

Major opportunities in Africa's oil and gas industries

According to a 2013 PwC report, six of the top ten global oil and gas discoveries in 2013 were made in Africa, where Africa has proven natural gas reserves of 513 trillion cubic feet (tcf) with 91% of the annual natural gas production coming from Nigeria, Libya, Algeria and Egypt.



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It is having a clear vision and plan to monetise these reserves; however, that holds significant opportunities to bolster development across Africa.

"There are major opportunities in the oil and gas industries, not only in terms of new reserves for exploration and development, but also from the resultant development of the ancillary and support services sector economies," says Malcolm Logie, technical director for environment and energy at WSP|Parsons Brinckerhoff, Africa.

Logie, however, points to the substantial investment in infrastructure that would be required to adequately develop the oil and gas sector.

"With this, there will also need to be a clear long-term vision and plan that ensures the development of necessary infrastructure such as ports, pipelines (sub-sea and onshore), liquid natural gas facilities, to name just a few. And of course, for this planning to be successful it needs to look beyond the immediate sector and consider the resultant growth implications for other related and downstream industries."

Unique challenges

Despite the extensive growth and development opportunities that a well-established gas industry can offer in Africa, it is important to consider the unique set of challenges that Africa faces - environmental, engineering, geopolitical and fiscal frameworks. Logie says there is no 'one-size-fits-all' approach that can be taken, and that it is critical to design and implement specific development, management and operational strategies and programmes which take into consideration regional prerequisites.

"Mozambique, Tanzania and Uganda have been very proactive over the last five years in getting their policies and frameworks established to support their oil and gas development programmes. On the other hand South Africa has been slower than some of our African counterparts in this regard," adds Logie.

South Africa's Gas Utilisation Master Plan (GUMP) has still not come to fruition and the implications of not having a regulatory framework in place has far reaching implications for the South African economy.

"An appropriate and functional legal framework is critical, especially considering the environmental, socio-economic considerations and operational implications," says Logie. "Other regions - such as East Africa that is emerging as a significant oil and gas player - are proactively looking at policy change and frameworks, and are fast tracking infrastructure developments to support ongoing and rapid growth of the oil and gas sector."

Shale gas

Whilst the reserves of Karoo shale gas are estimated at some 390 tcf, much of the debate, both for and against development of shale gas resources in the Karoo, is based on assumptions of the reserve size. Clearly, comprehensive exploration of the Karoo basin is needed in order for any informed decision in this regard. "Ideally, the environmental and social impacts (positive and negative) that may result from the development of Karoo shale gas need to be assessed on a scientific/technical basis - and measured against the GUMP framework policy. However, until this policy is realised, this will not be possible," says Logie.

In addition to the lack of a regulatory framework, another challenge Logie points to is the skills shortage. "Given the nature of oil and gas industries there is a critical need for specialised technical skills and currently we have a shortage of these in Africa. In addition to this, there is also a need for lower level skills through the broader support and value chain."

Power generation

"Africa will continue to see growth in the oil and gas industries and this will bode well for the East Africa region, for instance, as well as a continent that is growing rapidly. Locally, South Africa direly needs to establish a power generation network that is not dependent on any single resource. Although coal is likely to remain the primary source for the foreseeable future, gas remains an attractive option for the country.

"However, we urgently need a regulatory framework that identifies our key resources and lays out the foundation for the necessary investment in infrastructure. Only then will we be able to monetise natural gas and use it as a key driver for promoting growth and economic development in Southern Africa," concludes Logie.