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## A Framework for Investment in Africa's Energy Infrastructure

### CHAKIB KHELIL draws lessons for successful future investment in Africa's E&P infrastructure

Eighty percent of world energy demand by 2035 is expected to be met by oil, natural gas and coal, with 90 percent of the demand increase expected to come from non-OECD economies, and China accounting for 23 percent. According to the IEA, US\$ 38 trillion are needed to meet projected demand through 2035. Combined with supply rigidities and the

need to develop increasingly expensive sources of oil and natural gas, prices are expected to remain strong in the long term. With exports of 570 million tons of oil equivalent, Africa overall is today an energy exporter accounting for 43 percent of total African exports. The USA and China respectively cover today 22 percent and 30 percent of their oil

imports from Africa.

However, while Africa today holds 10 and 8 percent of global proven oil and gas reserves, it remains underexplored with only 1000 wells drilled offshore and onshore compared with 18,500 drilled in Alberta alone in 2005. The last few years have seen the discovery of major oil and gas reserves in new exploration basins in

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Ghana, Uganda, Kenya, Tanzania and Mozambique outside the more traditional oil and gas areas and countries. These new discoveries prove that several of Africa's remaining unexplored sedimentary basins promise to contribute an even larger share to the world energy needs in the future.

In addition, Africa is strategically located with respect to major energy-importing regions of Asia, America and Europe. Finally, Africa is attracting lots of interest from emerging economies. In 2010, total foreign direct investment was only about \$55 billion but remarkably more than five times what it was a decade earlier. While a generation ago Brazil, Russia, India and China accounted for just 1 percent of African trade, today they make up 20 percent and by 2030 the rate is expected to be 50 percent. Taking additional factors into account, the World Bank considers that 'Africa could be on the brink of an economic take-off much like China was 30 years ago and India 20 years ago'.

## Tackling Challenges in Africa's Energy Sectors

Considering world energy needs and the clear energy export potential of Africa, one of the key challenges, but also the key opportunity for Africa, is raising capital and closing the financing for future major energy export projects. These are typically very long-term projects. To be successful according to lessons learned from major international and African export projects, they require substantial alignment of long-term interests of cooperating countries and companies and they need to achieve a positive economic and political impact on the exporting and importing regions. Raising capital for a major energy export project can only be successfully achieved if the following underlying issues have already been satisfied:

- a guarantee of dedicated reserves over the life of the export project;
- assessment of its environmental and social impact and its mitigation;
- the impact of the local demand as it might affect the long-term sustainability of the project;
- the separate strategies of the companies partnering in the project and their individual financial and operational capabilities;

- the project's economic robustness taking into account cost assessments and potential cost overruns and the market characteristics;
- the capability of the executing body to carry out the project depending on its experience with similar projects and environment both upstream and downstream;
- and, the market risks in both its local and international component balance with assurances that progress has been made in marketing output to committed credible buyers and the attractiveness of these deals.

When satisfying each of the above issues, associated risks should be recognised and covered by the body better placed to address the corresponding risk. It is clear that the host country should cover the following risks: political, environmental liabilities, local hydrocarbon demand and pricing, local service industries capacity, local infrastructure existence or requirements (water, electricity). The partnering companies in the project should cover the following risks: below-ground technical and geological risk, and above-ground technical, engineering, financial and market risk. While each party is well placed to cover certain risks, each is well advised to consult and cooperate with the other.

Specifically, political risk is best covered by the host government by issuing the appropriate legislation and regulations and putting in place the corresponding regulatory institutions staffed with competent personnel. Legislation and regulations should be transparent, attractive and competitive and facilitate investments. Legislation should also be transparent in its application and should provide a stable and predictable framework in the long term. In particular it should provide a competitive and stable fiscal framework for both upstream and downstream investments that achieves a balance between the economic interests of the different parties (government, companies) and provides a fair return for the various risks taken by the partnering companies.

## The Role of Legislation

Government institutions should be established with trained professionals to facilitate dealing with any investors'

concerns, with easy access for arbitrating issues and if required recourse of the parties to an independent judiciary. Legislation should also clarify issues on taxation, foreign exchange, and regulatory hurdles for upstream and downstream investments as well as environmental and social liabilities. Changes in legislation should be minimised in order to avoid the negative perception of an unstable legislation that discourages long-term investments.

Legislation should also deal with local demand for hydrocarbons in terms of volume requirements and pricing as well as other requirements dealing with local service industries, local infrastructure needs and the training of local employees of foreign firms.

Local demand requirements in relation to major energy export projects have been addressed differently by, for example, Nigeria, Egypt, Indonesia, China, Malaysia, Australia, and Algeria. The main lesson to be learned from these countries is the need to put in place measures to satisfy local demand without putting at risk the continued encouragement of upstream supply in the long term.

Well designed legislation and regulations, and efficient government institutions are key to providing project sponsors and financing institutions with the means to facilitate the smooth implementation, financing and operation of a long-term major energy export. Project financing with no recourse to corporate debt of the project sponsors would also be facilitated by the appropriate legislation and guarantee of the implied legal stability in the long term. Project financing would work well also when the project sponsors are able to put in place long-term take-or-pay contracts for natural gas with a credible and financially strong buyer.

With well designed legislation, regulations and institutions to address the political risk, the host government would benefit in a number of ways: higher project revenues, improved loan terms, the creation of secure markets for goods and services, the import of new technology and training of personnel, employment creation during construction and operation phases, increased tax revenues from participating entities, an improved infrastructure which would have to be developed as part of the project and a saving of foreign exchange.

## The Role of Oil Companies

In addition, participation in the equity or debt financing of the project by international and regional banks such as the International Finance Corporation (IFC) or the African Development Bank (ADB) provides additional reassurance to the sponsors and product buyers in the form of the long-term stability of the investment.

Oil majors have internal resources, a wide shareholder base, good credit ratings and diversification to mitigate most risks. For example, in 2012 oil companies have been able to spend about \$600 billion in exploration and production (E&P), a 10 percent increase over 2011 and further increases are expected in 2013 and beyond. The majors and national oil companies have financed E&P from their own cash flow, from some debt/bonds, from the stock markets, and from divestiture of their assets. However, increasing demand for funds has increased competition, and put pressure on traditional external

sources (bonds, equity, debt). These have become more expensive and scarcer due to new international banking regulations. It is thus important that international oil companies need to have a strong performance resulting in more cash for funding their new projects.

Oil companies could also access institutional funds such as investment funds/pension funds/mutual funds to finance private equity and debt; or they could access emerging external funding sources such as sovereign wealth funds (SWF) and funds in emerging markets. The most active SWFs are Chinese in Hong Kong (in buying bonds), China CIC, China SAFE, Singaporean, and the GCC economies (active in buying bonds). The most active pension funds are Japanese, Canadian, Korean, Chinese and Brazilian. Private banks from emerging markets can also provide funding. These are mainly Japanese, Canadian, and Chinese. Finally, National Oil Companies (NOCs) like the Chinese, Russian and Thai are the most aggressive through merger & acquisition

and participation. International finance institutions and development institutions such as the IFC, the ADB, the Overseas Private Investment Corporation (OPIC) and others could provide private equity, debt, and guarantees that could encourage other bodies to invest in the downstream.

## Conclusions

At the turn of the twenty-first century, Africa looks set to become a major exporter of energy. Although financing requirements for African infrastructure are large, so are finance options. Private capital, government and oil companies' funds can all be drawn on to develop the region's oil and gas sectors. There are also various risks involved; governments can deal with certain types of risk, for instance regulatory and political risk, while IOCs and other oil companies can take on others, such as exploration risk, in addition to their financial investment. Only through cooperation between the two sides, will Africa be able to maximise its energy potential. ■