OVERVIEW OF THE OIL AND GAS SECTOR IN KENYA

PRESENTATION AT THE MINDSPEAK FORUM

SUMAYYA HASSAN – ATHMANI
CEO

October 26, 2015
Presentation Outline

- Kenya’s Petroleum Downstream Sector; A Snapshot
- Kenya’s Upstream Petroleum Sector; An Update
KENYA’S DOWNSTREAM PETROLEUM SECTOR, A SNAPSHOT
Petroleum is the most important form of modern primary energy not only for Kenya but globally.

We can only expect that as the Kenyan economy grows and increases in complexity consumption will continue growing towards global averages.
Growing National Consumption

Local petroleum demand has been growing over the last decade and more.

At the economic growth rate of 10% desired in order to achieve Vision 2030, it is projected consumption will grow from 4.5 million MT currently to 12 million MT by 2030.
Petroleum accounts for 30% of Kenya’s annual imports (approx. Kshs 350B)

Kshs 70B paid in taxes from petroleum products annually

Potentially Kshs 13.5B annually from VAT

Petroleum products are currently exempt from VAT but there is a proposal that VAT will be applied on petroleum products by August 2016.
Downstream Institutional Set up

Ministry of Energy and Petroleum
Department of Petroleum

Energy Regulatory Commission
Licensing and other regulatory aspects

Kenya Pipeline Company
Bulk storage and transportation

National Oil Corporation of Kenya
Providing stability in supply and pricing through participation across the value chain

Oil marketing companies

- Independents
- Resellers
- Consumers

- Over 60 registered oil marketing companies in Kenya.
- The top 10 OMCs including National Oil control approximately 77% of the market
- Mombasa refinery run by KPRL is currently shut
The OTS Cycle

OMCs submit monthly requirements per product which are then consolidated by the Supply Coordinator.

Tender called by the Ministry of Energy every third or fourth week of the month.

Winning bidder mandated to supply product requirement for the month of the tender.

Imports arrive 30-45 days after the date of the tender.

Discharge at KOT into KOSF

KPC Nairobi Facilities

Western Kenya Pipeline

Nairobi OMC Facilities

KPC Eldoret Facilities

KPC Nakuru Facilities

KPC Kisumu Facilities

Truck loading for Central Rift and Environs.

Truck loading for Nyanza, Western and exports.

Truck loading for Nairobi and Environs.
Are OMCs Really a Cartel?....Local Pump Price Cost Build Up

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>PMS (Kshs/Lt)</th>
<th>% of Cost</th>
<th>Total AGO (Kshs/Lt)</th>
<th>% of Cost</th>
<th>Total IK (Kshs/Lt)</th>
<th>% of Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Product</td>
<td>41.24</td>
<td>46%</td>
<td>42.16</td>
<td>53%</td>
<td>39.77</td>
<td>74%</td>
</tr>
<tr>
<td>Taxes (Duty,RDL)</td>
<td>33.27</td>
<td>37%</td>
<td>21.52</td>
<td>27%</td>
<td>1.38</td>
<td>3%</td>
</tr>
<tr>
<td>OMC's gross wholesale margin</td>
<td>7.29</td>
<td>8%</td>
<td>7.29</td>
<td>9%</td>
<td>5.00</td>
<td>9%</td>
</tr>
<tr>
<td>Transport, Bridging rate,</td>
<td>3.67</td>
<td>4%</td>
<td>3.67</td>
<td>5%</td>
<td>2.86</td>
<td>5%</td>
</tr>
<tr>
<td>Allowed pipeline/depot losses,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KOSF Charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allowed retail dealer gross</td>
<td>3.89</td>
<td>4%</td>
<td>3.89</td>
<td>5%</td>
<td>3.89</td>
<td>7%</td>
</tr>
<tr>
<td>margin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivery rate</td>
<td>0.62</td>
<td>1%</td>
<td>0.62</td>
<td>1%</td>
<td>0.62</td>
<td>1%</td>
</tr>
<tr>
<td>Total Kshs/Lt</td>
<td>89.98</td>
<td></td>
<td>79.15</td>
<td></td>
<td>53.52</td>
<td></td>
</tr>
</tbody>
</table>
Kenya Petroleum Infrastructure Challenges

- Inadequate and aged petroleum infrastructure – providing maximum 10 days of operational stocks cover

- Lack of strategic petroleum stocks

- Petroleum infrastructure concentrated only on the southern part of the country leading to massive trucking of products

- Inadequate retail petrol station outlets - only 1,600 stations to serve a population of 44M Kenyans. This is approximately equivalent to, South Africa’s Gauteng province alone with an area of 18,178KM2 and population of 10M.
Low Per Capita Consumption.....Due to LPG Infrastructure Challenges

97% of Kenyan households use traditional sources of cooking energy such as wood and charcoal.

A paltry 9% of Kenyan households use LPG.

Per Capita Consumption of LPG in Kenya vs other African Countries

Africa’s average 3KG

5KG Ghana
6KG S. Africa
10KG Senegal
9KG Ivory Coast
2KG Kenya
Opportunities for the Youth

The downstream petroleum sector presents tremendous entrepreneurship opportunities for youths:

- **Apps for the sector** to curb illegal cylinder refilling
- **Station dealerships**
- **Selling of National Oil products, LPG, lubricants**
- **Alternative smaller fueling stations**
- **Setting up lubricant service centres and garages**
- **New lines of business**: clean biomass cook stoves, solar products, prepaid fuel cards
- **To increase LPG penetration** by 3M households will provide business opportunities for between 2,500 to 4,000 youth groups across the country.
- **Micro-grids e.g** solar panels on canopies
- **Community kitchens**
- **Alternative fuels**
KENYA’S UPSTREAM PETROLEUM SECTOR; AN UPDATE
Kenya’s Oil and Gas Exploration Journey

- 1950’s commencement of oil exploration
- 1960-84: 16 wells drilled mainly in Lamu and Anza basin
- 1981: formation of National Oil
- 1984: New Petroleum (Exploration and Production) Act
- 1986: E&P Act revised and Royalties replaced by PSC
- 1985 to 1992: Additional 14 wells drilled
- 2010 to 2011: Renewed interest from majors and leading independents
- 2012: Ngamia-1 Discovery
PSC based system- contractor recovers cost of exploration and development from production which is split into cost oil and profit oil. Profit oil is shared between contractor and government according to negotiated percentages based on a sliding scale of increasing volume of production.
Promising Outlook

Lokichar Basin confirmed as a major oil province ..... 11 more basins and 100+ prospects to go

Source: Africa Oil Corp.

A leading global oil and gas producer by 2030?

- ~32-37 API rating, sweet crude Pour Point 45° C (waxy)
- >80% success in South Lokichar sub-basin thus far
- Current estimates of 600M bbl

100,000 bpd by 2023

30,000 bpd by 2020/21
Massive Logistics Exercise

- Between 4000 to 6000 personnel (excluding export pipeline & marine terminal workforce)
- 1 x CPF with production capacity of 75,000 to 100,000 bopd
- 300 to 500 wells (including injection wells)
- Between 35 to 50 well pads (Depending on the number of wells per pad)
- Approximately 170 km of infield flow lines
- Approximately 900 km of export pipeline
- Marine export terminal
- Approximately 85 km of infield roads
- Potential upgrade of 200 km of national roads
- Approximately 500,000 tonnes of waste materials
- Transportation of approximately 2 million tonnes of materials, which is the equivalent to approx: 4 x Burj Khalifa Towers or 24 x Golden Gate Bridges or 200 Eiffel Towers.

Source: Tullow
The Opportunities....

- Financing
- Logistics
- Engineering
- Construction
- Supply of heavy machinery and lifting equipment
- Welding and fabrication
- Service Yards
- Accommodation and camp services

Among others

Focus on working with Kenyan enterprises as part of local content entrenchment
Other factors incl.:
• Tar sands project in Canada
• Reforms in Mexico
• Pre salt developments in Brazil
• Iran back in the market

Cause for Cautious Optimism...........

Impact of Shale
Declining demand
Australia LNG
Race for capital

Energizing Kenya
October 26, 2015
... But also Focus on Key Building Blocks for a Successful Oil and Gas Sector

Effective Legislative Framework
- Revenues sharing and management
- HSE

Value Addition
- Refining,
- Petrochemicals
- Trading
- Infrastructure

Local Content
- Creating avenues for local entrepreneurs to participate

Capacity Building
- Ability of local institutions to train oil and gas professionals

Awareness and Communication
- Management of Expectations

Strong Institutions
- Policy - Ministry
- Regulation - Regulator
- Commercial - National Oil Company

Capacity Building

Local Content
THANK YOU