

Global Energy Trend and Evolution of NOCs

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Abstract— High oil prices and high demand supporting IOC move to frontier and NOC evolution. Most frontier area reserves are in NOC territory. IOCs need to be able to manage relationships with NOCs in order to be successful. They need to tune into what NOC priorities are. NOCs have different priorities depending on whether they are resource rich or resource poor. IOCs need to recognize NOCs' priorities and differentiate themselves by using them when talking to NOCs.

Key words : National Oil Company (NOC), International Oil Company (IOC), Oil Price, Oil Reserve, Natural Gas, LNG, Gazprom, NNPC, CNPC, CNOOC, Petrobras

1. Global Energy Trend

Ten years ago the global energy industry was rapidly opening up. International Oil Companies or IOCs were thinking about merging. They wanted to be better able to compete in the global upstream market. Today with many mergers done, the competition for upstream assets seems to have become more intense. Plus, competition for people and supplies has also intensified.

Why has this happened? One reason is the continued rise in energy demand. By 2030, global oil demand is expected to reach 120 million b/d. Demand for gas is also increasing. In the past this demand would have been met by the more traditional areas of supply like the North Sea. As these areas become more mature, IOCs are now looking for reserves in frontier markets, and they are being supported in their search by the high oil price. So not only are we in the midst of a period of sustained high demand which is driving a high oil price and activity in the industry, but we are seeing a switch of focus in the industry to NOC dominated regions. Access to these reserves is of course, primarily controlled by the NOCs. In fact, 9 out of the top 10 resource holders in the world are indeed, NOCs.

NOCs today are different to the NOCs of yesterday. They have evolved to become more efficient and more international companies and they are making an impact on the global energy market.

2. Rise in Oil Prices

One of the reasons NOCs are expanding outside of their own borders is the rise in the oil price. The oil price has been rising steadily since 2000 and is now settled at around \$60. This has led to high levels of activity around the world. It is basically funding IOC movement into Frontier Regions, and it is supporting the evolution of the NOCs into more efficient and international companies.

The high oil price is also funding investment into a whole host of "unconventional" hydrocarbon projects—such as Oil Sands, Liquefied Natural Gas (LNG) and Gas to Liquids (GTL). These projects are very attractive for energy companies because they are easy and large reserve additions to the balance sheet, with flat production profiles (no declines). However, investment in such projects is sustained by the high oil price. As cost overruns lead to lower returns, particularly with some oil sands and GTL projects (Exxon-Mobil recently cancelled a GTL project in Qatar citing poor economic returns) - these projects remain very susceptible to decreases in the oil price.

Today, the oil price is quite stable around \$60/bbl, but is susceptible to fluctuation in global markets, and

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geopolitical tensions, particularly at the moment for example, in Iran. Most analysts are of the opinion that the high oil price is here to stay for a while.

3. Frontier Area Supply Growth

Most of the IOCs are now focused on exploration and production in the less mature, frontier areas of the world. These include West Africa, areas like Nigeria and Angola, the US Gulf of Mexico, where many deepwater projects are underway, and the Caspian, where in countries like Kazakhstan, some of the largest projects globally are being developed (Kashagan). For the IOCs, frontier areas are integral to their portfolios, as more mature regions like the North Sea are in decline. For example, ExxonMobil has stated that by 2010, deepwater projects will account for more than 20% of their total global oil and gas production. Nearly all of the areas, West Africa, the Gulf of Mexico and the Caspian have a NOC as the resource holder. For IOCs then, moving further in frontier areas, relationships with NOCs is becoming a critical success factor.

4. Growth in Gas Demand

Gas demand is also rising, as reserves in both the USA and Europe decrease. Europe is becoming more dependent on Russia and to a lesser extent, Norway, for its gas supplies, new pipeline and LNG schemes are bringing new supplies into key demand centres like the UK.

As technology has developed, LNG is becoming a solution to rising gas demand. LNG is now developing into a global market, where previously it was more regionally driven by high demand in Asia from Japan and Korea. With the USA set to become a heavier user of LNG in the near future, Atlantic LNG and Asia LNG markets are becoming linked through price arbitrage opportunities for key suppliers.

Analysts believe that gas will remain a competitive differentiator for IOCs when talking to NOCs. The skills the NOCs used to look for from IOCs are changing. NOCs no longer need the IOCs for technology - many NOCs such as Petrobras and Aramco are technology leaders along with their IOC peers. Also the

NOCs no longer need capital as the high oil price has made them more secure in funding projects themselves. However, many NOCs still require expertise in gas. Many do not have domestic gas markets and lack basic skills in trading and risk management. LNG and GtL are very new technologies and apart from notable exceptions such as Gazprom and Petronas, many NOCs do not have such skills in house.

5. Commercial and Technical Risk

The increasing shift of reserves and production to OPEC and Frontier areas is increasing risk for many of the players in the industry.

Commercial Risk is increasing as IOCs move to frontier areas which are controlled by NOCs which are often unstable. For example Nigeria has been the location of many strikes and civil unrest over the past few years, particularly in the Niger Delta area where Shell has a lot of production. Kidnapping of oil industry personnel is becoming increasingly common there.

There is also a wave of so-called "resource nationalism" underway in key countries like Venezuela and Russia. In Venezuela the government has tightened fiscal terms. This means for IOC players in key producing regions like the Orinoco basin, Venezuela will recognize only "booked investments," rather than current net value of their projects. In Russia, Gazprom has recently taken a majority stake in the previously Shell operated Sakhalin 2 project, which will export LNG from the far east of Russia to global gas markets. In addition, many frontier type nations operate their oil regimes under a Production Sharing type regime. For IOCs this can cause challenges as the oil price increases, as the amount of capital they can offset against their production decreases, causing diminished profits

Technical risk is also increasing as companies move into areas which are more remote, technically challenging and difficult to exploit. Many of the key projects in frontier areas are either in very deep water (such as Nigeria, Angola or the GOM) remote areas such as Sakhalin or have particular problems. The Kashagan project in Kazakhstan is now delayed from its initial start date and costs have now increased to \$19 billion, up from the \$10.3 billion originally budgeted and the \$15 billion most recently cited. The Kashagan field is

in very shallow water which is frozen for much of the year. Development involves constructing three islands are all bridge-linked and enclosed by protective ice-breaking barriers with all other field operations—oil separation and pumping, gas dehydration and gas re-injection—will be carried out on barges anchored alongside the islands. The ability of oil companies to manage the complexity and cost of such projects is becoming critical as projects become technically more challenging.

6. Transformation of Global NOCs

NOCs have different priorities depending on whether they are resource rich or resource poor. The supply rich NOCs are those who control the majority of the reserves such as the Middle Eastern NOCs like Saudi Aramco, the West African NOCs like NNPC or Sonangol and the North African NOCs like Sonatrach. In between are the NOCs who are on the border of becoming self sufficient like Petrobras, and Pertamina who were self sufficient but are now becoming a net importer of oil.

Then we have the resource poor NOCs like the Asian NOCs from China and India who are looking for assets to supply high demand at home. Energy demand especially in China has been growing fast with China now the second largest consumer of oil in the world after the USA, using 7 million barrels every day. These NOCs are competing aggressively for assets in international markets.

7. Most of Reserves are Still under NOC Control

As we have said—most of the remaining oil reserves globally are in the hands of NOCs who are controlling access to these reserves more carefully. Over 700 billion bbls of reserves are controlled by Middle East NOCs alone, excluding the resource rich nations of West Africa and the Caspian. Many NOCs who are resource rich are today concerned about using their resource wealth for the long term benefit of their nations. Many want to create jobs and new sectors for their economies which will ultimately steer them away from a dependency on oil and gas.

IOCs who are most successful on building relationships with NOCs are focusing on this area of building “local content”. Such approaches have for example, been very successful for IOCs in countries like Angola, where the majority of the population live on less than \$2/day. IOCs in Angola are focusing on building a supply chain to increase the competitiveness of the Angola oil sector. This in turn, will increase in-country spend, creating jobs and services. Economic development of their nation is always a key consideration in the mind of any NOC.

8. NOCs are Changing the Competitive Landscape

However it is probably the resource poor NOCs who are changing the energy landscape more than any others. These companies primarily consist of the Asian NOCs particularly from China and India.

In their hunt for oil, the resource poor oils have been driving up M&A activity for energy globally. The number and value of deals NOCs are undertaking has been increasing year on year since 2000. In 2005 alone, NOC deal activity reached \$33 billion. Chinese and Indian NOCs who are particularly focused on Africa and the Caspian, are becoming aggressive in their search for assets. They are outbidding the IOCs and other NOCs for these assets, paying large sums of money and also offering deals which some of the IOCs find hard to make—such as offering to invest in the downstream or in large infrastructure and power projects.

9. Complex Energy Environment

This interplay between the power many NOCs now have in the market and the IOCs need to access reserves, is lead to increased tension and competition in global energy markets.

The implications for IOCs are clear –

- They need to access reserves;
- Technology and capital are no longer competitive differentiators on world energy markets;
- They cannot compete with NOCs on price they offer for key assets;
- They cannot offer such creative deals as the NOCs

– for example offering to invest in large infrastructure projects in return for upstream assets.

IOCs need to understand the individual NOC and what its key priorities are. They need to develop an NOC strategy as they would any market entry or customer strategy. They need to think of the NOC as their client and develop a more marketing and service provider mindset than an engineering one.

Accenture sees that without such an approach – they will overlook the specific NOC priorities and run the risk of commoditizing themselves. The outcome of this approach will be a strategy which is tailored to much more tightly fit to the specific NOC.

10. The priorities of NOC (Gazprom)

So what are some of these NOC priorities – how have they evolved over the past few years?

Gazprom is evolving from a domestic incumbent to a more international one with a focus on the downstream gas capabilities. Gazprom is responsible for about 20% of the world's gas supply and holds around 25% of global gas reserves. Regions like Europe will increasingly depend on Russia for its natural gas supply, with Russia predicted to meet about 40% of Europe's gas needs by 2015.

Gazprom is very keen to build its expertise in gas trading and risk management. It established Gazexport in 1997 to look after its exports of gas condensate, crude oil, petrochemicals etc and to market its gas in new markets. Gazexport also participates in developing and implementing gas and gas-based energy investment projects of Gazprom in Russia and abroad and is used as Gazprom's guarantor in its international investment projects.

Gazprom is using its superior gas reserves and production as a bargaining tool to do deals with players interested in its upstream gas assets. Deals such as the one with the Italian oil company ENI offer cooperation in the upstream in return for Gazprom accessing markets downstream is a good example of this

Also, Gazprom is looking to build its LNG skills and market share and recently took the controlling interest in the Sakhalin 2 LNG project from Shell. NOCs like NNPC of Nigeria are focused on enterprise transformation to achieve a sustainable growth agenda.

11. Focusing on Enterprise Transformation (NNPC)

NNPC is focused on growing Nigerian reserves and production with the aim of obtaining an upward review of their OPEC quota. The company is also focused on transitioning from a mainly oil focused and LNG company to one which is focused on being more vertically integrated with a focus on developing a domestic gas market in Nigeria.

Local content is also a key area for NNPC – it has looked at what other energy nations have done with regard to developing their workforces and their economies and is keen to develop Nigeria as a country in a more sustainable way. Part of this goal is also creating improved levels of international competitiveness in Nigeria, with better local suppliers which again will contribute to enhanced local content goals

12. Securing Supplies for Growing Demand (CNOCs)

The priority of many Chinese NOCs is to expand their overseas asset portfolio in order to meet growing demand at home. One of China's largest oil companies CNPC is currently active in over 35 countries. In 2005, CNPC added 162 million tons of oil reserves to its recoverable reserves through their overseas operations and produced a net share of 20 million tons of oil.

CNPC and CNOOC derive around one-third of their revenues from overseas assets and this looks set to increase in the future as both companies continue to focus on buying assets around the world. Since 2001, CNOOC has made outstanding progress in its overseas expansion, with about 20 percent of the company's proven oil reserves and 25 percent of oil equivalent coming from abroad.

CNPC is focused on globally particularly in Africa – countries like Sudan, Nigeria and those in North Africa, in Latin America in countries like Venezuela and Peru, in South East Asia and in Kazakhstan. CNPC acquired its assets in Kazakhstan by buying PetroKazakhstan and has also acquired Encana's assets in Ecuador and PetroCanada's assets in Syria. CNOOC has assets mainly in SE Asia and the GOM. Sinopec

is also focussed globally with assets in the Middle East, Canada, Turkmenistan and North Africa.

13. Transforming into Global and Integrated Oil Companies

China has set up its NOCs to compete with each other – in this way becoming more efficient and able to secure supplies for China's growing demand. The focus now for all the Chinese NOCs is to become vertically integrated, and they are using their M&A drive not only to fulfill China's growing energy demand but to also achieve this objective.

All the Chinese NOCs share similar common objectives which in addition to securing new assets, includes becoming more self-sufficient and creating more competitive supply chains by establishing service companies, focusing on local content initiatives to build future opportunities for their companies, making their sectors more appealing to IOCs and other global firms and establishing good governance and transparency to appeal to stakeholders as nearly all the Chinese NOCs are now listed companies (Petrochina is the second largest listed oil company globally after Gazprom). For example CNPC's specific current goals are:

- Successful M&A and strategic alliances with other peers;
- Successful integration of its regional assets and enhanced management system based on its value chain in Africa and Central Asia;
- Successful expansion into new strategic provinces and markets. Among them are Turkmenistan in Central Asia, Ecuador in South America, Niger and Chad in Africa, and Russia;
- With the growing and widespread business expansion, CNPC has positioned itself as a leading large independent oil company in the world

14. Exporting Technology Skills (Gazprom)

Finally we come to Petrobras, which is evolving into an international major oil company through its expertise in deepwater. Petrobras has started picking up important assets globally in key deepwater areas like the GOM and West Africa where it is now a large producer and acreage holder in the deepwater.

The advantage of this for Petrobras is that they are now self-sufficient in oil production and can focus on developing other areas of the energy sector like gas and electricity domestic infrastructure. As they become more international Petrobras becomes more visible, and the company has been exporting its ethanol message around the world recently as Brazil is now along with the USA, one of the largest ethanol producers and probably the only country globally to have any kind of biofuels supply chain and widespread use of ethanol for transportation.

15. Conclusion – IOC Response to NOCs

So in conclusion – let me sum up our energy trends and how this has led to a new breed of energy players on the international stage.

High oil prices and high demand for oil and gas is funding the expansion of NOCs both at home and abroad, and they are evolving into efficient and competent companies who are becoming less reliant on the IOCs for capital and technology. At home the resource rich NOCs are becoming more demanding – they are expecting IOCs to become involved in local content schemes in exchange for access to upstream reserves. Abroad the resource poor NOCs are competing with the IOCs for energy assets and winning – because they can bid higher and offer deals, most IOCs cannot.

IOCs then, in order to compete with this new evolved NOC need to do the following. They need to focus on the priorities of this new NOC and tailor an offer which will appeal to them. They need to offer more integrated deals and make sure local content is a integral part of that deal. They also need to excel at good project management and offer technologies which still appeal to NOCs like LNG or GtL.

It is only in this way will the IOCs differentiate themselves. As most of the reserves are in NOC territory, IOCs need to gain access. Focusing on building good relationships with NOCs is of paramount importance. If you are talking the same language as everyone else – why would any NOC want to listen to you. IOCs need to start talking a different language which focuses on the priorities of the NOC and they will be ready to listen.