



PLANNING FOR THE FUTURE AND PROMOTING NATIONAL CONTENT

A survey to foster opportunities for
Ugandans in the Oil and Gas sector

1. INTRODUCTION

BY THE GENERAL MANAGERS



Dear Reader,

The three Joint Venture (JV) partners comprising CNOOC Uganda Limited, Total E&P Uganda and Tullow Uganda Operations Pty Ltd have over the years demonstrated their commitment to National Content development in Uganda. This has been accomplished by engaging with the local business community through supplier expansion and contracting activities and by employing and training Ugandans through scholarships for advanced level education and support to tertiary institutions. We have also invested in social development programs.

Following the signing of the MoU between the Government of Uganda and the oil companies on February 5th 2014 in which it was agreed that commercialisation of Uganda's oil would be through a crude export pipeline, an oil refinery and petroleum to power project, preparations for the implementation of the development phase can now commence. To prepare for the implementation of the development phase of Uganda's oil and gas project, we agreed on the need to determine and align the potential demand of the project for goods and services with the capacity of the Ugandan market to deliver them. Accordingly, an extensive Industrial Baseline Survey (IBS) was undertaken through detailed consultation within the Joint Venture technical teams, with Government counterparts, and with a survey

of the private sector in the country. This survey assessed the quantity and quality of goods and services that will be required for the project we are undertaking as compared to the existing human and productive capacity of the Ugandan market.

This survey has been commissioned with a clear objective to promote national content as much as possible during the development and production phase of the project. We are proud to be pioneers in having launched such an industrial survey at this early stage of the project.

The results of the IBS reflected in this Communication Tool show the following key messages:

- The Lake Albert Basin Development Project will create between 100,000 to 150,000 jobs through direct, indirect and induced employment. As far as direct jobs are concerned (i.e. directly linked to the oil project), most of the jobs will be at technician level and the number will be very limited with a range of 11,000 to 15,000 (indirect jobs can also be at technician level). A great majority of indirect and induced jobs will be created by other sectors which will benefit from the economic development triggered by the oil project.
- A major challenge relating to human resources will be in the number and level of certification of technicians to comply with oil and gas standards.



- Some industries will be able to absorb project demands while many will need to enhance their capacity in terms of production volumes and standards.
- For the business community to respond effectively to the demands of the oil and gas development project, they will require more visibility and information about business opportunities and investment in technology and capacity.

To support the development of the required capacity, the survey recommends the following actions:

- Regular and sustained communication is established between the Government of Uganda, the Joint Venture partners and the business community in Uganda to explain the available opportunities.
- Promote the development of Ugandan companies.

Xiao Zongwei
President
CNOOC Uganda limited

Loïc Laurandel
General Manager
Total E&P Uganda

Jimmy D. Mugerwa
General Manager
Tullow Uganda Operations Pty Ltd

- Partner with the Uganda education system to produce qualified graduates for the industry.

All parameters towards making National Content in the oil and gas sector a success story are known. Government of Uganda, oil companies, development agencies and local service providers should work hand in hand with confidence toward this goal. It is now all about partnering in the most constructive and conducive manner to transform this aspiration into a grand reality for the Ugandan people, the Ugandan business community and the investors.

We will therefore engage with all stakeholders to implement the recommendations of the Industrial Baseline Survey and thereby support Uganda to realise its aspirations as an oil producing country.

We look forward to working with you all to achieve this noble objective.

2. Methodology Used



Methodology

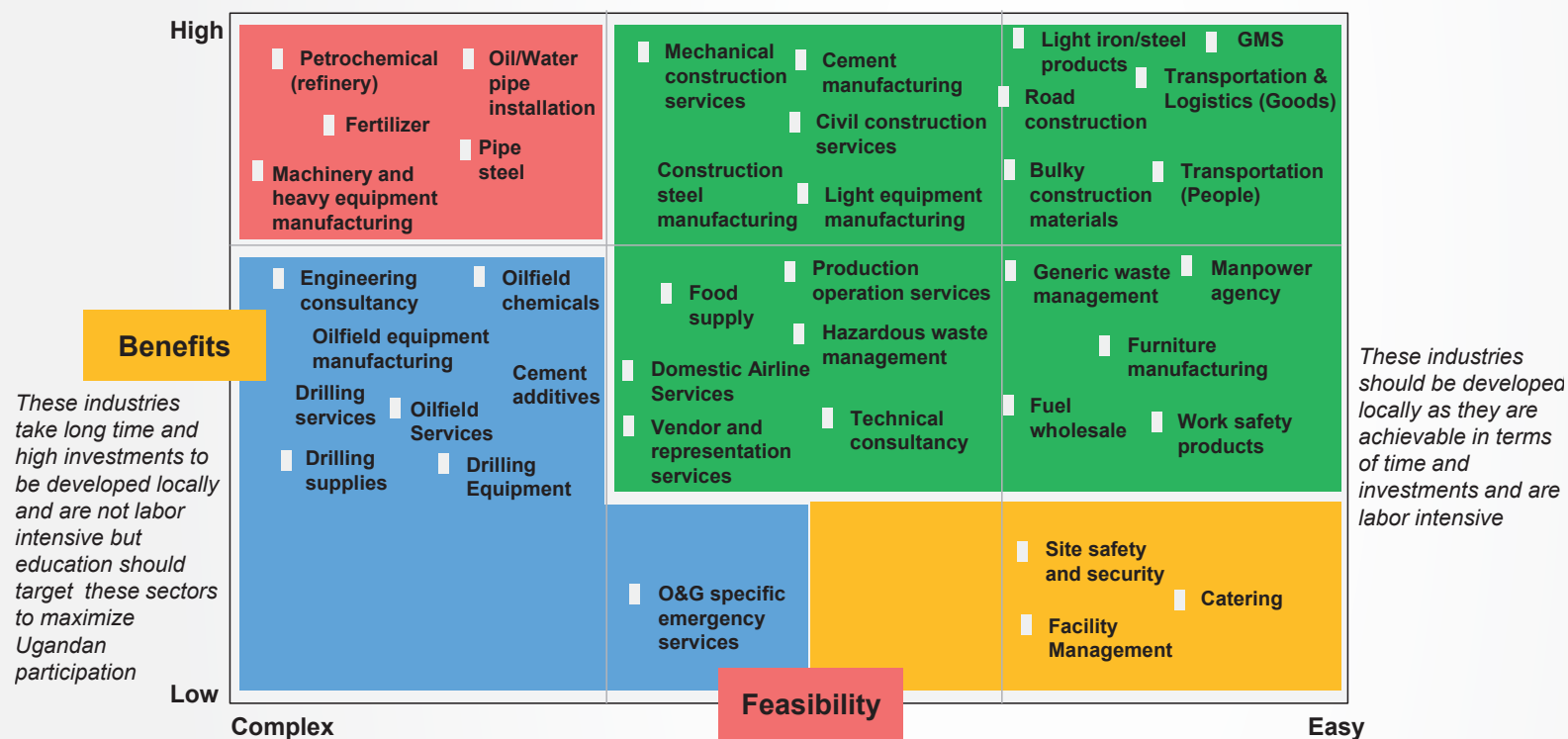
- The first step of the Industrial Baseline Survey was dedicated to identifying the industrial sectors likely to be directly or indirectly impacted by future oil and gas projects in Uganda.
- Among all sectors identified, 25 revealed a higher potential for national content based on an assessment of both their benefits to the country (number of jobs created and skill level of jobs) and feasibility (investment intensity and ramp up time required to reach oil and gas standards)
- The second step focused on the analysis of the supply and demand of the 25 selected industries and corresponding gaps.
- It also included the assessment of future manpower needs that will be generated by the Lake Albert project among several segments: number of people required by phase of the projects, by education background, by skill level, by function, by certification type...
- A manpower database has been designed to assess future manpower needs, listing approximately 400 positions required to build and operate Lake Albert oilfields. This database forms the basis of the manpower demand analysis.

2. Methodology Used



INDUSTRIES RELATED TO FUTURE OIL AND GAS PROJECTS DIRECTLY OR INDIRECTLY, CLASSIFIED IN TERMS OF POTENTIAL FOR NATIONAL CONTENT DEVELOPMENT

Mapping of selected industries according to benefits and feasibility



Source: SBC analysis

2. Methodology Used



MANPOWER DEMAND OVER THE ENTIRE PERIOD OF LAKE ALBERT PROJECT WAS ANALYZED ALONG SEVERAL SEGMENTS

Assumptions on manpower segmentation

POSITIONS REQUIRED BY LAKE ALBERT I PROJECTS (list of 400+)

Phase	Domain	Job Type	Educational background	Minimum level of Education	Source of recruitment
Construction	ECC	Structural control engineer	Civil engineering	Higher diploma	EPC
Construction	ECC	Building / Structural erector	Craftsman certification	O-level	EPC
Construction	ECC	Building / structural foreman	Craftsman certification	UK3/EU4	EPC
Construction	ECC	Cable trays erector	Craftsman certification	O-level	EPC
Construction	ECC	Civil control engineer	Civil engineering	Higher diploma	EPC
Construction	ECC	Civil foreman	Craftsman certification	UK3/EU4	EPC
Construction	ECC	Civil operator	Craftsman certification	O-level	EPC
Construction	ECC	Construction foreman	Craftsman certification	UK3/EU4	EPC
Construction	ECC	Control engineer	Civil engineering	Higher diploma	EPC
Operations	O&M	Production Supervisor	Electrical/Mechanical engineering	Higher diploma	O&G Operators
Operations	OS	PTW-Co ordinator	Electrical/Mechanical engineering	Degree	O&G Operators
Operations	O&M	CCR Operator	Electrical/Mechanical engineering	Higher diploma	O&G Operators
Operations	O&M	Production Technician	Electrical/Mechanical engineering	Higher diploma	O&G Operators
Operations	O&M	Production General Assistant	Non-technical education	Ordinary diploma	O&G Operators
Operations	O&M	Production Chemist	Chemical engineering	Higher diploma	O&G Operators
Operations	O&M	Trainee Production Technician	Electrical/Mechanical engineering	UK3/EU4	O&G Operators

BY PROJECT PHASE

- Construction of upstream facilities, construction of the refinery, drilling, operations, pipeline, etc.

BY DOMAIN

- Operations & Maintenance, Engineering construction installation, Transport & Logistics, Civil Engineering, etc.

BY SKILL LEVEL

- Engineer, technicians, managers
- Skilled, semi-skilled, unskilled

BY EDUCATIONAL BACKGROUND

- Electrical engineering, mechanical engineering, welding certification, driving certification, hoisting & lifting certification, etc.

BY EDUCATION LEVEL

- BSc, MSc, Higher and Ordinary diploma, etc.

BY EMPLOYER

- Oil & Gas operators, EPC contractors, etc.

3. General Findings



◆ Manpower Demand

KEY MESSAGES ON FUTURE MANPOWER NEEDS

- The Lake Albert Basin Development projects **will generate thousands of direct jobs in Uganda**, with a peak of about 13,000 workers in the construction phase and a plateau at 3,000 people in the operation phase.
- **Out of total manpower required**, 15% are engineers & managers, 60% are technicians and craftsmen and 25% are people without any educational background ('unskilled').
- Education focus should be **on civil construction, electrical and mechanical fields**
- Beyond direct jobs that will be created on site, Oil & Gas activity will also have a potential to **generate 100,000 to 150,000 indirect and induced jobs**
- Out of total newly created jobs, **80% will be short-term** for the peak of construction and will have to be transferred

3. General Findings

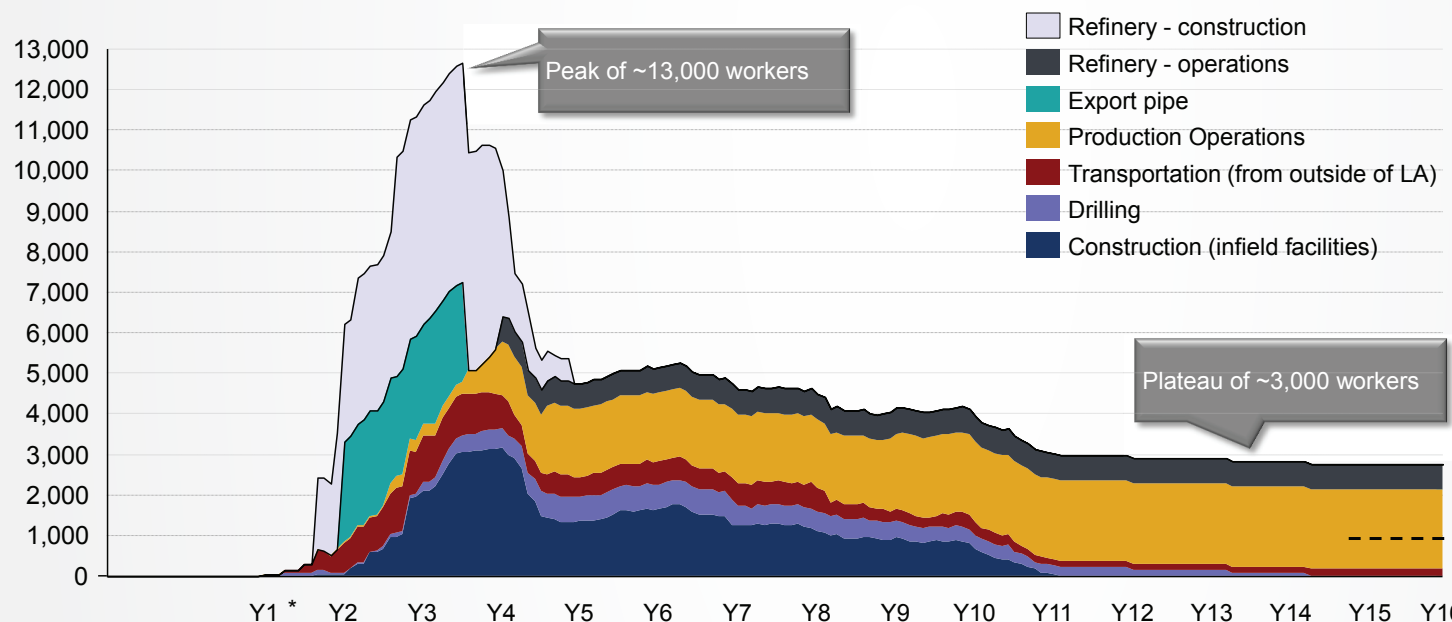


◆ Manpower Demand

THE LAKE ALBERT BASIN DEVELOPMENT PROJECTS WILL GENERATE THOUSANDS OF DIRECT JOBS IN UGANDA, WITH A PEAK OF ABOUT 13,000 WORKERS AND WILL PLATEAU AT 3,000 PEOPLE IN OPERATIONS

Manpower split by development phase, refinery included

Cumulative number of people required to build and operate Lake Albert projects on site



Source: S BC analysis; data from CNOOC, Total E&P; Tullow
Note Year 1 (Y1) represents the starting point of the Lake Albert project construction phase

3. General Findings

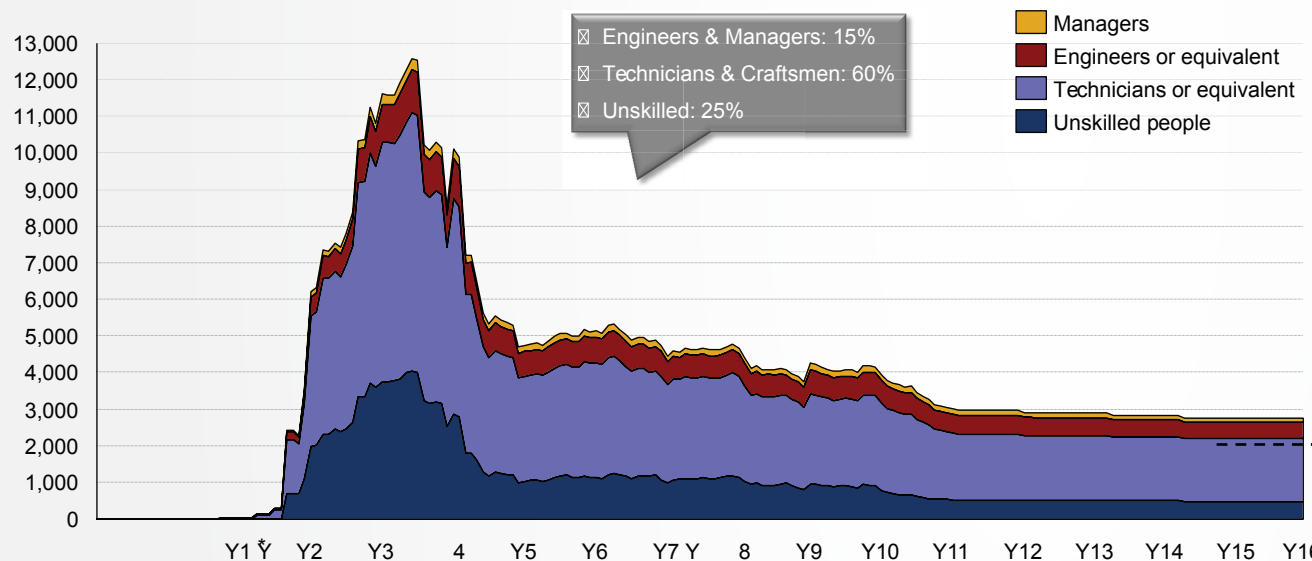


◆ Manpower Demand

OUT OF TOTAL MANPOWER REQUIRED, 15% ARE ENGINEERS & MANAGERS, 60% ARE TECHNICIANS AND CRAFTSMEN AND 25% ARE PEOPLE WITHOUT ANY EDUCATIONAL BACKGROUND (CASUAL WORKERS)

Manpower split by skill level

Cumulative number of people (Full Time Employees)



Source: SBC analysis; CNOOC; Total; Tullow

Note: All manpower quantities were obtained under assumption of "stick built" approach to construction, as opposed to "modularization" approach
Year 1 (Y1) represents the starting point of the Lake Albert project construction phase

3. General Findings

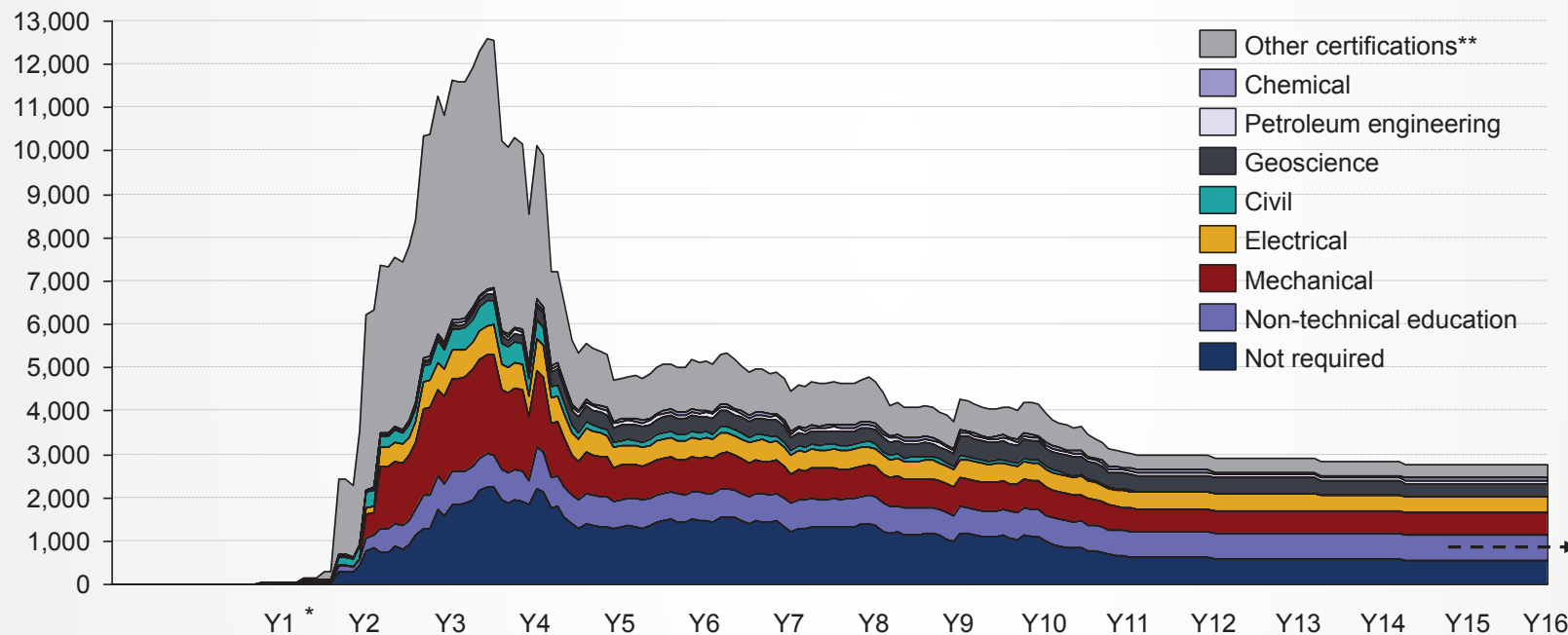


◆ Manpower Demand

EDUCATION FOCUS WILL HAVE TO BE ON CIVIL CONSTRUCTION, ELECTRICAL AND MECHANICAL FIELDS

Manpower split by broad education background

Cumulative number of people (FTE)



Source: SBC analysis; ONOOC; Total; Tullow

Notes: * Year 1 (Y1) represents the starting point of the Lake Albert project construction phase

** Other certification includes driving (heavy duty and passenger trucks), welding (pipes), welding (plate), hoisting and lifting, machine operators.

3. General Findings



◆ Manpower Demand

BEYOND DIRECT JOBS, THE INDUSTRIAL BASELINE SURVEY ALSO CONSIDERED INDIRECT AND INDUCED JOBS

- Beyond the direct jobs generated by the construction and operation phases of the Lake Albert Basin Development projects, oil and gas activities will generate demand in other activities outside the strict boundaries of petroleum activities.
- An important number of industries will be boosted by oil and gas projects offsite, like environmental services, manpower agencies, construction materials, food industry, etc. Jobs generated by these activities qualify as indirect jobs.
- Beyond direct and indirect jobs, many jobs will be 'induced' by oil and gas activities. By 'induced', we refer to wealth generated through the redistribution of oil revenues in the local economy. This distribution happens either naturally through individuals spending the money earned through oil and gas projects or deliberately with the Government distributing oil revenues in other industrial projects like infrastructures. This re-investment of oil and gas revenues in the economy will induce jobs in sectors like hotels, banks, insurance companies, or even education system.
- The overall benefits for Uganda in terms of jobs generated directly, indirectly and in an induced manner from Lake Albert's oil and gas projects range of 100,000 to 150,000 jobs.
- 80% of future directly, indirect and induced jobs will be short-term for the peak of construction and will have to be transferred to other sectors of the industry or to the neighboring countries to remain sustainable.

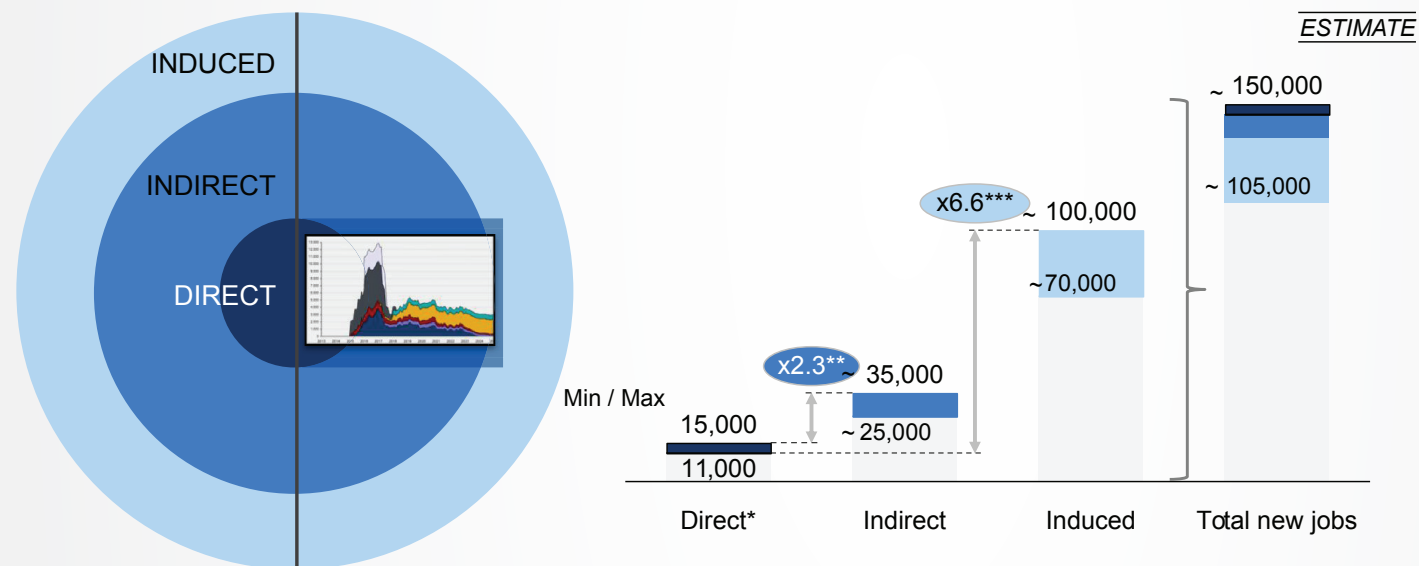
3. General Findings



◆ Manpower Demand

BEYOND DIRECT JOBS THAT WILL BE CREATED ON SITE, OIL & GAS ACTIVITY WILL ALSO HAVE A POTENTIAL TO GENERATE 100,000 TO 150,000 INDIRECT AND INDUCED JOBS

CONCEPTS OF DIRECT, INDIRECT AND INDUCED JOBS GENERATED BY OIL & GAS PROJECTS, REGARDLESS OF THE NATIONALITY OF THE PEOPLE



Source: SBC research "Madagascar" and gasfields (Stavanger - Norway, Aberdeen - UK, Macaé - Brazil, Trinidad & Tobago)

Note: * Number of jobs created was computed as peak of manpower (13,000) for LA projects. $\pm 15\%$ was added to account for uncertainty

**Ratio direct to indirect varies in the range of 2.3 - 3.8 depending on geography

***Ratio direct to induced varies in the range of 6.6 - 8.4 depending on geography

3. General Findings

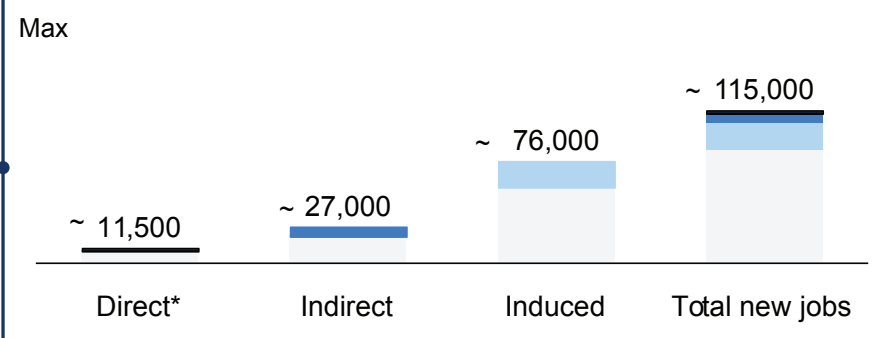
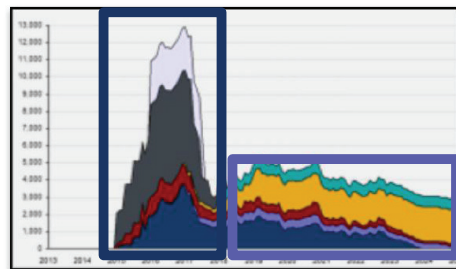


◆ Manpower Demand

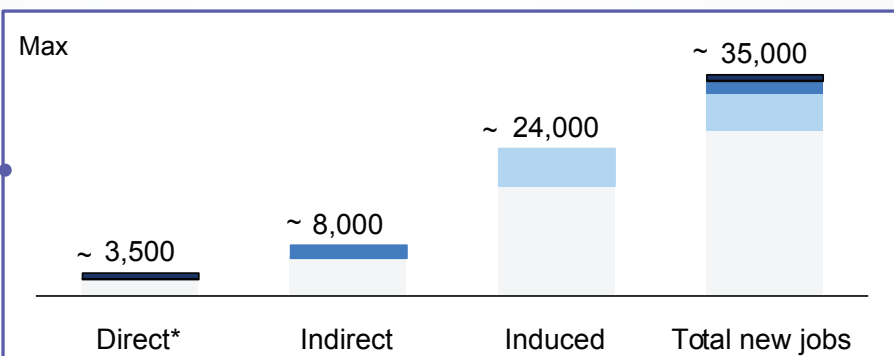
80% OF FUTURE DIRECTLY, INDIRECT AND INDUCED JOBS WILL BE SHORT-TERM FOR THE PEAK OF CONSTRUCTION AND WILL HAVE TO BE TRANSFERRED TO OTHER SECTORS OF THE INDUSTRY OR TO THE NEIGHBORING COUNTRIES TO REMAIN SUSTAINABLE

ESTIMATE

Short-term job creation
(Construction phase)



Long-term job creation
(Production Operations phase)



3. General Findings



◆ Manpower Demand

MAIN INSIGHTS ON THE RISK OF FUTURE SHORTAGE OF MANPOWER

- The survey reveals that there will be a number of gaps in absolute values for certain jobs: civil craftsmen, drivers and mechanical technicians. For electrical technicians and welders, the main challenge will be to avoid 'drying out' the rest of the Uganda economy.
- Workers and engineers need to be certified in several disciplines, i.e. they need to receive an accreditation allowing them to work on an oilfield site.
- A major effort of certification will be required in the medium term to comply with oil and gas projects standards.

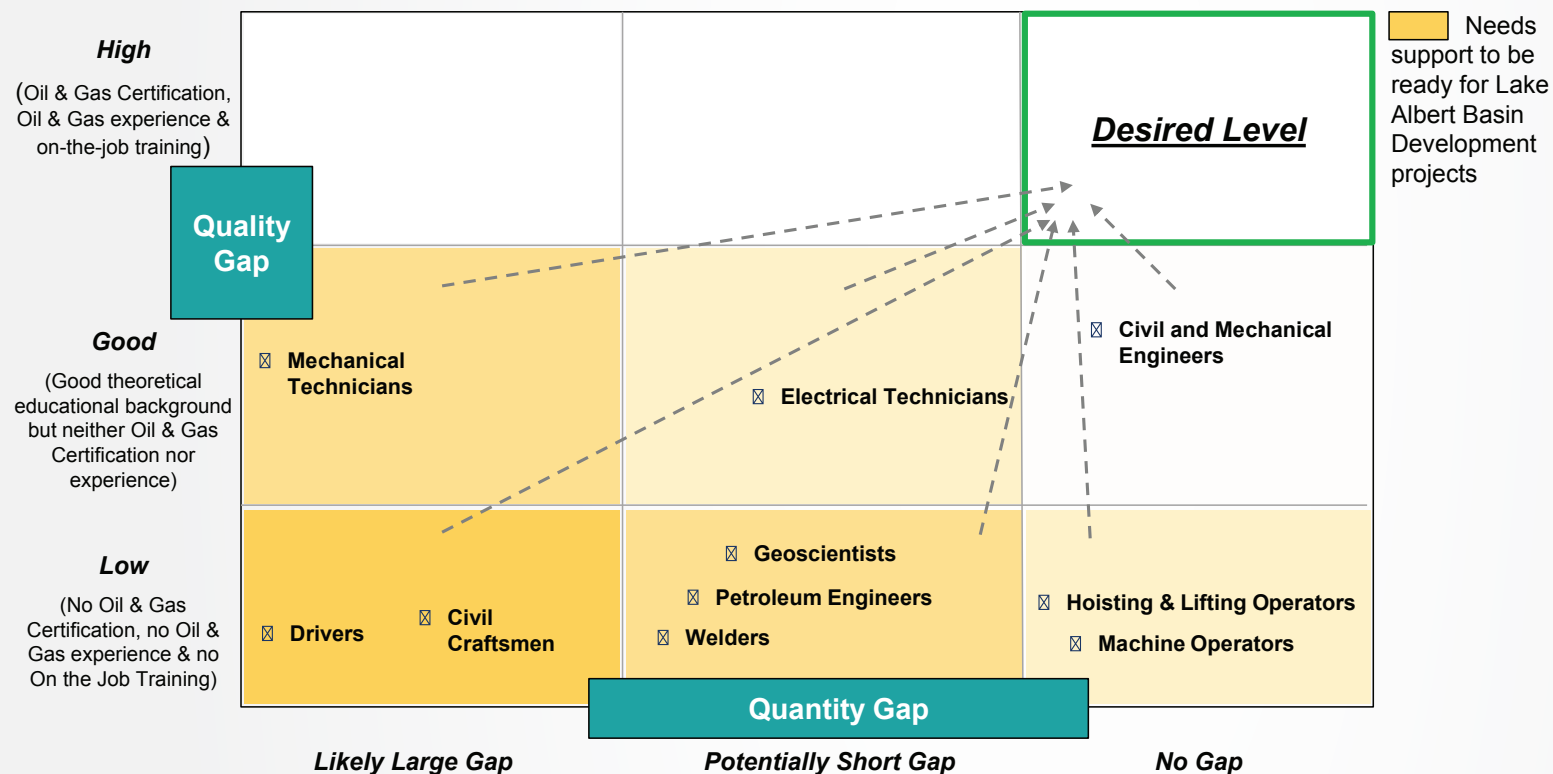
3. General Findings



◆ Manpower Demand

THE SURVEY HIGHLIGHTS QUANTITATIVE AND QUALITATIVE GAPS TO COMPLY WITH OIL AND GAS REQUIREMENTS

MAPPING OF MANPOWER REQUIRING FUTURE SUPPORT Split by Skill Level



3. General Findings



◆ Industry Demand

KEY MESSAGES ON THE ANALYSIS OF INDUSTRY IN UGANDA
























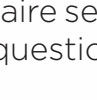
- The survey highlights industries whose capacity or compliance with Oil & Gas standards require future support in order to avoid massive imports.
- All sectors will need to upgrade the quality of their overall management standards and quality of delivery to align with oil and gas expectations.
- Some sectors will need a complete transformation to be able to cope with future needs as the gap between future demand and current supply is at the range of the multiplier, like transportation and logistics (goods) or hazardous waste management.
- Finally, the survey reveals that a few industries should be able to absorb the peak of demand, like cement or structural steel.

3. General Findings



◆ Industry Demand

LIST OF THE 25 INDUSTRIES ANALYZED

Transportation & Logistics (Goods) 	Civil construction services 	Production operations services 	Food supply 
Transportation (People) 	Mechanical construction services 	Security services 	Work safety products 
Cement 	Road Construction 	Domestic airline services 	Light equipment manufacturing 
Bulk construction Material 	Generic waste management 	Fuel wholesale 	Technical consulting services 
Reinforcement steel manufacturing 	Hazardous waste management 	Manpower agencies 	Vendors 
Structural/Flat steel manufacturing 	General maintenance services 	Catering 	Furniture manufacturing 
		Facility management services 	

- These 25 industries were analyzed in detail through a questionnaire sent to companies involved in the sectors concerned. The questionnaire was designed to be short and simple, with questions limited to production capacities of companies, number and profiles of employees.
- Questionnaires were sent to hundreds of companies out of which 200 prominent companies responded, representing a large percentage of Production capacities in the country. In addition to these data analyses, almost 100 physical meetings and interviews were held, including the 60 biggest industrial in the sectors analyzed. The objective of these meetings was to get a better view of the realities in Uganda, beyond the information collected through the questionnaires.

3. General Findings



◆ Industry Demand

SOME SECTORS WILL NEED A COMPLETE TRANSFORMATION TO BE ABLE TO COPE WITH FUTURE NEEDS, LIKE TRANSPORTATION & LOGISTICS (GOODS) INDUSTRY

Freight transport by road, warehousing and storage, lifting services, and other transportation support activities (clearing, customs, forwarding)

INDUSTRY DEMAND ANALYSIS

Demand of trucks *

of trucks per month



QUALITY

- ☑ O&G Producers Land transportation safety recommended practice: n° 365, revision 1.1+Guidance Note 6
- ☑ At least ISO 9001

ASSUMPTIONS ON DEMAND

- ☑ Trucks for bulky material capacity – 15m3
- ☑ Trailer for equipment capacity – 20 tons
- ☑ Truck for food – 20 tons
- ☑ Rotation time for Mombassa - 15 days, for Uganda – 7 days

Source: SBC analysis

Note: * Trucks include heavy duty vehicles required for transportation of equipment, raw bulky material and food & water.



3. General Findings



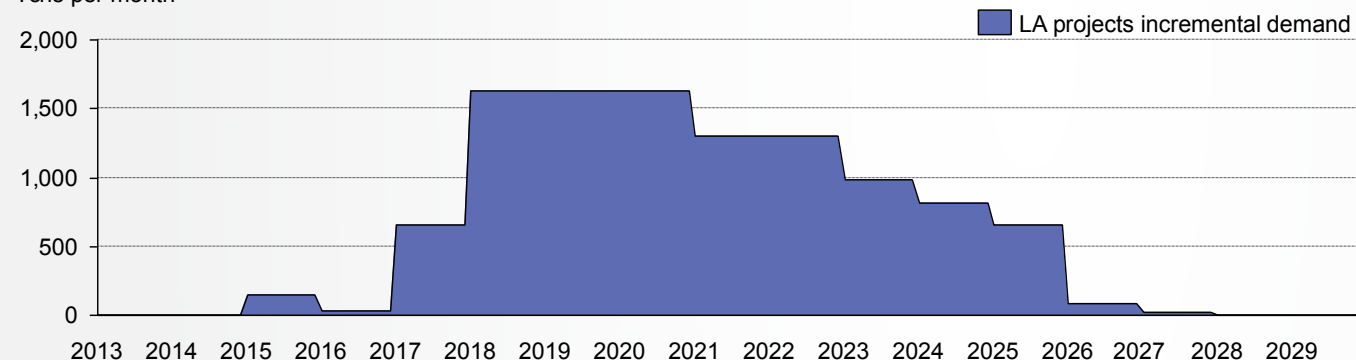
◆ Industry Demand

SOME SECTORS WILL NEED A COMPLETE TRANSFORMATION TO BE ABLE TO COPE WITH FUTURE NEEDS, LIKE HAZARDOUS WASTE DISPOSAL

Collection, transportation and storage of hazardous waste (bio-hazardous waste, used oils and batteries, etc.), and collection of oil based mud cuttings from drilling activities

Demand of hazardous waste disposal

Tons per month



■ Compliance with local and international standards and certifications on hazardous waste transportation and disposal

Source: SBC analysis

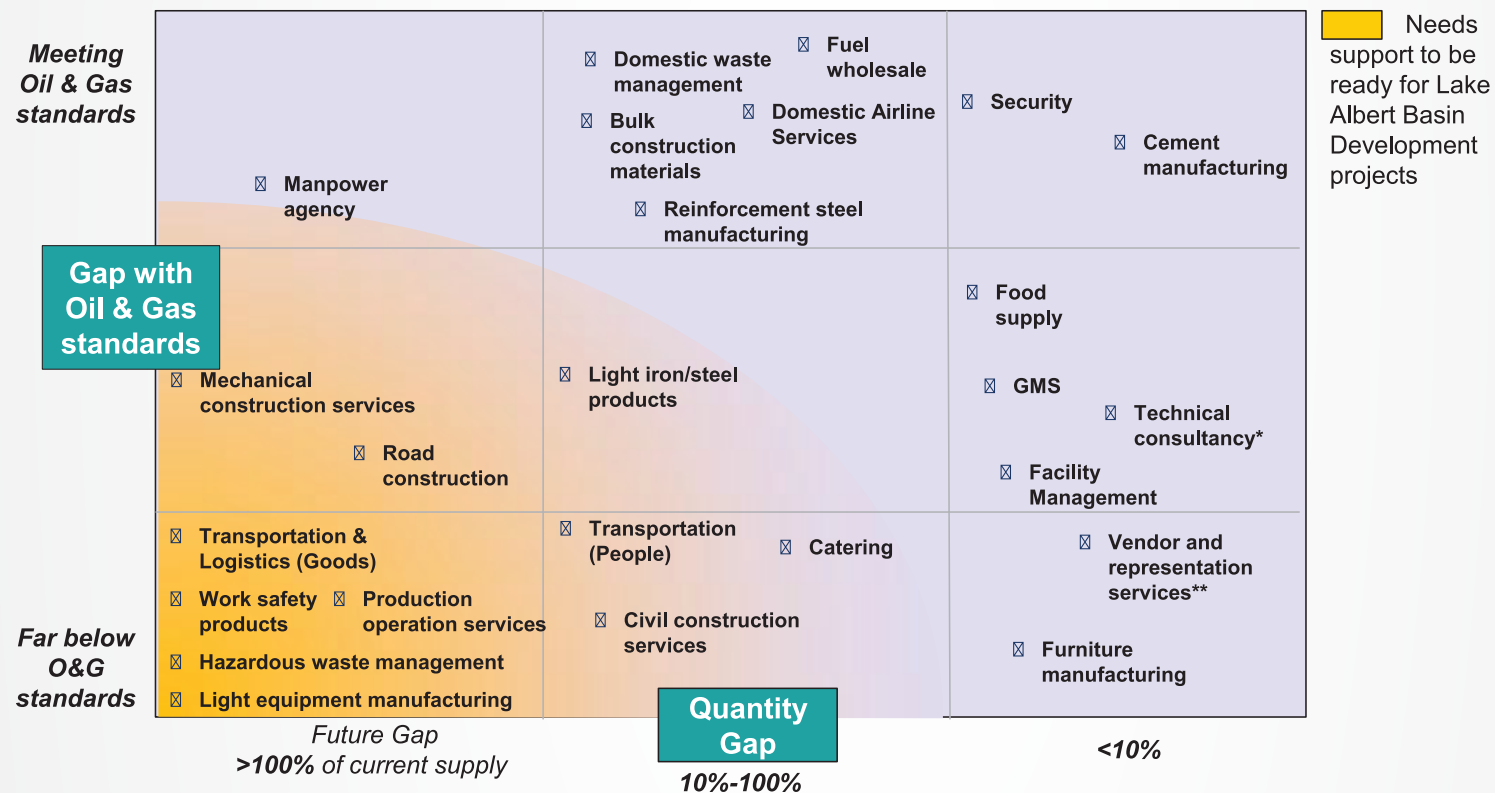
- Oil based mud cuttings constitute to the vast majority of total hazardous waste
- Oil based mud cuttings per well - 70% of all cuttings
- 280 tons of cuttings per well



◆ Industry Demand

THE SURVEY HIGHLIGHTS INDUSTRIES WHOSE CAPACITY OR COMPLIANCE WITH OIL & GAS STANDARDS REQUIRE FUTURE SUPPORT IN ORDER TO AVOID MASSIVE IMPORTS

MAPPING OF INDUSTRIES REQUIRING FUTURE SUPPORT



3. General Findings



◆ Main Issues

UGANDAN COMPANIES INTERVIEWED EXPRESSED THEIR CONCERNS

- Ugandan companies call for more visibility over the future needs of the oil and gas projects, clear and straightforward support from large companies, banks and public authorities to get ready for the start of the construction phase (access to credit, support to improve management standards, ...).
- The first barrier to development mentioned by suppliers in Uganda is the lack of visibility on future oil and gas projects. When will the needs start? What type of products and services will be required? At which standards? Timeline? Quantities...?
- The second barrier is the difficulty to access the capital required to invest and develop activities. Rates for loans in Uganda are extremely high making it nearly impossible for interested parties to develop any business.
- Other improvements expected to develop the economy relate to the quality of infrastructures (roads, power supply), and higher level of skills among workers.

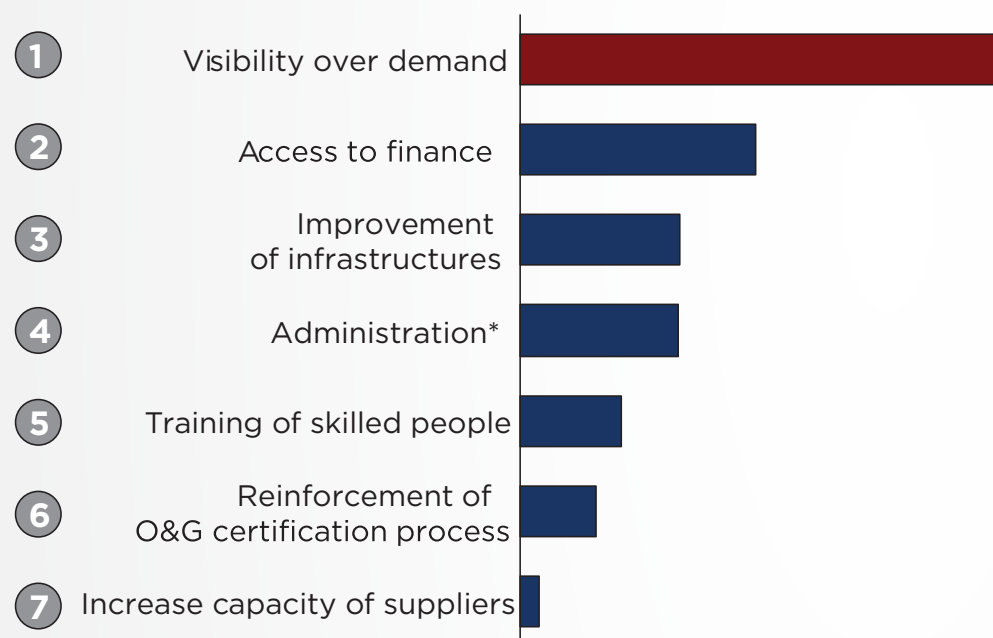
3. General Findings



◆ Main Issues

UGANDAN COMPANIES CALL FOR MORE VISIBILITY OVER THE FUTURE NEEDS OF THE OIL AND GAS PROJECTS AND SUPPORT FROM LARGE COMPANIES, BANKS AND PUBLIC AUTHORITIES

MAIN ISSUES TO BE ADDRESSED FOR ENHANCEMENT OF CAPACITY BUILDING IN UGANDA Descending order as per suppliers' answers



Source: SBC analysis; Supply survey of Ugandan companies, 2013
Note: * Process of obtaining required approvals (safety, environmental, electricity installation, investment, etc.) from the public administration

4. National Content measures proposed



PROPOSED ACTIONS TO DEVELOP NATIONAL CONTENT IN UGANDA

MAIN ISSUES TO BE ADDRESSED FOR ENHANCEMENT OF CAPACITY BUILDING IN UGANDA

Descending order as per suppliers' answers

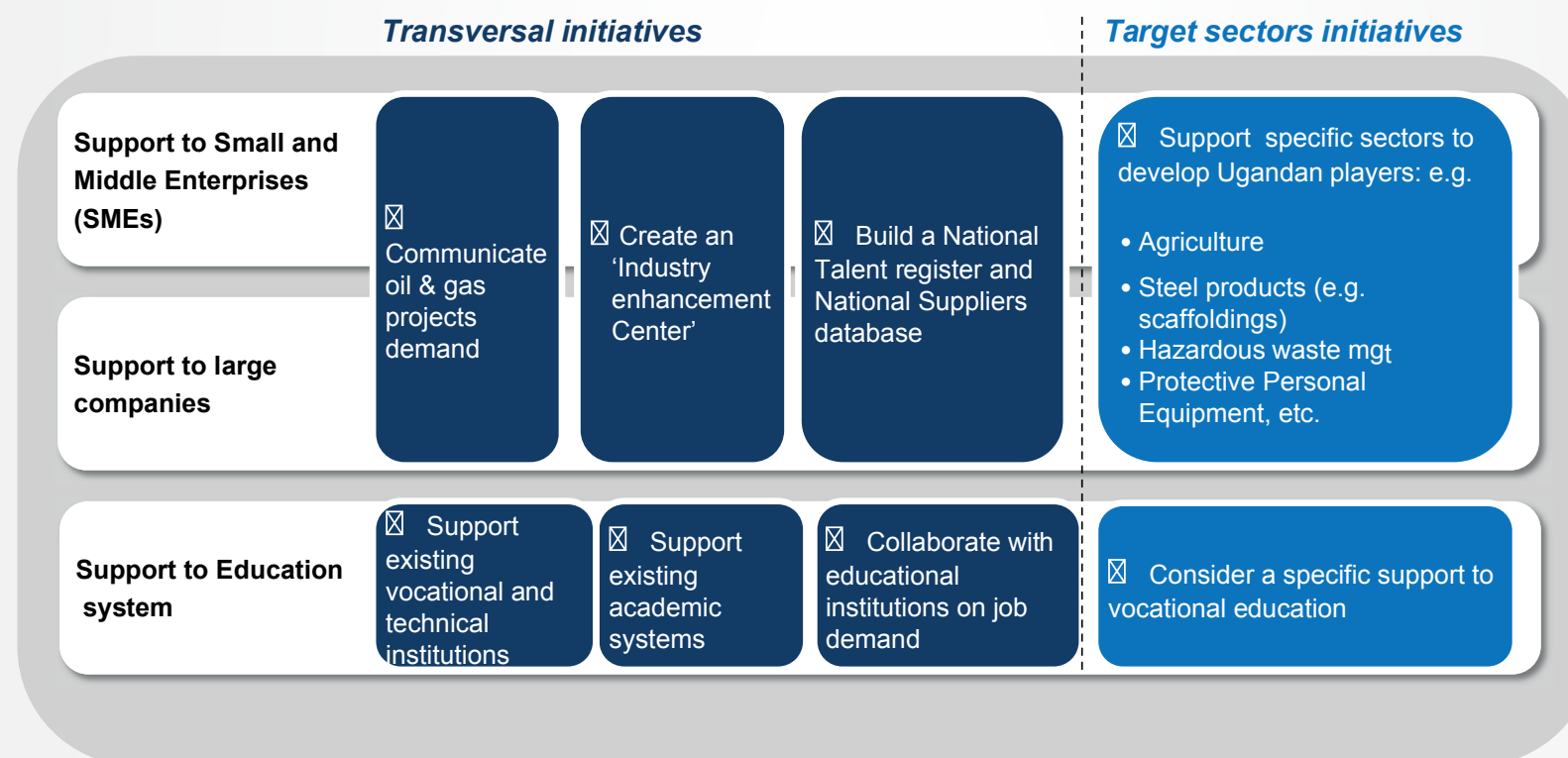
- Support actions should be taken to enhance the participation of Ugandans in the sector in order to reduce as much as possible the importation of supply and services.
- On the basis of the results of the Industrial Baseline Survey (IBS), the three operators have proposed a series of initiatives to develop the industrial capabilities of Ugandan companies and Ugandan professionals.
- These recommendations relate to three main objectives:
 1. Bridging the communication gap between oil & gas companies and Ugandan industrials by initiating a regular and supervised dialogue;
 2. Providing assistance to Ugandan companies by creating an 'Industry Enhancement Center' and offering appropriate support to specific sectors;
 3. Supporting the educational system by reinforcing the best academic institutions already in place and by founding a training center to develop qualified technicians.
- Some actions are transversal and address the overall industry in general, while other actions are meant to target specific industries.

4. National Content measures proposed



RECOMMENDATIONS / PROPOSED MEASURES TO SUPPORT THE INDUSTRIAL DEVELOPMENT IN UGANDA

HIGH LEVEL VIEW OF NATIONAL CONTENT INITIATIVES



Source: SBC analysis; Supply survey of Ugandan companies, 2013

Note: *Process of obtaining required approvals (safety, environmental, electricity installation, investment, etc.) from the public administration

4. National Content measures proposed

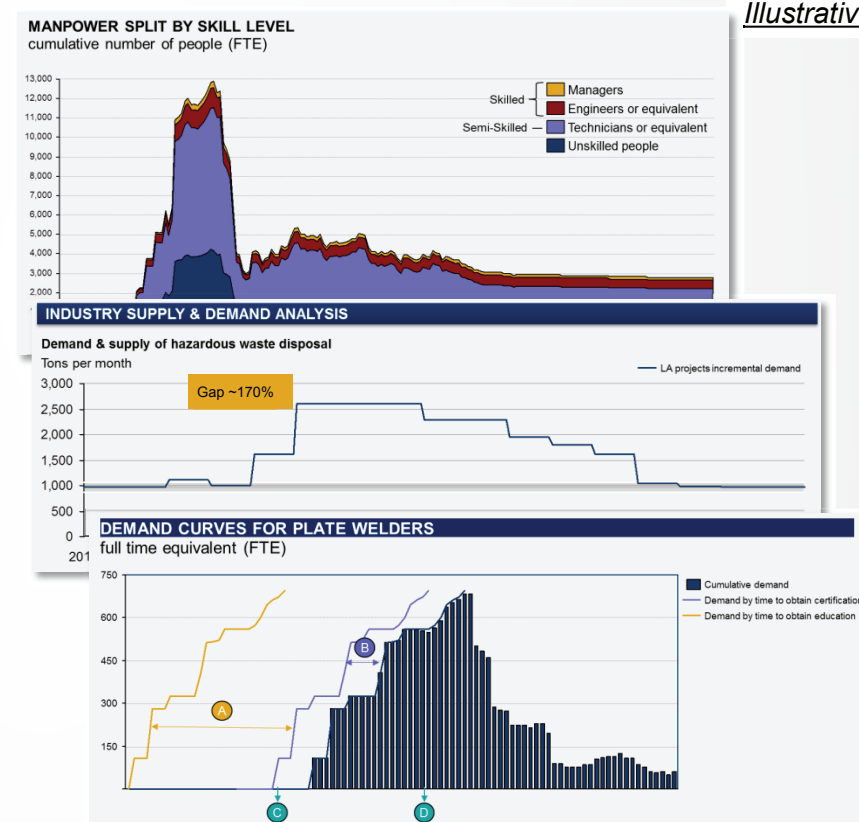


Initiative 1: Communicate oil & gas projects demand

LAKE ALBERT PROJECT'S FUTURE REQUIREMENTS IN MANPOWER AND EQUIPMENT SHOULD BE COMMUNICATED BETTER TO UGANDA COMPANIES

- The lack of information from Oil and Gas operators and public authorities to Ugandan industrial players is highly expected and is considered as the first pitfall by local businesses in their development. Potential suppliers are frustrated by the lack of visibility on future demand and timelines.
- To address this lack of communication, the three oil and gas partners have decided to communicate better during the preparatory period, i.e. before the construction phase starts.
- The information shared will be future manpower needs, future demand of equipment and raw materials demand, explanations on oil and gas specifications for certain goods and services, and projects timelines.
- Communication will be performed through a variety of channels to be determined like large dedicated forum, regular topical meetings focused on specific sectors (e.g. transportation, catering, steel...), or dedicated website to update demand levels and project timeline when required.

INFORMATION TO COMMUNICATE



Illustrative

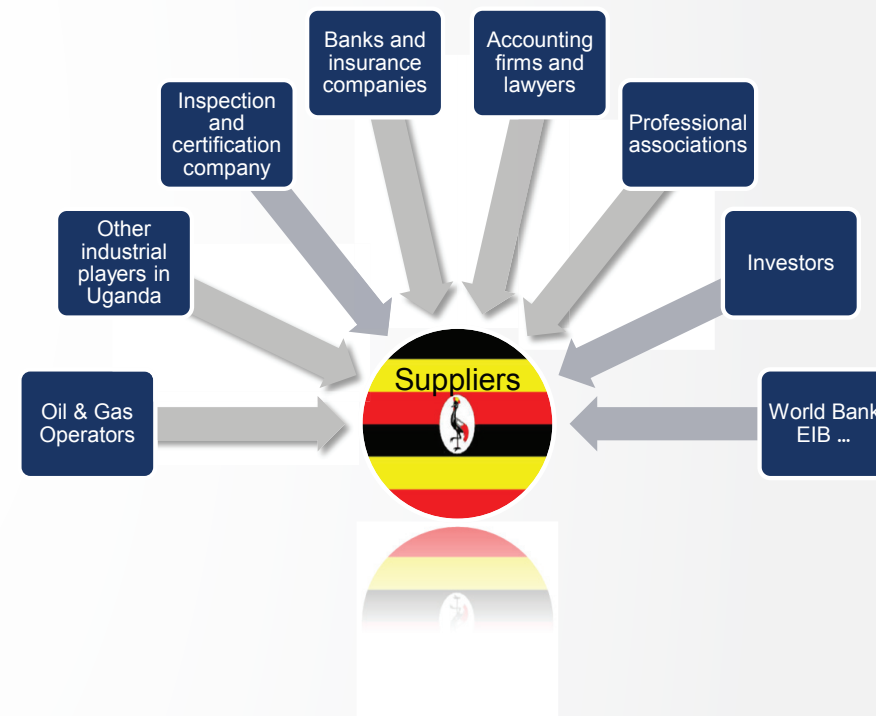
4. National Content measures proposed



Initiative 2: Create an 'Enterprise Enhancement Center'

AN ENTERPRISE ENHANCEMENT CENTER SHOULD ASSIST SUPPLIERS GET READY FOR THE CONSTRUCTION PHASE AND PREPARE THE AFTER-PEAK PERIOD

- The center based in Kampala would have double objective: raise the management standards of Ugandan companies to ease their participation to the construction phase, and anticipate the post peak period, i.e. the transfer of people and suppliers to other sectors or regions.
- This center would provide trainings such answering to a tender, understanding the general terms and conditions of an international contract, or the mandatory safety and environment standards of oil and gas operations.
- This center would also be space for developing relationships between Ugandan entrepreneurs and national or international investors and donors.
- After the peak of the construction phase, the center would focus on identifying possible transfers of workers (mechanical technicians, electricians ...) trained to high level standards to other industrial sectors in Uganda (e.g. dam, road, ...) or export Lake Albert experience in the region (Tanzania, Kenya...).
- In terms of governance, the center should be composed of the various actors of the Ugandan economy under the supervision of the three oil and gas operators.



4. National Content measures proposed



Initiative 3: Build a National Talent Register and National Suppliers Database

TESTED SUPPLIERS AND TRAINED WORKERS THAT WILL HAVE PARTICIPATED IN THE CONSTRUCTION PHASE SHOULD BE REGISTERED IN A DATABASE

- Lake Albert project will develop Ugandan industry and thousands of Ugandans, from engineers to craftsmen, will be trained and receive valuable experience. This national value added must be leveraged and capitalized for other sectors in the country or in the region.
- A 'National Suppliers Database' would be useful for the industry in Uganda beyond the oil and gas sector. In the very short term, such a database would be highly valuable for future Engineering, Procurement and Construction (EPC) contractors upon their arrival. The 'National Talents Register' would list all the engineers, technicians and skilled workers trained over the different phases of oil and gas projects.
- After the construction phase, such databases will facilitate the sourcing of identified suppliers or the recruitment of trained workers.

SOURCES OF INFORMATION

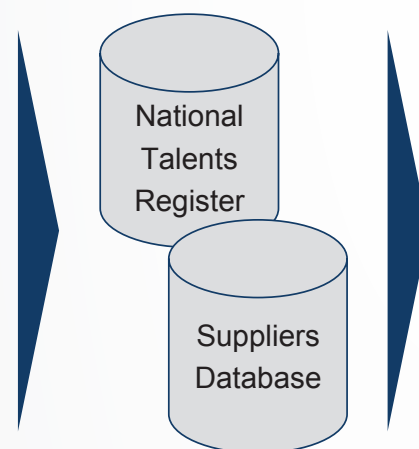
Oil and gas partners

- Industrial Baseline Survey
- Existing pre-qualified suppliers lists

Future EPC contractors

Ugandan authorities and professional associations

- URA, UIA, FUE, PFSU, ...



FINAL USERS



Any supplier looking for competent people



Any company looking for suppliers

4. National Content measures proposed



Initiative 4: Support specific sectors to develop Ugandan players

SOME SPECIFIC SECTORS SHOULD BE SUPPORTED BY OIL AND GAS PARTNERS IN UGANDA

- Some goods and services are likely to be imported due to large quality or quantity gaps while they could be produced in the country with relatively small efforts.
- The local establishment of one to several new industries will benefit the Ugandan economy in a sustainable way, i.e. beyond the duration of oil and gas projects.
- In terms of support, the role of the three operators would be to 'coach' the selected companies, help them find investors, provide technical assistance (standards, certification, expertise), and give clear visibility over future demand.

SPECIFIC INDUSTRIES TO SUPPORT

Hazardous waste
management



Operations and
maintenance
services



Metal scaffolding



Work safety
products (PPE)



Road safety



Agriculture



Light equipment
manufacturing



4. National Content measures proposed



Initiative 5, 6, 7 & 8: Support to the Education System

THE EXISTING EDUCATION SYSTEM NEED TO BE SUPPORTED AND THE CREATION OF A NEW VOCATIONAL CENTER MAY BE ENVISAGED

- The Government of Uganda and the oil and gas operators need to support the educational system in Uganda since most institutions are too far from international oil and gas standards in terms of skills required.
- Oil and gas operators should target their support to the best existing institutions in Uganda.
- Actions could be financing equipment for practical trainings, providing data sets for geological case studies and training professors in technical disciplines. In addition, stakeholders should envisage the creation of a new vocational center in order to address strong manpower demand for craftsmen (civil) and technicians (mechanical and electrical) during the construction and operation phases.
- Considering the poor dialogue between universities and private employers and the lack of appetite for technical disciplines in Uganda, it is important to put in place regular meeting like career fairs where the three operators will explain what job they need to recruit for them or for their contractors.

UGANDA VOCATIONAL TRAINING CENTRE



5. FAQs



IBS Objectives

1- WHAT IS THE INDUSTRIAL BASELINE SURVEY (IBS) ALL ABOUT?

The IBS is an initiative that was undertaken as a partnership between the 3 oil operators in the licensed areas of the Lake Albert Graben in Uganda: CNOOC, Total E&P Uganda and Tullow Oil, to assess the sector as it stands today and the requirements for the subsequent years of operation and the potential solutions to these needs.

The objectives of the IBS were:

- i) To evaluate and analyze the demand and supply needs within the industry, for example manpower and equipment.
- ii) To identify opportunities for maximum national participation in the oil and gas sector

The ultimate goal of this survey is to promote as much as possible national content during the development and the production phases of the project.

2- IS THE SURVEY CONFIDENTIAL?

The results of the survey are being shared with relevant stakeholders, i.e. GoU, the business community, professional associations and development agencies with which joint efforts will be undertaken to ensure that concrete and appropriate measures are taken to enable the participation of national talents/service providers during the key phases of the project.

IBS methodology

3- WHO CARRIED OUT THE SURVEY?

The survey was conducted by an international consultancy firm (Schlumberger consulting) which is specialized in the oil and gas sector and particularly in exploration and production.

4- WHY DIDN'T YOU USE A UGANDAN CONSULTANT?

Uganda being a nascent oil nation did not have the skills base for such a comprehensive survey

of this sector's needs. However, Schlumberger conducted the survey with the active support of a member of Makerere University

5- WHO TOOK PART IN THE SURVEY?

The survey involved stakeholders operating in fields related to the Oil and Gas sector and to the planned development over the coming years. These ranged from the authorities to the private sector, professional associations and service providers.

6- WHAT METHODOLOGY WAS USED WHEN CONDUCTING THE SURVEY?

The methodology used was based on:

1. Building an exhaustive segment list for entire value chain (in terms of Services, Goods, Raw materials)
 - a. Define segment with the highest impact on National Content
2. Performing demand and supply forecast for chosen segments
 - a. Conduct gap analysis



3. Developing strategic recommendations to bridge the gap

7- WHO WERE INTERVIEWED FOR THIS SURVEY? / WERE LOCAL SERVICE PROVIDERS INTERVIEWED DURING THE SURVEY?

A wide range of local service providers were interviewed to include;

- Private Sector Foundation of Uganda (PSFU)
- Association of Uganda Oil and Gas Service Providers (AUOGS)
- Uganda Manufacturers Association (UMA)
- Uganda Small Scale Industries Association (USSIA)
- Uganda National Association of Building and Civil Engineering Contractors (UNABCEC)
- Ugandan Bureau of Standards (UBOS)
- Federation of Uganda Employers (FUE)
- Ugandan Insurers Association
- Companies, associations related to employment and manufacturing,

educational institutions, oil companies, embassies, international organizations and government bodies.

8- WHAT WERE THE ISSUES REVEALED BY THE SURVEY?

Some of the key issues raised by local service providers included,

- 1- Lack of access to finance
- 2- Lack of information regarding the oil and gas business opportunities and low visibility over the demand
- 3- Lack of proper infrastructure to make their work easier
- 4- Bureaucracy and administration loopholes
- 5- And lack of capacity among the service providers and inadequate training

9- ARE THE FINDINGS FROM THE SURVEY OF ANY BENEFIT TO THE GOVERNMENT AND UGANDANS IN GENERAL?

It is the first time that oil companies carry out such an in-depth survey well before the beginning of the construction phase of the project in order to ensure maximum utilization of national content during the development phase of the project. Therefore, the results from the survey are beneficial to the public as a whole because they set out to clearly show the critical areas of attention. They also go further to propose the best solutions as a way of making oil and gas project opportunities available for both the private sector and Ugandans. The data can also be used by the Government in its endeavor to plan for participation of Ugandans in the oil and sector.

IBS findings

10- WHAT WERE THE RESULTS OF THE SURVEY IN REGARD TO JOBS OPPORTUNITIES?

Findings from the survey showed that:

- 1- Many jobs will be created over the coming years and these will require the training of people who will work in areas directly related to the oil operations.





- 2- Total new jobs generated by oil projects may be in the range of 100,000- 150,000, including indirect and induced jobs. This figure includes approximately 13,000 direct jobs.
- 3- These will be dependent on how effective the Ugandan private sector is ready to embrace the opportunities outside the oil project.
- 4- The survey also articulated the major areas that require immediate attention and support. These include: technical training, transport and logistics, work safety products, waste management, light equipment and production and operation services.

11-HOW ARE THE RESULTS OF THE SURVEY GOING TO BE USED?

The results of the survey will be used;

- To match demand and supply of skilled workers
- To Identify the gaps needed to be filled to enable Ugandan companies to meet standards and benefit from the business opportunities

- To facilitate the sourcing of identified suppliers
- To business partnerships between Ugandan companies and between foreign and Ugandan companies to ensure transfer of knowledge

12- WHO WILL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE FINDINGS?

CNOOC, Total E&P Uganda and Tullow oil are going to work closely with the Government of Uganda, Uganda's development partners and Uganda's private sector to plan for local capacity building against identified needs and to explore re-employment possibilities for trained Ugandans after the construction period is complete. We will maximize Ugandan participation wherever possible.

13- IN WHICH AREAS OF THE OIL AND GAS PROJECT, WILL THE 100,000 TO 150,000 EMPLOYEES BE RECRUITED?

- Direct jobs will be generated by companies developing and supporting oil and gas projects development on site like well services, seismic studies, drilling, O&G project construction: Mechanical, civil and electrical engineering, freight services, upstream production activities: production & maintenance, site safety & security etc
- Indirect jobs will be generated by companies supporting oil and gas projects offsite like mechanical engineering, freight services, cement manufacturing, electrical engineering, civil engineering, Construction material...
- Induced jobs are both direct and indirect jobs generated by the spending of oil and gas industry revenues once re-invested in the economy like catering, medical, hotel, IT & communication, education, banking, insurance among others



Therefore 100,000 to 150,000 jobs will be dependent on how ready the Ugandan private sector is to embrace the opportunities outside the oil project.

14- WHAT QUALIFICATIONS WILL BE REQUIRED?

There are over 400 job types that serve the Oil and Gas Industry. Consequently, various job qualifications from the arts and science disciplines will be needed, but as well casual labour that does not require formal training. However, all these jobs qualifications will have to meet international Oil and Gas employment standards

15- IS THE UGANDAN EDUCATION SYSTEM INSUFFICIENT TO TRAIN YOUNG TALENTS?

Uganda is a nascent oil nation therefore, the education system needs to be strengthened in terms of compliance to oil and gas certification requirements and on-the-job practical training. The existing institutions need to be

more oriented on O&G qualifications in order to match the Oil industries requirements. Focus shall be given to the technicians and not the engineers available in number.

16- WHAT PLANS DO CNOOC, TOTAL E&P UGANDA AND TULLOW HAVE FOR TRAINING / INTERNSHIP?

Whereas oil operators are mandated to train their employees, they additionally offer scholarships as well as internship programs for students and newly graduated professionals with no work experience.

17- HOW CAN WE BE SURE THAT THE JOBS WILL GO TO UGANDANS AND NOT FOREIGNERS?

The oil operators can only but benefit from the employment of Ugandans. We ensure that there is a fair selection process for opportunities where Ugandans can participate in.

18- SOME OF THE OIL COMPANIES ARE FRENCH AND CHINESE ORIGIN, WILL JOB SEEKERS NEED TO KNOW THESE LANGUAGES TO GET JOBS?

No, that will not be necessary. The operational language for Uganda's oil industry is English.

19- WHEN WILL THESE JOBS BECOME AVAILABLE?

Assuming no major delays in project execution, within approximately 3 years. However, a number of Ugandans have already been employed in the oil and gas sector and more are yet to join since the sector is growing in Uganda. Currently, within CNOOC, Total E&P Uganda and Tullow, national staff represent more than 60% of their respective staff.



20- WHAT WILL THESE EMPLOYEES DO AFTER THE PEAK OF ACTIVITIES?

All the skills used for the oil and gas construction phase are transferable to other sectors of the economy as well as other countries that have oil and gas operations. In addition, with the upcoming issuance of another round of licenses, the new players will require the same skills. The workforce will be able to apply the acquired skills in other businesses like welders, engineers, builders, drivers, machine operators etc.

IBS business opportunities for Ugandan companies

21- HOW LOCAL WILL BE THE NATIONAL CONTENT?

Whereas most jobs will be acquired on a competitive basis to benefit all relevant Ugandan service providers and individuals, priority will be given to respective local residents for causal and unskilled jobs in the areas of operations.

22- HOW WILL YOU ENSURE THAT BUSINESS OPPORTUNITIES ARE GIVEN TO UGANDAN COMPANIES?

The demand for the project detailing the requirements of the oil & gas sector will be communicated to the relevant business associations and relevant stakeholders that are mandated to take advantage of the opportunities. In addition supplier development programs and the creation of the Enhancement Centre will go a long way to up skill Ugandan service providers to enable them fully participate and win contracts in their relevant areas of operation.

23- WHAT STANDARDS WILL BE USED TO GUIDE THE OIL COMPANIES?

Uganda Bureau of Statistics (UBOS) is working on creating the Oil & Gas standards that will be applicable to the Oil & Gas sector. These will be harmonized with the oil & gas international standards.

24- HOW CAN ONE PARTICIPATE IN SERVICE DELIVERY?

The survey covers several areas and sectors that anyone can get involved in directly or indirectly in regard to service delivery. For example, avenues like agriculture, catering, hotels, waste management, transportation or be subcontracted by those industries. One could also be an out grower, supplying goods and services to a contracted person or company.

25- HOW WILL LOCAL SERVICE PROVIDERS BE SELECTED TO PARTICIPATE?

The awarding of contracts is carried out via a competitive, robust and fair tendering process. It will be a process detailed by the companies needing the services. However it is worth noting that the standards of the service providers must be in line with international standards set for the sector. The oil industry is a very standards-intensive industry and requires that the service providers operate at the standards required of them.



26- HOW ARE YOU GOING TO ENSURE THAT INFORMATION IS PROPERLY SPREAD TO THE UGANDAN BUSINESS COMMUNITY?

Oil companies believe that an enhancement centre dedicated to provide information about the tenders, the standards required for specific services and able to help strengthening service providers capacity would be the best option to ensure that business opportunities and requirements are spread to the Ugandan business community.

IBS recommendations

27- WHAT ARE THE RECOMMENDATIONS FROM THE IBS?

The IBS recommends:

- i) The need to communicate oil & gas projects demand
- ii) Enhance business relations i.e National Talent register and National suppliers database

- iii) Create an 'Industry enhancement Center
- iv) Support existing vocational and technical institutions
- v) Collaborate with educational institutions on job demand

28- HOW ARE YOU GOING TO ENSURE THAT INFORMATION IS PROPERLY SPREAD TO THE UGANDAN BUSINESS COMMUNITY?

Findings from the survey are going to be shared with key stakeholders to include the media fraternity, who will then communicate the information shared to their respective publics.

IBS Implementation / Timeline

29- WHAT IS THE IMPLEMENTATION STRATEGY FOR LOCAL CAPACITY BUILDING IN RESPECT OF SKILLS AND STANDARDS AND FINANCING ISSUES?

The implementation plan is going to be worked out over the next 6 months together with the relevant authorities and development agencies in the framework of a collaborative effort to ensure promotion of national content.

30- WILL THE GOVERNMENT BE INVOLVED IN THE PROJECT?

Yes, we are working with different ministries that represent the Government like Ministry of Energy and Mineral Development, Ministry of Tourism, Ministry of Trade, Ministry of Finance, Planning and Economic Development, Ministry of Water & Environment, Ministry of Education and Sports, Uganda National Roads Authority (UNRA), UBOS.





31- WHEN IS THE CONSTRUCTION PHASE GOING TO START?

This phase will start after the final investment decision is made, i.e. after the project conceptualization is completed, necessary approvals are given by GoU and financing is secured.

32- IS THERE A WAY TO ENSURE THAT CONSTRUCTION PHASE STARTS EARLIER?

The Oil & Gas production has to go through a cycle of processes which have to be chronologically followed. The sooner conceptualization is completed, approvals granted and financing secured, the earlier the construction phase will start. However, service providers should take advantage of this timeline to prepare themselves in terms of meeting the required standards when construction phase starts.

33- WHAT WOULD BE THE IMPACT ON THE PROJECT IF THE MEASURES ARE NOT IMPLEMENTED? ON THE NATIONAL CONTENT COMPONENT OF THE PROJECT?

We believe that in order to reduce as much as possible imports of goods and services from international suppliers, it is crucial that both Government, private sector and oil companies embark on concrete implementation of the recommended actions.







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