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INVESTMENT IN MIDDLE EAST OIL: WHO NEEDS WHOM?

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REPORT

February 2006

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Abstract¹

Both IOCs and NOCs say they want to work together in developing oil and gas in the Middle East. NOCs may need investment capital, management practices or technology, while IOCs need access to reserves and are looking for their next investment frontier. In private, however, both groups detail the difficulties in finding common ground. IOC frustration with previous joint exercises and NOC increased confidence in their own capacity had led many on both sides to privately question the terms of engagement. For instance, as they stand, these terms do not give IOCs adequate incentives to develop resources for the long-term benefit of the country. And conversely, they do not sufficiently include the NOCs in the management of the resources. Present investment models do not allow both parties to align their interests. This paper will examine some new means of NOCs and IOCs working together for their mutual benefit and issues related to these options. It will examine options ranging from the IOCs as integrated service providers to international strategic alliances throughout the supply chain. New models must answer the emerging trends that are shaping the oil and gas industry. We see, notably, an increased blurring of NOC-IOC categories. With high profile international ventures, some NOCs are challenging the IOCs on their territory of high political risk ventures. We can no longer confine 'national oil companies' to their national borders. Most NOCs do not limit their activities to producing and selling crude and are increasingly integrating internationally. Meanwhile, IOCs are offering a gamut of new services to cater to the producers. Both national and international oil companies are changing, but they may not have fully appreciated the change transforming the other.

IOC-NOC Relations

The theme of partnerships between national and international oil companies finds its way on a number of industry conferences. At these events, both international oil companies (IOCs) and national oil companies (NOCs) profess their desire to find ways to work together. In private, however, both groups detail the difficulties in finding common ground and frustration at the other's expectations. IOC frustration with previous joint exercises and NOC increased confidence in their capacity had led many on both sides to privately question the need for working with the other – at least under the terms presently discussed. Clearly, today's investment models do not allow both parties to align their interests.

This observation begs a first question: do IOCs and NOCs need each other? IOCs want access to equity,² acceptable rates of returns, incentives for enhanced recovery and opportunities for repeatable investments. However, IOCs have equity access to only 14% of the world's oil and gas reserves in countries without NOCs and to 11% of reserves in countries with NOCs present.³ 58% of oil and gas reserves are presently held by NOCs in countries where IOCs have only limited involvement through service contracts or technical service agreements. These terms, which are on offer in the large reserve countries, often do not meet IOC criteria for investment. As a result, a number of producers, such as Iran and Saudi Arabia, were unable to

¹ An earlier version of this paper was given at the ECSSR's 10th Energy Conference in Abu Dhabi on 26-27 September 2004 (ECSSR publication forthcoming), under the title 'National and International Oil Companies: Existing and Emerging Partnerships'.

² Listed companies want to count discovered reserves in their books. These equity stakes are the basis for their market evaluations.

³ This leaves 14% of reserves, which are held by Russian companies (including Gazprom), where the terms are still evolving and unclear (Vahan Zanoian, 'Institutional Cooperation in Oil and Gas: Governments, Companies and the Investment Climate', 9th International Energy Forum 2004, 22-23 May, Amsterdam).

attract bids from a large number of big players. A Saudi Aramco executive explained they were disappointed the Saudi gas initiative did not attract more investors; 'We wanted more players. It's too bad ConocoPhillips opted out of the gas initiative. It's a good company. [But they explained that] the bid didn't have the expected returns.' To bring expectations regarding returns closer in line, producers would like to see the oil majors increase their oil price assumptions to match OPEC's. Indeed, bullish or conservative price assumptions have a direct impact on the estimates of profitability of future investments. Nevertheless, a number of IOCs accept less than satisfactory terms of investment for small scale or short-term investments, in order to build relationships that they hope will give them access to reserves and better returns in the future.

For their part, producers express a variety of needs and strategic goals. The complexity of producer perspectives was revealed in 120 interviews that I conducted in 2004 with executives from Kuwait Petroleum Corporation (KPC), the National Iranian Oil Company (NIOC), Saudi Aramco, the Abu Dhabi National Oil Company (ADNOC) and Sonatrach from Algeria, as well as with officials from the ministries of petroleum of these countries. On the basis of these discussions, some general comments on attitudes and emerging NOC trends can be made.

Essentially, NOCs want capital, management skills, and technology - with various countries ranking those priorities differently and some high competence NOCs, such as Saudi Aramco, expressing no such needs. First, most producers want greater access to technology – or more precisely the experience of technology, knowing when and how to use the appropriate technology. They also need management skills to help run their operations efficiently and effectively. They require IOC assistance to integrate sub-surface and on-field management. As a Kuwaiti Exploration and Production manager put it, 'We are better at that now, but we still need to develop that more. IOCs are good on that: integration. That's their edge. For an investment they have to calculate their return and therefore they are more efficient.' Sonatrach, for its part, needed IOCs to help it secure important reserves in an isolated region of Algeria. IOCs have the capacity to manage large scale, technologically and logistically challenging projects. They also offer training in strategic management, risk management and financial engineering.

Furthermore, producers need investment capital when their fiscal relationship with the state is structured in such a way that their capital needs are sacrificed to government budgetary needs or that their means of revenue generation cannot meet investment requirements, like in Iran and Algeria. Capital needs are expected to be important across the region because strong demand trends and a slow-down of non-OPEC growth rates mean investment will be needed to increase production capacity. Iran, Kuwait, Algeria and Saudi Arabia all have ambitious plans to increase capacity.

Saudi Aramco, KPC and ADNOC can self-finance projects, as long as their investment capital remains insulated from short-term government budgetary needs. Others can turn to markets or to IOCs for capital. However, for lack of past experience, many NOCs do not know how to access capital markets. Also, most of them cannot open their books to market scrutiny without the state's approval – Sonatrach is an exception here. They could turn to IOCs for finance, but they might not agree with IOCs on utilization rates when production capacity is raised (IOCs do not want to invest in production capacity that is not used). All these producers plan to develop spare (idle) capacity. In Algeria, oil professionals and officials express reassuring confidence that OPEC quotas will be increased and that investors will not be left with idle capacity. Elsewhere, however, plans are to develop or increase spare capacity and if Iran and Kuwait succeed in attracting foreign investment to carry out these plans, frustration might ensue on the IOC side.

Granting international oil companies the coveted right to 'book reserves' allowed Algeria and Libya to attract much needed investment and kept investors highly committed in Abu Dhabi, but equity stakes in most other large reserve holders in the region are simply excluded. The public in many countries of the Persian Gulf would likely respond negatively to any move to allow foreign control of the prized oil reserves, as the legacy of the pre-nationalization days of the Seven Sisters⁴ lingers. For these political and historical reasons, Saudi Arabia, Iran and Kuwait, which together hold 42% of global oil reserves and 54% of global NOC oil reserves, will not offer equity stakes in their oil.

This reticence on the part of the large producers is well known, but another concern is less readily acknowledged by investors: producers share a strong feeling that it is important to maintain control of the management of reservoirs. They are no longer simply concerned with preserving sovereignty over resources. In contrast to sentiments in the population at large, which may perceive threats to sovereignty over resources, oil officials and NOC managers have been in charge for some time now and issues of sovereignty over resources are settled. Their first concern now is to remain in control of the management of the industry – most notably to control reservoir management. A crucial problem with the present models is that IOCs would control the management of reservoirs without sufficient incentives for optimizing the development of the nation's resources. This concern regarding IOCs over-producing fields is the result of their own or their neighbours' past experience with IOCs during the consortia (pre-nationalization) and is also fed by contemporary cases. In interviews, some upstream managers cited the case of Shell's single-handed and unsuccessful management of Oman's reservoirs (though they had no first hand knowledge of the data to arrive at this conclusion) as well as the high depletion rates other IOCs produced in the Gulf of Mexico. But more fundamentally, their concern regarding resource management stems from the fact that the region's professionals see their drivers as fundamentally different from those of IOCs, who they feel are not thinking of the long-term prosperity of the country but of shareholder expectations of returns in the next quarter. Given these financial expectations and the limited duration of IOC involvement in the countries (10 to 20 years), producers often comment that it is only natural that IOCs should seek to push production for greater returns while they are in the country. This common observation regarding IOC rationale hides a lack of trust in IOC, which is an obstacle to IOC-NOC partnerships. The producing countries in the Persian Gulf want to see their fields developed to maximize production over 50 years or more – even if that means producing under capacity. The following comments made by the region's professionals illustrate this priority:

'Extending the life of a field is our first priority.'

'Fields will last that long if you invest in them over the long run. (...) We have important challenges ahead and we need IOCs. We want them *but* we also want full control over the operations. There's a perception that IOCs want to exploit our reserves. People think of the concessions.'

The IOCs also want long-term engagement to guarantee field performance. And yet, it is unlikely at this stage that these producers would welcome long-term foreign private investment. An Iranian oil professional attributed this reticence to nationalism and fear of imperialism. These political feelings regarding the development of the nation's oil resources are deeply entrenched

⁴ The Seven Sisters, the largest oil companies, were Standard Oil of New Jersey (American, future Exxon Corp.), Royal Dutch-Shell (Anglo-Dutch), The Anglo-Iranian Oil Company (later British Petroleum), Texaco (American), Socony-Mobil Oil (American), Gulf (American) and SOCAL-Standard Oil of California (American) (Gulf, SOCAL and then Texaco later merged to create Chevron). One sometimes also included an Eighth Sister: CFP (Compagnie Française des Pétroles).

in the societies of Arab and developing countries. In this respect, governments show a greater concern about repeating past history by inviting IOCs for long-term development, while NOCs demonstrate more concern for maintaining control over operations. This difference comes from the fact that governments are keen to maximize their oil rent and would not always agree with the NOCs' careful and slow development of resources. A senior official at the Algerian Ministry of Energy and Mines felt that the NOCs were not given enough incentives and capital to invest in technology and exploration. 'With partners, we see that the fields produce more. Otherwise NOCs sleep on their reserves.'

A senior E&P (Exploration and Production) director acknowledged a difference in views: 'The political leadership pressures the companies to develop their fields quickly and not to develop people. The government has to encourage the company to develop its people's skills and to develop its fields without a rush.' An unspoken concern on the part of NOC managers is that the government's preference for quicker generation of revenues will lead them to turn to IOCs.

Past experience with the IOCs from the days of the consortia still colours views in the region's industry. In Iran, oil professionals tell the stories of what they feel was outrageous compensation they had to pay the majors after nationalization. To this day, the perfect deal must protect the Iranian state from compensation demands. One manager involved in negotiations with IOCs explained, for instance, that IOCs wanted oil price exposure – that is, to own the oil reserves so that they could reap a share of oil sales when prices are high, while accepting the risk of lower returns when prices are low. This was denied because the Iranians were concerned that the foreign companies could claim a value for future oil in the event of a compensation claim. The Iranian negotiators also explained that the IOCs wanted security of supply, which the Iranians felt they had given with the long-term sales of oil produced through the buybacks. They also wanted access to equity and the capacity to book reserves. Regarding the last expectation, the Iranian negotiators agreed to the companies booking their share of expected oil produced, but refused to give entitlements to oil that had not been produced. Again, the concern was that in the event of an expropriation, or if the companies left because of security issues, Iran would have to compensate what 'could have been' produced. A senior figure at NIOC felt that because of political feelings regarding oil and fears of imperialism and exploitation by IOCs it is necessary to find new forms of contracts to answer NOC concerns.

Perceived attitudes among the oil majors also contribute to the NOCs' resentment. A number of NOC managers felt that the IOCs have not appreciated the change in operation in producing countries. This feeling was aptly conveyed by a Russian oil professional: 'Many failure stories in China [are a result of] IOC overestimating what they have to offer and how valuable it is to the counterpart. I'm convinced that most of the majors don't respond properly to the changes NOCs bring to business environment. Interestingly enough, rarely NOCs are called competitors by majors, rather they see them as potential targets for cooperation.'

To varying degrees, the industry has evolved in relative isolation (or autonomously) over the last 50 years and, as one oil professional explains, 'the distance between us grew and when they were invited to return to the Middle East, they didn't change their expectations [even though things were different].' The change in effect in the nationalized industries of the Middle East is the result of a process of maturation of the NOCs. They started with little skills base, an uneducated workforce, but with large reserves and, in cases like Saudi Arabia and Abu Dhabi, with the management support of the private companies. Since then, they have expanded their core business to integrate their activities through the value chain and are now embarking on internationalization strategies where they strive to be as competitive as the IOCs.

Industry and governments must seek new investment models to respond to these changes. One model will not stick for all cases. Each NOC is completely distinct and brings to the table different assets, needs and constraints, as the following table shows.

Table 1: Assets, needs and constraints of the five NOCs

	Assets	Needs	Constraints
Saudi Aramco	<ul style="list-style-type: none"> • Efficient • Large oil and gas reserves • Multiple grades of crude • Long-term strategic view • Investment in technology • Human resources 	<ul style="list-style-type: none"> • Capital for refining and petrochemicals • Promote local economy • Ownership of technology • Outlets for its crude (international refineries) • Develop gas value chain 	<ul style="list-style-type: none"> • Upstream oil closed • Political sensitivity • Domestic energy subsidies • Future rent needs of government
KPC	<ul style="list-style-type: none"> • Efficient refining, retail and petrochemicals business • International marketing skills • Large oil reserves 	<ul style="list-style-type: none"> • Experience of technology • Management practices • Clarity of relations with government • Employment for nationals 	<ul style="list-style-type: none"> • Parliamentary opposition to FDI • Heavy/sour grade of crude • Small domestic market • Bureaucratic internal processes • Local employment quotas
Sonatrach	<ul style="list-style-type: none"> • Oil and gas reserves • LNG expertise • Capitalization on NOC status abroad • Geography • Relatively transparent accounting 	<ul style="list-style-type: none"> • Management practices • Access to distant and new markets • New oil and gas reserves • Investment in technology 	<ul style="list-style-type: none"> • Heavy labour costs • Bureaucratic internal processes
NIOC	<ul style="list-style-type: none"> • Large oil and gas reserves • Experience with carbonate reservoirs • Local capacity in private service companies • Geography 	<ul style="list-style-type: none"> • Capital • Clarity of relations with government • Technology • Management practices • Investment in refining, exploration & development • Employment for nationals • Marketing skills for gas 	<ul style="list-style-type: none"> • Sanctions • Parliamentary opposition to FDI • Domestic energy subsidies • Bureaucratic internal processes
ADNOC	<ul style="list-style-type: none"> • High ratio of oil and gas reserves to production and to population • Cooperative relations with foreign partners • Management processes 	<ul style="list-style-type: none"> • Develop HR skills • Capacity to manage large projects • Ownership of technology • Investment in difficult reservoirs • Marketing capacity for products • Investment in gas (for re-injection) 	<ul style="list-style-type: none"> • Political reticence to develop gas for export • Reliance on consultants

Source: Author's interviews

When asked in interviews how they would define the perfect deal with IOCs, NOC managers across the region described it as a win-win deal and, surprisingly, highlighted the needs of the IOCs.

'It has to be a win-win project. We *have* political risk. There's the crisis with the Atomic Agency, the US embargo. [As an incentive] we can put a long-term clause in our contracts.'

'[It would be a deal where] we are both happy, both winners. It's bad when a deal favours one over another. A balance is necessary – like in a marriage.'

There is also almost a consensus within the companies that a perfect deal is one based on technical grounds, and not on politics. Many also thought that the deal should give acceptable rates of returns to both parties.

'We must pay them right, so they're happy. We shouldn't worry about the contract terms, but we should focus on the resource management.'

There are interesting avenues forward that go beyond the contractual ties between IOC and NOC that are presently discussed, such as the conventional Production Sharing Agreements. They answer new trends that are shaping the oil and gas industry. We see, notably, an increased blurring of NOC-IOC categories. With high-profile international ventures, NOCs such as Petronas from Malaysia are challenging the IOCs on their territory of high political risk ventures. Sonatrach, for one, is following suit with a dedicated internationalization strategy. We can no longer confine 'national oil companies' to their national borders. Public ownership is also becoming an elastic concept and NOCs such as Statoil from Norway and Petrobras from Brazil are partially privatized but maintain a majority government stake. Most NOCs don't limit their activities to producing and selling crude, as shown by KPC which is highly integrated, maintaining a balance of approximately 1.1 to 0.9 volumes for upstream to downstream.

Both IOCs and NOCs are changing, but they may not have fully appreciated the change transforming the other. Let us examine some new means of NOCs and IOCs joining forces for their mutual benefit and issues related to these options.

Option 1 - Provision of services

It's often said that IOCs manage risks. So one would expect to find the IOCs busy in the high-risk areas. In fact, exploration in the deep and the ultra deep acreage is now accessible to the smaller Independents and NOCs (like Petrobras). The political frontier niche is getting crowded: in politically unstable countries IOCs are encountering more competition from developing world NOCs, notably from the Chinese groups Sinopec and CNPC (China National Petroleum Corporation), willing to take bigger political risks and lower returns.

IOCs need to strengthen their present position or find a new niche. If the IOCs are planning to open a new technological frontier and there is to be a repeat of their performance in the Gulf of Mexico, where they broke new ground in the 1990s by developing deep and then ultra-deep reservoirs, IOCs will need to invest to maintain their skills. The industry demographics have changed over the years and the number of skilled people available to the oil and gas industry is declining. Fewer young engineers, economists and geologists are drawn to the oil industry. It is perceived by many as an industry of the past and suffers from a negative image. It could be

argued that IOCs have done little to address this problem. Universities are not feeling the pressure from industry to train young professionals for the oil and gas industry. Though most producing countries have no problems attracting students and graduates to this sector – which offers the best national opportunities and enjoys a very positive image nationally, they are acutely aware of the need to improve the image of oil to maintain their market share into the future. There might therefore be room for joint action on this front.

Assuming the majors invest in their skills, give rise to a technological breakthrough and find a new niche, high costs for the medium term in the new areas mean they could be faced with the unsustainable expectations of shareholders regarding returns. Costs would also rise in the majors' traditional open areas in the US and North West Europe, which are becoming more mature and where the probability of very large new discoveries is declining. They will be under pressure to replace produced reserves and to increase rates of recovery from mature areas. As Vahan Zanoian from PFC Energy put it, 'They face the formidable responsibility of *profitable growth* in a depletion business, where often growth alone can be a major challenge.'⁵

Paradoxically, though the majors would seek opportunities to explore and develop new areas to beat the depletion game, they will in fact increasingly be called upon by the major reserve holders in the Middle East to assist them in managing their reservoirs and offsetting the decline of their mature fields. Projects in mature areas present large technological challenges and high costs just to maintain production levels. NOCs are under similar pressures to invest to control depletion rates.

IOCs may not want this type of work. Indeed, if more significant IOC investment is not taking place in the Middle East it is at least partially attributable to the reticence of the majors. But should they decide to work as contractors for an NOC or in partnership with an NOC to develop existing fields, IOCs need to engage in a different kind of relationship with the NOC and with the government from that of the past. The IOC would need to change its mindset, its corporate culture. Their activities are unlikely to include wildcatting – the risky exploration game, and with low risk, the IOC must accept lower returns. IOCs also have to recognize that producing countries want to control their resources. Producers want assistance, but on their own terms. The companies that recognize this are most likely to be successful with the Middle East producers. The following quote from a NIOC manager illustrates the producer's perspective:

'Service companies can provide services often at a better cost than IOCs. This is also true with Iranian service companies. They can do exploration services, seismic, drilling, tankers... (...) There are many, many alternatives to IOCs. IOCs have to bring down their expectations and have balanced, equal relations with us. Unfortunately they are still stuck where they were 50 years ago – they still want PSAs [Production Sharing Agreements]. We decided to propose another formula, which has been able to [attract] \$40bn over the last 6 years. IOCs must change their views and appreciate local capabilities, have balanced relations and reduce their expectations.'

In this sense, with this investment model the problem is not one of access so much as one of the conditions of access. If IOCs reassess their expectations and repackage their offer and do sit down to negotiate as service providers, countries like Iran may open doors wider. At present, a share of the activities of IOCs fits into this format. In some of these cases, the investing IOCs

⁵ Vahan Zanoian (2004), 'Institutional Cooperation in Oil and Gas: Governments, Companies and the Investment Climate', 9th International Energy Forum 2004, 22-23 May, Amsterdam.

may hope (some are bigger believers than others) they will someday be invited to explore and develop new fields *clef-en-main* (turnkey).

The service provider model could mean increasing friction with service companies. The package IOCs offer will need to be defined in relation to the services already provided by companies such as Schlumberger and Halliburton. As it stands, large integrated projects are the domain of IOCs, except in countries closed to foreign capital investment in the hydrocarbon sector. In these cases, the service companies step in. Closed markets, such as Mexico and Iran, where foreign companies cannot lift barrels or market the oil produced, have been the domain of service companies, which operate under strict parameters. A recent and interesting development is the new gamut of services that the IOCs are developing to cater to the producers: financial management tools (hedging, futures), technical consulting, systems consulting, etc. Here again, IOCs will clash with other service providers, such as banks and consulting groups who already offer these services.

On the producer side there are also choices to be made. If controlling the resources and maximizing their lifespan is as important to the producers as they say it is, then they will have to propose contract terms that provide incentives for optimizing their development over the long-term.

There are also broader issues to be resolved regarding the role of the NOC. With this model, NOCs can become customers that manage contractors. There is no danger here if the NOC has strong capacity and is able to control the technological and cost terms of the contract. They will have access to the best technology at a lower cost. However, this model is not without risks: NOCs may lose competencies, as their skills will not be challenged by experience. As Giacomo Luciani explained, NOCs that only partner with IOCs and have no independent activity of their own end up being sleeping partners even if on paper they have a controlling majority or appoint the senior executives.⁶ It therefore becomes more difficult for the NOC to hone the skills to manage the development of the resources. This model may be most beneficial if applied to mature fields and complemented by other investment frameworks in other areas.

Option 2 - Partnership to advance sustainable development in the host country

The sustainable development of the producer involves maximizing the benefits for the economy as a whole today and optimizing the development of resources for the benefit of future generations. Many producers face serious development challenges and governments count on the hydrocarbon sector to provide more than oil rent. Many of the region's oil professionals feel that IOCs care about finding mutually satisfying agreements, but that they are not as concerned about the long-term prosperity of the country. Alirio Parra, Senior Associate CWC Associates Limited and former Minister of Energy and Mines, Venezuela, explained that there is a difference between revenue maximisation, which is a short-term concern, and value creation, which is long-term. From interviews, I gathered that NOCs are driven by value creation, while IOCs (and to a certain extent governments) tend to be motivated by revenue maximisation. These different drivers make it more difficult to align interests in a partnership.

⁶ Giacomo Luciani, 'National Oil Companies and International Oil Companies', *Oxford Energy Forum*, Oxford Institute for Energy Studies, May 2004, Issue 57.

Furthermore, there was some discomfort within NOCs about the IOCs' corporate social responsibility programmes. Some NOC managers gave contradictory views on what the IOCs' responsibility should be in this respect. These programmes challenge the government's prerogative to provide services. The IOCs gets the credit and in the end, gets compensated for the cost, while the NOC is challenged on its home turf. One executive voiced this complaint: 'You know that IOCs bring up their [required] rate of return with their spending on charity programmes? As I told you before, there is no free lunch.'

Many felt that IOCs develop expensive programmes, which NOCs and states could do more cheaply. These oil professionals would prefer that the funds designated for the social work be given to the state to spend. This money is, after all, ultimately taken out of the returns of the state as determined by the contract. Also, many NOC managers feel that IOCs don't understand domestic needs, as would national institutions. There is a strong feeling of pride in many NOCs for having hitherto responded to the needs of the nation. But as state capacity to provide services to the population grows in the Middle East, NOCs are less called upon to build infrastructure or provide social programmes. A new trend for these NOCs is the development of more classic private company-type social programmes, which seek to ensure adequate development of the producing region at a lower cost, while improving the public image of the NOC.

In this context, if private company CSR programmes are to bring greater prosperity to the producing region, while overcoming the suspicion of NOCs and respecting the boundaries of state prerogatives, they must be coordinated with existing programmes handled by the relevant ministries and those put in place by the NOC. IOCs should support existing state programmes with funds, but also with their knowledge and experience with the management of development projects.

In addition to benefits to the community, a partnership model might involve the NOCs gaining competencies from the joint development and application of technology. An Iranian professional commented on the potential mutual gain:

'NOCs and IOCs need each other. The NOCs offer access to reserves, while IOCs offer access to capital, expertise (the latest [enhanced oil recovery techniques], for example), management skills - this is a key thing missing in NOCs. We have too much bureaucracy, which brings bad management, delays... all these things disappear with an IOC. For example, if we order spare parts, the request goes to committee after committee. The IOC just gets it... And research. Iran doesn't have research centres, except the one inaugurated by NIOC - it's a shame!'

In practice, however, it is difficult to transfer skills and technology. NOCs are not all well equipped to take on new skills because of weak management practices and a specific corporate culture. One manager felt that NIOC had been unsuccessful at developing 'deep relations' with companies and that interest was lacking for real technology transfer. Some respondents in Kuwait said that KOC, the upstream subsidiary of KPC, appeared to be resistant to technological transfer. They felt the company was too risk adverse to accept significant technological changes in its operations. Conversely, IOCs face a challenge in accessing a country with a high capacity NOC, like Aramco in Saudi Arabia. Whether working for a high or low capacity NOC, a number of national oil experts exhibit a residual resentment of foreign oil companies, an inheritance of the time of the consortia.

'As an Iranian who went through nationalization, revolution... my view of oil [is very shaped by those events]... I worked in the consortium and was astounded to find a 'no Persian speaking' sign in the managers' mess. I saw that people were accomplishing their private business in the back field and I asked them why they were doing that: "You should use the toilets!?" They said there were no toilets. There was no loo for the workmen, who of course were all Iranian. So now, when outsiders say that "they will teach me something"...'.

It is likely that the present terms of investment are not well designed to facilitate joint development and application of technology. The buybacks in Iran or the joint study agreements in Kuwait have disappointed the partners in this respect. In the buybacks, the IOCs work with the Iranian companies and do therefore transfer technology; but they are not responsible for teaching skills and technology. KPC has joint study agreements with IOCs, through which the majors provide studies on specific themes, such as gas supply or geophysical acquisition, and work in a team with KPC. There is skills transfer, though it appears to be limited, according to an IOC executive. In Sonatrach, the mood is different and the NOC appears very keen to learn from the IOCs. It is perhaps because Sonatrach has been put to the test and is exposed to competition in its domestic upstream business.

There is no easy formula for a partnership that allows NOCs to *control* the development of the resources while they *learn* the skills of IOCs. Terms can be found, but the will must be there. The crucial issue for NOCs is one of trust and the lack of it is a serious obstacle to developing IOC-NOC partnerships. This legacy will need to be overcome to meet the industry's investment challenge over the next 10-20 years. New contractual arrangements may be needed to define new types of relationships between producers and IOCs. Breaking with the legacy of the past includes rethinking equity-based contracts – especially in Iran. For this, private companies must be evaluated on more than their reserves by shareholders and financial analysts. Building partnerships will also require some good old human skills. Partnerships can be built on chemistry between people and their relationships. On the IOC side, it requires cultural sensitivity and good listening. IOCs shouldn't underestimate the knowledge of NOCs; the Middle East NOCs have, after all, kept their industry running with little help from the IOCs for the past 30 years – the Iraqi oil professionals who kept the oil flowing during 12 years of UN sanctions gave a dramatic illustration of ingenious self-reliance.

For their part, IOCs need to know who decides, who regulates, what committees must they refer to, and who is on those committees. IOCs also need a clear legal framework - which they do not find often enough. IOCs want access to a value chain so they can give the state maximum benefits throughout the chain. They are, after all, integrated companies.

Option 3 - IOC-NOC-private local company joint ventures

Another innovative partnership model would have an IOC partner with the NOC and a local private company. Such partnerships have successfully been applied in the petrochemical and refining sectors, and could be developed for upstream and midstream development. A model for such partnerships is the Equate joint venture, successfully developed in Kuwait, with PIC, the petrochemicals subsidiary of KPC, joining forces with Dow Chemical Company, as well as local private companies (taking up a 10% share). The company is independent from the state and from the NOC and functions like any other commercial entity. Its international partners have instilled the company with efficient, Western-style management practices as well as technical

expertise. Some of Equate's good practices have been learned by the NOC partner and applied in the PIC subsidiary – PIC has notably changed its management, IT and HSE processes.

As for the application of this model to the upstream, there is a question as to whether states in the region would be any more welcoming of private domestic equity than they are of foreign oil companies. The participation of the private sector in the hydrocarbon sector has historically been limited in the region. In Kuwait, Jill Crystal describes the historical pact between the rulers and the merchant class whereby the oil industry is state-controlled and the ruling Sabah family agreed to stay out of Kuwaiti business. The merchants have access to lucrative contracts, preferential monopolies and dealerships and receive their share of the oil revenue windfall.⁷ It is unlikely states in the Middle East would relinquish their control over the majority of their hydrocarbon resources, as they draw their power from their monopoly over the generation and distribution of oil revenues. However, some minor hydrocarbon assets could be shared along the lines of a NOC-IOC-local private company partnership, with potential gains for all partners. From the government's perspective, such a deal would reinforce national policies by giving new opportunities to the private sector, while maintaining control over the development of the resource through the NOC's involvement, and perhaps masking slightly from public opinion the role of foreign interests in the investment.

Option 4 - Joint ventures abroad

Joint ventures between IOCs and NOCs in a third country offer a neutral territory in which to develop relations. Here the NOC is learning management practices, application of technology and project management from the industry leaders, provided it takes a large enough stake to get a seat on the board. The NOC is also in a more receptive mode, being challenged by a new environment, and not intent on protecting national sovereignty. The NOC and the IOC partners can develop personal and institutional relationships through such deals that would contribute to overcome trust issues on the part of NOCs. Through a demonstration of the assets and skills of NOCs, IOCs can also learn the value of their partners. Such was, to a certain extent, the experience of Petrobras. The Brazilian NOC sought to pool resources with IOCs through international ventures. This allowed the partners, according to one company executive, to meld together each partner's experience and technology.

Though joint ventures in a third country can help build a relationship between IOC and NOC that facilitates future deals, they cannot realistically be considered a direct avenue to investment in the partner NOC's country, nor can the IOC be expected to risk its reputation on an alliance with a weak partner. Joint ventures abroad must be beneficial to the IOC-partners irrespective of potential investment gains in the NOC-partner's home territory; joint ventures do not survive long when they are based on hypothetical gains. As a result, the lower capacity NOC will find it difficult to attract an IOC into a partnership abroad. International private companies will seek out partners that bring value to the table.

What assets can NOCs contribute? NOCs themselves are only beginning to identify and capitalize on their assets. Most NOCs from the Middle East do not want to play on their national status to win bids outside the country – even in countries where they recognize that they may have an advantage in doing so. There is a marked preference among NOCs for playing on the

⁷ Jill Crystal, *Oil and Politics in the Gulf: Rulers and Merchants in Kuwait and Qatar*, Cambridge University Press, Cambridge, 1990, p. 75.

same field as the other private groups and demonstrating their equal competence. NOCs want to be seen by the NOCs and governments of host countries as international, not national.

That being said, however, Sonatrach is quite deliberate in capitalizing on its experience with dealing with the social environment when approaching host countries – and some peers recognised this as an Algerian advantage. Some Algerian oil professionals felt it was about respecting other cultures in foreign ventures. In this respect, they explained that in some cases Sonatrach had more to offer the host countries than majors because of its capacity to listen, its common values and experience, and its capacity to ‘share the fruit of [its] longer experience in the industry’. Another professional commented that ‘The advantage of an NOC is that we make others more serene about the fact that we will listen to their needs and understand them. There is a cultural proximity between NOCs and host countries. Also that we will not be too greedy – [they recognize] this is our reputation.’ The NOC partner can also support the negotiation and entry in a hard-to-access country. A senior international downstream manager in the Persian Gulf explained, ‘We use the label to our advantage. The label implies we give a guarantee of access to our crude.’ This is particularly useful in Asia, where countries are largely dependent on Middle East supply. More concretely, NOCs can also help deal with unions. They can also understand how to work through a bureaucratic system, such as in China.

There is awareness among the NOCs in the region of the advantages and disadvantages of being associated with their national flag. Governments may support their NOC in its negotiations. Kuwait’s strong relationships with Arab states (supported by a tradition of lending money to neighbours) help the Kuwaiti NOC, whereas IOCs are viewed with suspicion in these countries. Being the NOC of an Islamic country is also an advantage for companies investing in the Islamic world. As one NOC manager put it, ‘It’s true that being an NOC may be the cherry on top that gets the deals in Iraq or in Yemen. We do have an intimate understanding of Muslim countries.’ However, it is noteworthy that for Kuwait Petroleum International, KPC’s downstream subsidiary operating in Europe, the affiliation with a Muslim, Arab country was perceived as a potential threat to its market. As a result, they re-branded there as Q8. The company’s studies showed that the Q8 image was of a youthful, vibrant brand, and not a state brand. And, according to one executive, they want to keep it that way.

NOC managers are acutely aware of that while they boast of these NOC advantages abroad, there is a credibility problem that NOCs have to overcome in the perceptions of their potential partners as well as their own employees. One Algerian professional explained, ‘there is a perception of risk in doing business with NOCs that is not the same with IOCs (in particular with supermajors).’ Sonatrach needs a successful outcome in its international ventures to counter this perception and increase its credibility among peers.

Middle East NOCs bring more assets to downstream joint ventures than in the upstream, where the operator’s responsibility is great and a strong track record of applying the right technology and controlling costs is crucial. Because NOCs have less experience with the management of large projects, cost control and new geological conditions, they have a great deal to learn from IOCs in these joint ventures abroad. In terms of international downstream ventures, NOCs like KPC, Sonatrach and Saudi Aramco have already integrated their activities significantly and are present in refining, but they can learn from the IOCs’ management practices and marketing skills.

Option 5 - International strategic alliances throughout the supply chain

As a number of NOCs expand the scope of their activities through the value chain and internationally, they seek to attract foreign investment in new core business and to acquire assets abroad to give them better access to markets and integrate further. There are, in this respect, opportunities for international strategic alliances between IOCs and NOCs, with each party leveraging its assets to access the missing link in its supply chain.

A number of the traditional petroleum producers are expanding the focus of their core business and are turning increasingly to gas to support oil exports in generating rent as well as to allow greater integration of activities. There is potential for joint gas development in these producing countries where the hydrocarbon industry was otherwise closed to foreign investment. Gas is indeed a less politically sensitive resource than oil – witness the Saudi gas initiative. A Saudi Aramco executive explained, 'What would be of interest is a gas value chain. IOCs bring capital and know how. It would increase opportunities for privatization – which would decrease the funding burden of the government and bring the IOCs in for power generation and the other key needs of the kingdom.' However, when the gas products are planned for domestic consumption, subsidies and government fixed prices often limit the attractiveness for investors (including for the NOCs) – as is the case with refining. For some time, large gas reserves holders in the Middle East (Qatar excepted) saw greater value in gas as a substitute for domestic oil consumption that would free lucrative petroleum for export than in gas as a commodity for export. This is changing. Faced with declining petroleum reserves in Algeria and new technological capacity in gas development, Sonatrach and Iran want to be the gas hubs of the future, accessing markets left open by Qatar and Russia. In terms of domestic supply of energy, the scene is also changing in the major producers. The Algerian and Iranian governments had put to parliament bills aiming to reform the domestic subsidy system and the Saudi government is expected to bring its domestic pricing system in conformity with WTO regulations.

Asian companies have been actively pursuing upstream ventures in the Middle East, in strategies often driven by their countries' energy security policies. The Asian importing countries are highly dependent on the Middle East and North Africa for their crude imports and these governments support their oil companies' efforts to secure new sources of supply in the region. In a parallel move, Middle Eastern producers have tried to gain entry to Asia's downstream markets, primarily in China and India, so as to secure outlets for their crude oil and gas exports and to ensure security of demand.

Interpenetration is particularly in the interest of gas exporters, which need secured markets in order to invest in developing their gas resources. Iran is actively pursuing this strategy by offering investments in upstream oil and gas (and petrochemicals) in return for secured gas markets in Asia.

Sonatrach is looking for new 'forms of penetration' with IOCs. Thinking beyond the joint venture format, the company seeks to engage IOCs differently, with asset swaps, for instance. This is an interesting way to develop new skills and to access new markets. Sonatrach is discussing an asset swap with Statoil. The companies will exchange stakes of same value in each other's gas fields (the Christina field against an undetermined Algerian field). Finding stakes of equivalent value with similar tax regimes is a particular challenge in these ventures. The companies are discussing exchanging a minority stake in the order of 20-30%. It is important for Sonatrach to secure a large enough stake to have a seat of the board. The recent agreement between BP and Sonatrach to jointly book capacity at the Isle of Grain LNG re-gasification terminal is a successful joint venture which added value to both parties. There are also potential

complementarities between gas producers, such as Sonatrach, and downstream gas marketers, both concerned about demand security. Companies like Sonatrach may also find access to new markets in Europe easier with a local partner, as European market liberalization places new conditions on suppliers.

In terms of forward integration, NOCs also seek to pursue international refining and marketing, transportation and petrochemicals. Saudi ventures in the US and Japan are significant in this respect. These partnerships offer the large exporter of crude security of markets, which is of particular importance to Saudi Aramco, and offer the foreign partner a way of reducing the capital employed in the low-return downstream business – without exiting it completely.

NOC objectives and methods in international refining are not necessarily compatible with IOCs. Their international refineries tend to be subject to limitations regarding the source of the crude – they are outlets for the national crude. This is changing in Kuwait and elsewhere, and we might expect oil to be treated increasingly as a fungible commodity by producers as the state expectations grow regarding the refineries' bottom-line and as NOCs increasingly sign up for joint venture refineries with IOCs and the dominant producer culture of price and destination control gives way to more open market practices.

These various partnerships will not necessarily give IOCs equity access to petroleum reserves in the NOC's home turf. However, they do present benefits to the IOCs if they build relations that promise future access to reserves and if there is a strategic gain in the immediate term. Also, to the extent that these partnerships are based on joint decision-making and operations, there is a really opportunity for transfer of technology and management practices to the benefit of the NOCs.

Option 6 - NOC buys IOC

NOC ambitions may lead to a new phase of industrial acquisitions, where the NOC purchases smaller private oil companies in a drive to acquire the skills, the technology and the international exposure it lacks. This option becomes more viable in the current period of high oil prices thanks to the increased revenue windfall for producers – though assets could not be bought cheaply until prices fell. An oil supermajor would be too large a bite for even the largest NOCs. The capital commitments could not be justified to the state, which invariably has other plans for these revenues. Also, it is likely that, in a reversal of usual roles, the IOC's government would react to its flagship company being bought by an OPEC producer. When KIA (Kuwait Investment Authority) bought a 23% stake in BP in the 1987-88, BP successfully appealed to the British government to intervene. BP board members argued to the British government that what was ostensibly a portfolio transaction by KIA was in fact a veiled attempt on the part of KPC to take over BP.⁸ More recently, in summer 2005, CNOOC narrowly lost out to American major Chevron Corporation in a bid for the California oil company Unocal Corporation. The Chinese outbid their American competitors but the deal was quashed by political opposition in Washington.⁹ There is growing concern in oil importing countries about this kind of strategic acquisition on the part of a

⁸ Mary-Ann Tétreault, *The Kuwait Petroleum Corporation and the Economics of the New World Order*, Quorum Books, Westport, CT, 1995, pp. 200-202.

⁹ Just a few weeks later, another Chinese oil company, the China National Petroleum Corporation, concluded a deal to buy PetroKazakhstan, a Canadian company with oil fields in Kazakhstan, for roughly \$4.2 billion.

rival oil consumer, and it is likely that perceptions of the OPEC members' ambitions would be equally negative.

Less controversial and more financially viable, an NOC might acquire an independent. The acquisition of a company with the needed technology and experience might fill the necessary skills gap for the NOC. For example, Kuwait's national upstream company KOC lacks technology and experience with heavy crude, which is set to take a greater share of its petroleum production as mature fields with lighter crude present always-greater challenges to offset decline. It therefore needs to hone its skills for enhanced recovery in its existing fields, on the one hand, and for the production and development of heavy crude on the other. It could seek to acquire an independent with extensive experience in heavy crude or a 'mid-cap' (medium sized) international oil company with combined experience of heavy crude and mature fields. Saudi Aramco, for its part, needs to secure new refining outlets for its crude and might benefit from the extensive downstream network of a mid-cap oil company.

The challenge with such acquisitions comes from the clash in corporate cultures. These private oil companies are attractive to the buyer notably because of their lean operations and flexible management processes; and yet, in a merger, these qualities are unlikely to survive in the NOC's operating environment. It is therefore necessary to keep the private company at arms' length and largely independent from the NOC, while devising mechanisms and processes for exchanging views and developing joint strategies.

Conclusion

Successful new business models will depend on a careful alignment of each party's objectives, needs and assets. This paper suggested potential new means of NOCs and IOCs joining forces for their mutual benefit. The difficult task lies in finding a venture where both parties bring complimentary assets to the table. Another obstacle, as we have seen, relates to how IOCs and NOCs perceive each other. Neither seems to feel 'understood' by the other, as suspicion on the NOC side or frustration on the part of IOCs often mar negotiation efforts. Nor do they fully appreciate how the other has changed. NOCs are unlikely to give turnkey contracts; they want to control and participate in the development. This change in NOC expectation means IOCs must either work for the NOC or work with it. By developing new business models, as discussed here, they will become partners.

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This paper draws on her forthcoming book *Oil Titans: National Oil Companies in the Middle East*, co-published by Chatham House and the Brookings Institution, which will be published in spring 2006.

For further details about this book publication and the work of the Energy, Environment and Development Programme at Chatham House please visit: www.chathamhouse.org.uk/eedp.

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A shift is underway in Middle Eastern oil and gas spending patterns. Middle East oil and gas 2019. Four years on from the sharp drop in the oil price in late 2014, a look at the active and planned project work in the oil and gas sector suggests a shift is underway in regional spending patterns. There is currently \$21 billion-worth of oil, gas and petrochemicals projects under execution in the Middle East, while a comparable \$24 billion-worth of projects are in various stages of pre-execution. Under execution and pre-execution. Saudi Arabia, Kuwait and Iran. Nigeria needs to "get out of oil dependency", says Charlie Robertson of Renaissance Capital, an investment bank. He recommends investing in education, health and infrastructure. Foreign direct investment in the kingdom, though, was already weak, partly due to worries about Prince Muhammad's arbitrary rule. Confidence will not be boosted by his surprise oil-price war. In Nigeria, the emir of Kano, who is a former central bank governor and critic of President Muhammadu Buhari's economic policies, was dethroned on March 9th for showing "insubordination" to local authorities. This article appeared in the Middle East & Africa section of the print edition under the headline "The big squeeze". Reuse this content The Trust Project. The Economist Today. Middle East: Under Existential Threat? The Middle East accounts for 48% and 38% of proven global reserves of oil and gas respectively. The announcements by BP and Shell to cut their oil and gas investments by 40% by 2030 would seem to signify an existential threat to the future viability of the region's oil and gas producers. If there is bad news for the Middle East oil producers, it has little to do with peak oil demand. It would be that they failed to exploit their treasure of energy reserves to help themselves while their oil sales rescue the rest of humanity in the developing countries from the ravages of energy poverty. Anyone who has ever worked for either Shell or BP is well aware that they do "nothing" on the cheap. 0. Scissor. Nick is an economist who focused on energy, environmental, and regulatory issues as the Herbert and Joyce Morgan fellow. An oil well in an agricultural field in the town of al-Qahtaniyah, in the Hasakeh province near the Syrian-Turkish border on June 10, 2019. DELIL SOULEIMAN / Contributor / Getty Images. Key Takeaways. So when President Donald Trump recently said, "We are independent, and we do not need Middle East oil," did he finally accomplish what his eight predecessors vowed to do? Not exactly. We're much less dependent on Middle East oil than we used to be, yes, but not entirely so—and in fact, we can't be. For starters, oil is a globally traded commodity.