

# **DOWNSTREAM AFRICA**

## **THE GAS SITUATION IN AFRICA**

Africa's commodity market is singing a new song, and is the blues of gas. While the rhythm of the black gold is still prominent among oil producing nations in the region, natural gas is making an in- road into this new orchestra. This latest entrant can be heard clearly and is changing the continent's business platform and economic dynamics.

Whether it is in Nigeria, Algeria, Equatorial Guinea, or Senegal, the emergence of the gas business has become the talk of the town and is making serious waves. It is common to hear start-up companies, new entrepreneurs, wannabees and national governments discussing the emerging gas commodity market, the profound investment opportunities and the need to set up allied gas businesses.

Sheba, a young entrepreneur I spoke with, wants to set up a gas bottling company that will sell gas in cylinders to domestic consumers in Nigeria. He wants to capitalize on the nation's gas master plan, to develop his business. But Sheba has the problem of attracting adequate financing that would enable him set up the level of business he wants. He knows that it won't be easy for him to attract funding locally that would allow him to establish his business. He is sending out proposals and searching around the globe for technical partners and investors who will agree to tap into his dreams. However, Sheba, like many young entrepreneurs and wannabees in the African continent, are not conversant with the business technicalities and details that international investors would expect before going into a partnership with him. And, also he doesn't know if there are other available resources outside his nation for start-up entrepreneurs such as himself who have viable projects.

Sheba is in the same exact situation as some of the African nations that are struggling to borrow billions of dollars for the development of the emerging gas commodity market in their countries.

While it requires large amount of cash to develop gas fields and then process the commodity, the recent push by Africa's gas-rich countries to develop this emerging market is finally gaining momentum. Out of the estimated 6263,34 Tcf of gas reserves in the world, the continent of Africa contains about 514, 92 Tcf. And thirty two percent of Africa's total natural gas reserves are embedded in West Africa, making the region an interesting focus for the emerging gas market. Nigeria, a West Africa nation holds the continents and regions largest proven reserves with 185 trillion cubic feet (Tcf)., followed by Algeria which has 159 Tcf of natural gas reserves

It has been estimated that the emerging natural gas market of Africa will blossom in 10 years and the massive revenue accruing from this burgeoning market, if well utilized has the great potential of transforming the economies of the producing/exporting nations.

Currently, the use of natural gas and energy in the region is at very low ebb due to lack of infrastructures, industries, development, poverty and awareness. Some parts of the region in the sub-Sahara Africa remain mostly without electricity. Gas - generated electricity is the latest initiative being pursued to light up this region. Most of the gas produced in the region is not fully utilized locally: some is flared while at the same time an emerging market for the exportation of natural gas in the form of liquefied natural Gas (LNG) is developing at a rapid rate is estimated that the future of the market lies in both an emerging local utilization and aggressive exportation.

Africa	At end 1987 Tcm	At end 1997 Tcm	At end 2006 Tcm	At end 2007			
				Tcf	Tcm	% Share of total	R/P ratio
Algeria	3,16	4,08	4.50	159,45	4,52	2,5	54,4
Egypt	0,31	0,93	2,05	72,85	2,06	1,2	44,3
Libya	0.73	1,31	1,49	52,8	1,5	0,8	98,4
Nigeria	2,41	3,48	5,22	186,99	5,3	3	*
Other Africa	0,79	0,82	1,2	42,84	1,21	0,7	*
Total	7,39	10,62	14,46	514,92	14,58	8,2	76,6

## **NIGERIA**

Nigeria - the continents and regional front-runner, with proven reserves of 185 Tcf; also holds the 7<sup>th</sup> largest reserve of natural gas in the world behind countries such as Russia, Iran, Qatar, Saudi Arabia, UAE and US. The Nigerian government estimates that its natural gas reserves are as high as 660 Tcf. The government hopes that natural gas will boost the economy of the nation at least by 50% before the end of 2015. With this in mind, the government has developed a Gas Master Plan which it believes will help to unlock the country's natural gas potential for accelerated domestic and economic development and also spur the pursuit of an integrated infrastructure strategy to support domestic, regional and export gas markets. According to Nigeria National Petroleum Corporation (NNPC), the nation's oil and gas body a little bit more than \$15billion dollars will be required from the private investment sector to develop the nation's gas industry to a maximum capacity.

With some of the best quality gas having almost a 0% sulfur content, out of the 6.5 billion standard cubic feet of gas produced per day in Nigeria, about 2.5 billion standard cubic feet of gas per day is flared. Nigeria is the second highest gas flaring nation, just falling slightly behind Russia. Nigeria's gas is mainly associated, which means it occurs in crude reserves as free gas. The free gas is flared due to lack of infrastructure and technology to produce the gas. The government's intention to stop gas flaring in 2008 did not materialize and Shell, the company that flares most of the gas was unable to meet up

with the deadline. Currently, the nation is working in conjunction with the World Bank to end gas flaring.

The new Nigeria Master Gas Plan which will create regionalized hubs , transmission systems, a restructured gas pricing policy, a domestic gas supply obligation to assure availability of gas to the nation's industries such as power, methanol, fertilizer and a gas infrastructure blueprint are all expected to generate tremendous business in the nation and has raised new hopes this resource-rich nation.

Major processing of the Nigerian gas into liquefied natural gas (LNG) is carried out at the facility some at the facility in Bonny Island which was built in 1999. New LNG projects which would have taken off in Nigeria were hampered by the cataclysmic problems at the Niger Delta, as most of the nation's crude oil and gas fields are located in that area.



Bioko Island Source: Marathon Oil website

### **West African Gas Pipeline (WAGP)**

The significant role of Nigeria in the development of the regional gas market is evident in the West African Gas Pipeline Project. This humongous 620 miles pipeline project starts from the Niger Delta of Nigeria, passes through Benin and Togo and tranverses up to the Volta River Authority's power Plant at Takoradi Ghana. WAGP was an initiative of ECOWAS. On December 10, 2008, first shipment of gas through WAGP to Ghana took place. The partners in WAGP project are ChevronTexaco which has 36.7 percent, NNPC with 25 percent, Shell with 18 percent, Ghan's Takoradi Power Company with 16.3 percent, Societe Beninoise de Gas and Societe Togolaise de Gas each has a 2 percent interest.

### **Trans-Sahara Gas Pipeline**

The growing need of gas in Europe is creating a new opening in the African market. On assuming office this year, the Group Managing Director (GMD) of Nigerian National Petroleum Corporation (NNPC), Mr. Mohammed Barkindo and the Chief Executive Officer of Algerian SONATRACH Oil company, Mr. Mohammed Meziane at the NNPC headquarters in Abuja, on behalf of the two nations signed a Memorandum of Understanding (MOU) for the implementation of the Trans Sahara Gas Pipeline Project which is expected to deliver gas to the European market from Nigeria passing through Niger and Algeria.

### **Algeria**

Algeria is not only working assiduously to make the implementation of the Trans Sahara Gas Pipeline Project with Nigeria a reality, this North African nation with second highest proven reserve of gas in the continent has continued to work on expanding its LNG facility. The 44.55 billion, 4.7MMty LNG train which Sonatrach contracted Italy's Snamprogetti and Chiyoda of Japan to build is expected to be ready around the third quarter of 2012.

### **Equatorial Guinea**

This third ranking producer of oil and gas took the sub-Saharan region by storm when in the month of May this year, it opened its gas hub with business commencing immediately. It was a shocker as most analysts commented that this small Central African country dwarfed Nigeria the supposed leader in the way it crafted and executed her gas master plan. Many thanks to the American Marathon Company and the leadership of Sonagas which has a full support of Theodore Obiang Nguema Mbasogo, president of Equatorial Guinea.

### **Senegal**

Fortesa International, the US independent company with outstanding presence in Senegal is not relenting in its solid relationship with PETROSEN in developing Senegal's local gas. Gas produced from the fields are currently serving the local market and is gradually changing the nation's business landscape. Senegal's gas reserves are mainly located onshore. PETROSEN is pushing for expansion of gas projects in the country. Meanwhile, Fortesa is moving on with drilling more wells, and Senegal continues the drive to pull in more investors into her oil and gas industry.