inclusive economic growth through the localization of economic activities. We are engaged in a multiyear, multi-disciplinary study with three objectives:

- Assess the direct fiscal impact and trade-offs of policy choices.
- Understand how industry can be localized to create economic growth.
- Estimate spillovers and welfare impacts to society.

Our initial focus is on four countries – Kenya, Mozambique, Tanzania and Uganda – that expect to develop significant oil and gas reserves in the next 5-7 years. Through natural resource development, these countries hope to achieve middle-income economic status by 2030-2040.

KAPSARC

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