

Issue 70

August 2007

**Mother Earth still contains vast resources of oil, gas and coal. They can last us for decades to come. As regards oil, technologies that can increase the recovery factor from a field from 30 to 50 or 60 percent already exist. The ‘peak oil problem’ is not due to geological scarcity. The real issue is investment in exploration and development – the investment that builds up productive and lifting capacities.**

There are several constraints that hinder investment in oil. The national oil companies (NOCs) of some producing countries are reluctant to invest because of demand pessimism. President Bush has been talking of the need to cure Americans of their addiction to oil. Why plan too much investment in this case? Some NOCs are starved of funds; others are constrained by oil sanctions or by the impact of wars or civil strife. IOCs feel limited by insufficient access to countries owning vast natural reserves. They are also under pressure from their shareholders to seek high rates of return on their investments, or to return money to them.

Access is of import to IOCs and to those oil-producing countries that need their involvement in upstream oil. It is at the heart of the relationships between governments or the NOCs and the IOCs.

Access is the subject of four articles in this issue of *Forum*. They discuss different elements of this problem, and more importantly present

different points of view.

Robert Mabro analyses the behaviour of IOCs and host governments. He argues that a lack of trust is at the origin of problems; and that is due to asymmetries in the balance of power. The IOCs have experience that governments often lack; and governments own a natural resource that the IOC does not possess. His article includes lists of what both parties should do or not do and suggests that a major oil company should perhaps take the lead in spelling out – as it were in a charter – the broad principle it will apply to its relationship with host countries.

Oil nationalism is an important aspect of the access issue. Nordine Aït-Laoussine points out that oil nationalism does not refer only to the nationalisation of foreign assets but is a catch-all term relating to a wide range of government interventions. In a sense it is a misnomer. Ironically, oil-importing countries are not immune to it. Its root causes range from a desire to gain

## CONTENTS

### Access to Oil Reserves

Robert Mabro  
Nordine Aït Laoussine  
Michael Daly  
Patrick Pouyanné – page 3

### Angola's Entry in OPEC: a win-win move?

Sadek Boussena – page 13

### The Battle of the Sour Futures Contracts

Bassam Fattouh – page 15

### Venezuelan Oil – The Unfulfilled Promise

Luis A. Pacheco – page 17

Letter – page 19

Asinus Muses – page 20



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economic independence, to a simple dissatisfaction with contracts signed by a previous regime. He argues that resource nationalism contributes to market instability and enhances consumers' anxieties about the security of supplies.

The views of major oil companies are expressed by Mike Daly of BP and Patrick Pouyanné of Total. Daly argues that access difficulties which involve 'increasingly aggressive competition for a changing opportunities set are inducing oil companies to search for more challenging sources of oil and gas'. He stresses that IOCs should try to understand the reserves owner's objectives, behaviour and needs; and governments should acquire a better understanding of IOCs. Companies that succeed in the most difficult energy developments ranging from ultra-deep water hydrocarbon sources to carbon sequestration will contribute to the welfare of our future world.

Pouyanné addresses the problem arising from host countries' frustration with contracts signed when oil prices were low. Past circumstances explain what was agreed in the past. Adjustments and re-negotiations are possible of course but should not alter the balance of interests between the parties. Stability (a better term than sanctity) of contracts is important. He argues that the three components of an IOC's contribution, 'technology, money and management' remain as essential for the development of resources today as ever. Pouyanné indicates that IOCs need to offer more than the three traditional components. He lists for possible inclusion in a deal, carbon sequestration, investment in refineries and petrochemicals, scientific education, technical training, job creation among other things.

This issue of *Forum* includes three other articles addressing topical subjects.

Angola joined OPEC as its 12<sup>th</sup> Member Country at the beginning of this year. Sadek Boussena asks: Why did Angola forsake the enjoyable position of a free rider to join an organisation that will eventually require it to abide by production quotas?

Bassam Fattouh assesses the recent launch of two sour crude futures contracts for Dubai and Oman. After a promising start (on 26 May and 1

June respectively) both contracts suffered from a drastic fall in liquidity. Potential traders in Asia and in financial entities are adopting a cautious wait-and-see attitude. The more people who wait and see the less there is to see.

Venezuela is continually in the news. We have a contribution from a former director of the old PdVSA and hope to obtain for the next issue a point of view from the current leaders of Venezuela's oil industry. Luis Pacheco argues that since the 1975 nationalisations Venezuela's strategy has fluctuated between two contradictory objectives: to increase the per barrel rent or to expand as far as possible oil production and as a result market share. The question for the future is whether changes will be pursued with increasing momentum or certain pervasive continuities will reassert themselves?

*Forum* is a debating journal and we welcome correspondence. A letter by Ivan Sandra is published here. All the topics presented in this issue are highly amenable to debate. We invite readers to contribute with their points of view on these hot subjects.

## Contributors to this issue

NORDINE AÏT LAOUSSINE is President of Nalcosa, Geneva

SADEK BOUSSENA is a Professor at the Université de Grenoble and Special Energy Advisor at the Société Générale

MICHAEL C DALY is BP Group Vice President Exploration & Long-term Renewal

BASSOUM FATTOUH is Reader in Economics at the London School of Oriental and African Studies and Visiting Senior Research Fellow at OIES

ROBERT MABRO is Honorary President of OIES

LUIS A PACHECO was formerly a Director of PdVSA

PATRICK POUYANNÉ is Senior Vice President Strategy, Business Development, Engineering, R&D Exploration & Production Total

# Access to Oil Reserves

## Robert Mabro assesses different aspects of the issue

### The Protagonists

**Private Oil Companies.** Wide access to oil natural reserves is the crucial objective of private oil companies. Exploration for, and development of, upstream oil and gas are their preferred activities. One reason is that the rates of return on upstream investments throughout history have been generally higher than for other oil investment, whether in refining, retail sales in petrol stations or transportation in tankers or pipelines.

There is an 'upward potential' for profits in the upstream sector because discoveries may turn out to be more significant than initially expected, and prices may rise to levels higher than those used to evaluate the economics of the investment project. Service contracts where the private company received a cost-plus payment for the work undertaken may be very profitable in some cases but do not involve an 'upside potential'. Most oil companies refuse or are very reluctant to enter in these types of agreement.

There are risks of course. But the international oil companies (IOCs) often boast about their abilities to manage risks and more generally about their skills and experience in managing big projects. The existence of risks justifies their claims for high rewards in the event of success. The IOCs are also under considerable pressure from analysts and fund managers (the shareholders and their representatives) to replace the reserves that are continually being depleted by production.

The IOCs find it paradoxical that their ownership share of world oil reserves is much smaller than their share of world production, and they remember with some nostalgia the

pre-1970s golden age when they had almost unfettered access to the huge reserves of Venezuela, Middle Eastern and other third world countries.

As oil production has already peaked in major OECD countries or regions such as the North Sea or the USA, the IOCs' need to increase access elsewhere in the world is becoming more urgent from their point of view.

Certainly the IOCs, whether the Majors or smaller companies, are involved today in the upstream sector of a large number of nations including some OPEC Member Countries – Algeria, Angola, Indonesia, Libya, Nigeria, Qatar, the UAE, Venezuela. In some of these the involvement is small. In others, such as Venezuela their continuous involvement is threatened by possible nationalisation. Nigeria suffers from unrest. Algeria and Qatar are gas rather than oil countries. Libya is one exception. Although for a long time in this list, it has recently opened up its upstream sector on a very large scale following the lifting of international sanctions. And Angola is another, as production is rising at a high rate and future prospects seem good.

Outside OPEC the bright spots are Azerbaijan, Brazil, Canada and Kazakhstan. Russia appears to be problematic as there are major uncertainties about the country's oil policy. The strong expansionary drive of Gazprom, supported by the government, is transferring assets from foreign oil companies to this national giant and probably restricting the scope of future investments by IOCs and smaller private oil companies.

**Host Governments.** Some oil-exporting countries need the co-operation of a private oil company for oil/gas exploration and development. The need arises when there is insufficient experience or knowledge, a lack of the skills required to manage big projects, limited access to advanced technologies, or financial constraints. This need is more universal than can be surmised

from the difficulties that pave the path to co-operation. The evidence that it exists lies in the fact that only two oil-exporting countries in the world are not open to foreign private companies in the oil upstream sector. These are Mexico and Saudi Arabia.

The oil-exporting country that has opened the upstream sector to foreign companies will ideally want (a) an efficient exploration for, and development of, its oil resources, (b) the maximum fiscal stream of revenues that can be obtained without adverse effects on the foreign investment flows, (c) contractual arrangements with the companies that do not infringe on the country's sovereignty over its natural resources, and (d) a degree of control over the companies' operations and behaviour.

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**“The IOCs find it paradoxical that their ownership share of world oil reserves is much smaller than their share of world production”**

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There are difficulties of course. A country at the beginning of its oil history lacks the knowledge and expertise that would enable it to ensure that exploration and development are proceeding efficiently. It will lack the skills required to design the appropriate fiscal regime and to negotiate contracts that maximise its benefits without causing foreign investors to run away. The country may have recourse to consultants, but consultants need to be selected carefully and then managed. Unfavourable contracts and fiscal regimes are likely to be designed and agreed upon. As experience accumulates with the passage of time the country slowly finds out that it did not obtain a good deal. And at this point frustrations begin to build up.

A government that feels insecure because of its awareness of limitations in knowledge, experience and relevant skills will feel very sensitive about the sovereignty issue and seek to exercise heavy bureaucratic controls on the foreign company with the risk of affecting its performance.

### The Access Issue in different Oil-exporting Countries

I have detailed in Box 1 the conditions governing access to oil upstream in all the relevant major countries. In each case I have discussed the causes for these conditions, and whenever possible assessed the current state of affairs. In some countries access was, or still is, denied or made difficult by the imposition of US or UN sanctions. It is ironic that major importing/consuming countries have no hesitation about decreeing oil embargoes, often over a long period of time, while at the same time worrying about a future petroleum scarcity. As mentioned earlier, there are two countries which for different reasons do not allow access. But in the majority of the cases, access is allowed but is subject to conditions that companies in varying degrees find unattractive.

The problem is that a very large share of world oil reserves (58 per cent) is held by the set of countries where access is denied for one reason or another, or made impossible, or is subject to much uncertainty as regards changes in the contractual and fiscal terms account. These countries today are: Saudi Arabia, Mexico, Kuwait, Iraq, Iran, Venezuela and Russia.

The facts presented in Box 1 clearly show that the discussion about access can not be conducted in general terms. There are specific circumstances that distinguish one country from another. The differences must be taken into account, or at least kept in mind, when discussing the access issue.

### The Roots of the Access Problem

Despite these specific differences, there are some common underlying factors relevant to an understanding of the access problem. These are: (a) the nature of the relationship based on the

mutuality of needs and (b) trust and the balance of power.

### The Nature of the Relationships.

Access to oil reserves in a particular country is a relationship between two parties. And given the nature of things (a long time is required to conduct exploration, and if successful to develop the resource, and then to produce oil in order to realise the return on the company investment and to generate a revenue flow for the government) the duration of this relationship is expected to be over 20 or 25 years in the first instance.

“A government that feels insecure ... will feel very sensitive about the sovereignty issue”

The state, the first party in this relationship owns a natural resource which is a potential source of rents for both parties, and when the volume of production is large and prices are high a source of considerable wealth. The other party, the IOC, brings in factors such as skills, technology and capital, and according to the companies themselves, more important than all else, the unique capability to manage big projects.

One necessary condition must be satisfied. The first party, the host government, must have a real need for the contribution that the private oil company is required to make. Otherwise the government is better advised to let its own national oil company do the job by itself. When the need exists for such contributions it will vary from country to country. It is absolute in Equatorial Guinea or Brunei, and much less acute in Brazil or Mexico for example.

The fundamental concept here is *the long-term relationship* which a production sharing agreement or a joint venture implies. The relationship has precedence over the contract. To be sure, contracts formalise the terms and conditions under which the relationship is conducted. Yet the contract is

the form and the relationship is the substance.

Problems arise when significant changes in circumstances make the terms of an existing contract unfavourable to one of the parties. The balance of risks and benefits as in the initial contract becomes distorted. Although redress is theoretically possible in most (but not all) contracts through a re-opening clause, there are too many instances when the party that is now gaining more under the term of the existing contract will fight tooth and nail to avoid re-negotiation or agreement on new terms. The worn out concept of the ‘sanctity of contracts’ will be used again and again. I quipped once that sanctity is a theological not a business or legal notion.

These attitudes cause damage to the relationship. They ignore the simple fact that a contract reflects conditions that prevailed at the time of its negotiations. Much is likely to change during the 20 or 25 years of its life. Often statesmanship is required to anticipate these changes and even volunteer modifications of the existing contract. But statesmanship is in short supply on both sides of the relationship.

Most governments and companies would say: ‘But of course all that matters is to maintain a good relationship; this is absolutely evident.’ Yet, this view does not always inform and shape actual behaviour.

**Trust and the Balance of Power.** I personally believe that much hinges on trust in the broad issue of access to upstream oil. To put it bluntly mistrust is at the root of the access problem. One cause of mistrust relates to the balance of power. Where there is imbalance, the weaker party will naturally mistrust the stronger one. In the relationship between a country and an international private company the perceived imbalance is in the domain of knowledge. The oil company has experience, technical and scientific skills, information, and the capability necessary to organise the resources for a large project that the national oil company of a developing country may not possess to the same extent



## BOX 1: Oil-exporting countries in which foreign companies' access to the oil upstream sector is either limited or denied

### Countries in which the access to oil reserves is fully denied

It is important to note here that the reference is only to oil as access to gas resources is sometimes either allowed or not ruled out *a priori*. Only two countries fall in this category: Mexico and Saudi Arabia.

*Mexico* denies access because it is prohibited by the Constitution. It goes back to the Mexican Revolution which involved the nationalisation of the oil industry. Interestingly, the date on which the Mexican national day is celebrated every year is that of the nationalisation of the oil industry. This suggests that national independence was perceived, among many things, as freedom from the involvement of foreign oil companies in the country. It is almost certain that the link between national oil and national independence is still alive in Mexico's political culture.

The present government would like to open part of the upstream to foreign investors and to privatise parts of PEMEX, the national oil company. Privatising refineries is not prohibited by the Constitution but refineries are unlikely to attract private investors, foreigners or nationals. A constitutional amendment is needed to open up the upstream. This requires a two-thirds majority vote in the Congress and a positive vote from two-thirds of the states that constitute the Mexican federation. Most political observers doubt that this can be achieved at present.

*Saudi Arabia* explains its refusal to open up upstream oil to private oil companies on the grounds that they are not needed. It argues that Saudi Aramco, its national oil corporation, is perfectly capable of developing the country's oil resources. The recent development of the giant Sheba field in a difficult physical location supports their view. Saudi Aramco is a proud company and has reason to be proud. A second argument relating to surplus capacity was put forward by Crown Prince (now King) Abdallah a few years ago at a meeting in Washington with the heads of major oil companies.

The argument simply is that it is neither in our (Saudi Arabia's) interest nor in yours (the companies') to add surplus capacity to already existing surplus capacity. Some may argue that the shut-in incapacity in Saudi Arabia is no longer as big as it used to be, hence the need for an IOC involvement. Yet, Saudi Aramco is leading remarkable developments in a number of Saudi oilfields with the aim of maintaining the volume of surplus capacity at a preferred level in the years ahead. And one may ask whether private investors, were they involved, would be prepared to shut in 10 or 15 percent of the capacity they would create, as they would be required to carry the same relative burden as Saudi Aramco.

### Countries where access is allowed but made impossible or seriously hindered by international sanctions

Oil sanctions have been imposed at different times in the past 30 or 35 years on a number of major oil-exporting countries and in some cases for very long periods. These are *Libya, Iraq and Iran*.

The sanctions on *Libya* were lifted in 2006 to reward the country for abandoning programmes of weapons of mass destruction (WMD). Whether Libya had credible programmes at the time in this field is an open question but the move was astute because it met the desire of the United Kingdom and the United States to tell other countries with more credible programmes that big rewards are attached to a decision to renounce WMD developments.

*Iraq* was under international sanctions from 1990 to 2003. Sanctions were lifted as soon as Saddam Hussein was overthrown by the US/UK military intervention but the security situation is now so disastrous that major oil companies are not prepared to invest in the country.

*Iran*, in principle, is open to investment by foreign companies in the oil upstream but access is seriously limited by two factors – US sanctions and unattractive contractual terms offered to companies. Besides imposing oil sanctions, the USA put considerable diplomatic pressure on non-US oil corporations to stop them from undertaking upstream projects in Iran. A recent case in point is the pressure put on the Japanese government to dissuade Impex from developing the major Azadegan field. On the other hand, the terms on offer to companies, known as the buy-back regime, are not perceived as particularly profitable. This is a hybrid scheme which should not give the appearance of a production sharing agreement (PSA) as this is unacceptable to Iran; nor should it look like a service contract, a formula that companies loathe. Furthermore, Iranian negotiators have to move very cautiously and slowly because the conservative politicians who approve or reject deals dislike the whole idea of foreign investment in oil.

### A country where the possibility of access is talked about but where the final decision has not been made

This is the case of *Kuwait*. The idea that foreign oil companies should be invited to help in the development of the North fields emerged in 1992 after the liberation from Iraqi occupation. Some in the government thought that American, British and French oil companies working close to the Iraqi border would induce these countries to intervene should Iraq launch a new aggression. Later on, the Kuwait Oil Corporation (KOC) which is in charge of the upstream took the view that a lack of technical and managerial resources called for the co-operation of major oil companies. No contract has yet been signed although

**BOX 1: continued**

fifteen years have already elapsed. The Kuwaiti problem is essentially political. Parliaments have been unwilling to pass the necessary laws not only because of worries about sovereignty over natural resources, but for a variety of other reasons including the fear that negotiations between officials and private companies will open the door to corruption.

**Countries where oil policy is evolving in a direction judged unfavourable by the companies**

The most important cases are Venezuela and Russia.

*Venezuela* allowed access under the *apertura* policy initiated in the 1990s. Foreign oil companies rushed in and some paid considerable sums in signature bonuses to the state to obtain a contract. In other cases, guarantees were given by a national company to the foreign counterpart that compensation would be provided if the government increased tax rates at some future date. No self-respecting government can accept such an arrangement which contradicts the sovereignty of the state in fiscal matters. In other contracts, royalty rates were set at a ridiculously low level. It is not surprising, therefore, that the new government under President Chavez wanted to change the terms of

the relationship. Royalty rates were raised to levels that companies find too high. And the government is now seeking a 60 percent participation in favour of PdVSA, the national oil corporation, in projects involving foreign oil companies. A common problem arises in these situations, namely the difficult agreement over the price to be paid for the assets. Many observers believe that the move was premature as it may strain PdVSA capabilities in managing the assets to be acquired.

*Russia* is a hydrocarbon economy insofar as the state budget and the balance of payments are concerned. President Putin has taken the view that this situation calls for a greater degree of government control and involvement in the hydrocarbon sector than realised by Mr Yeltsin's government. Hence, the confrontation with Yukos which was promoting an oil policy at odds with government objectives, the constant attempt to support the expansion of Gazprom by putting pressure on foreign oil companies to sell some of their assets to the new Russian oil giant, the increase of state control on such matters as the environmental impact of oil operations, and the tightening of rules about tax payment and against possible avoidance.

The foreign oil companies worry about a trend that may restrict access to the Russian oil reserves.

(there are exceptions of course) or in some places to no extent at all. The party that is aware of this imbalance (when disadvantaged) will be inhibited and may drag its feet in negotiations causing costly delays.

In another domain, that of sovereignty, the imbalance seems to favour the government. The government, after all, owns the resource. It has the power to say 'no' to an approach by an IOC or any foreign oil company seeking access. In this case the company can agitate or ask its parent government to intervene diplomatically, but in a fundamental sense it is powerless. Here the power of the country is 'negative power', the power to say 'no'.

In some instances the absolute 'no' reflects absolute mistrust. The imbalance in one domain (knowledge) prevents the emergence of a relationship despite the existence of another imbalance (sovereignty) that should have reassured the government.

Governments also have the power to nationalise some or all the assets of the foreign oil company that had invested in the country. This rarely

happens, and when it does financial compensation is made. But the sums paid are never considered satisfactory by the company that was expecting to enjoy a flow of net revenues over many years.

A company that invests in a foreign country is faced with political risks of varying magnitude. The greater the risk is perceived to be, the higher will be the rate of return on the investment that the company will seek. The drawback, when this rate is very high, lies in the inevitable perception that the company is trying to rip off the country.

The building of trust is not helped by a lack of mutual understanding that sometimes affects adversely the relationship. Governments' behaviour is strongly influenced by domestic political considerations and by memories of a colonial past that involved exploitation. Businessmen and economists often find the governments' behaviour irrational or anachronistic. There is a failure to understand that a political entity is subject to other forces than those relating to economic rationality.

Companies do not understand govern-

ments, and the reciprocal is also true. Governments do not understand companies. Corporations endeavour to make profits and to increase shareholder value. Ambitious managers and employees of these corporations who naturally want to enhance their career prospects display a dynamism that is often perceived by governments and national oil company officials as arrogant, aggressive or insensitive.

These perceptions of irrationality on one side and aggressive behaviour on the other, increase mistrust, or at least do not help in reducing it.

**What Can Be Done?**

Building mutual trust is a long-term affair. Developing a better understanding of the other party in a relationship is not always easy. Does anybody really know his/her partner or spouse after long years of partnership or marriage?

A company that wants to improve its chances of access in the long run and improve an ongoing relationship with a host country needs to avoid certain things and actively promote others.

Some of the things to be avoided are as follows:

- Do not pay commissions to an agent until you are absolutely sure that he or she is not a front for an official.
- Do not try to play one group in the political establishment of a host country against another group. More generally stay clear of domestic politics.
- When negotiating a long-term contract never ask for clauses that impinge on state sovereignty. And do not agree to their inclusion in the contract when they are offered by the government negotiator.
- Never promise more than you can deliver.
- Always explain with great honesty and clarity the reasons why you are proposing or even fighting for this or that clause.

Things to be positively promoted include the following:

- Develop a good knowledge of the country where you would like to invest – as opposed to the conventional wisdom which may be incorrect. In the country where you negotiate or operate, a person who knows the country and its language well should be attached to the top managers and be given the power to tell them what they cannot do and say.
- Make it clear that you are prepared to accept in new contracts with an OPEC Member Country production reductions in line with actual cuts (not quotas) that a country may make to stop an oil price slide. The counterpart will be a clause that gives the investor an element of the price increase resulting from the output reduction.
- Seek a simple solution to the ‘booking of reserves’ issue.

Host governments, on the other hand could improve the quality of the relationship by:

- Fighting corruption
- In the event of changing circumstances it is preferable to ask in

a straightforward manner for the activation of the re-opening clause in contracts instead of beating around the bush on the issue.

- Distinguish between issues that really affect sovereignty and those that are really irrelevant.

### The Need for a Bold Initiative

The major oil companies are few in number today, fewer than when they were some time in the last century at the height of their power. They constitute a non-collusive oligopoly. And in an oligopoly firms without breaking any law follow a leader. Will a leader stand up and state the terms of the deal under which his or her company will seek access to upstream oil and gas and operate the relationship? Hands may be tied, of course, by the fear that a bold initiative would not be well received by shareholders and analysts. And what about the reaction of competitors? Ultimately however, the leader rewarded with success will be followed. This is in the nature of competitive oligopoly.

The ‘new deal’ will include some items already mentioned – a solution to the booking of reserves issue, an agreement on production cuts against a compensation should oil prices rise, and a strict adherence to the principle that there should be no contractual clauses that impinge on national sovereignty.

The ‘new deal’ will also state that

- joint ventures with the national oil company are favoured, and ideally preferred to production sharing agreements;
- financial rewards in existing oil fields for the oil company will be smaller than the cost savings achieved in order for the host country to obtain tangible benefits from the IOC involvement;
- the transfer of management skills and technology will be undertaken in the best possible way and regularly audited;
- in negotiating production sharing contracts (when joint ventures are impractical) the country’s need

for a share of revenues from the start of production will always be accommodated.



## Resource Nationalism: Nordine Aït-Laoussine asks what’s new?

### Introduction

Resource nationalism has attracted much public and political attention during the exceptional market conditions that have been experienced over the last five years. Opinion is divided on whether the oil price increases in recent years were caused by, or were the cause of, resource nationalism.

Some analysts believe that the current wave of resource nationalism is just the latest version of the same political chain of events that occurred in the 1970s and that it will evolve the same way. They assert that when prices come down, host governments will again realise that they need foreign investors and that, as a result, fiscal regimes will be relaxed as was the case in the 1990s when most oil-exporting countries ‘de-nationalised’ their upstream.

A growing number of analysts, however, do not subscribe to this cyclical interpretation of events. They state that the resurgent resource nationalism is not simply the consequence of high oil prices which free oil exporters from the need for foreign investments. Rather, they point out that there are other root-causes at work and that the phenomenon may last longer regardless of future oil price developments.

This article will attempt to highlight the specific aspects of the current wave of resource nationalism in terms of:

- The forms in which it is carried out;
- The root-causes of the phenomenon; and
- Its potential impact on the industry.

**Resource Nationalism: A Catch-all Expression**

Resource nationalism is a term which is no longer restricted to explicit ‘nationalisations’. It has become a catch-all expression encompassing various forms of government interventions. In general it refers to a set of policies as well as the justifications given to policies that increase government intervention in resource development. The assertion of government control comes in many forms and has different facets depending on the interests, motivations and concerns of each country. The concept is applicable to resource-importing as well as resource-exporting countries.

When used in relation to oil-exporting countries, the policies include, in addition to outright nationalisations: revocations of licences, major revisions of fiscal regimes, compulsory renegotiations of contracts, and other similar measures. The justifications include alleged threats to national sovereignty, mistrust of ‘foreign investors’ motivations’, political resentment concerning ‘foreign control’ of resources, including resentment against the policies of the investor’s home government, and so on.

Curiously, the term ‘resource nationalism’ is no longer used in reference to Kuwait or Saudi Arabia or even Mexico, countries which have prohibited or have strictly limited access to their natural resources by foreign companies for many years. The term is used mostly in connection with governments clawing back some rights they had already negotiated away, rather than retaining rights they have long protected. This is particularly true of Venezuela and Russia who have resorted to innovative ways to ensure that the assets owned heretofore by the foreign investors fall into the hands of their government-controlled companies through disguised nationalisation measures.

As stated above, expressions of resource nationalism are not limited to oil-exporting countries. Industrialised oil-importing countries have developed their own resource nationalism, sometimes labelled ‘economic patriotism’. Examples include the US Congress’ refusal in 2005 to allow Unocal to be sold to the China National Offshore Oil Corporation, the UK resistance to Gazprom’s alleged intention to acquire Centrica and the opposition of some European governments to cross-border mergers and acquisitions (for example, E.ON’s bid for Endesa, Enel’s bid for Suez). In the name of security, governments of major consuming countries have thus implied that they consider energy to be a strategic sector that cannot be left to free-market forces.

**The most common Root-causes of Resource Nationalism**

Resource nationalism, like other forms of protectionism, caters to the public’s fear of being exploited by foreigners. The nationalisations of the twentieth century which began in Mexico had a strong ideological motivation and reflected historical circumstances. OPEC countries, for example, nationalised their hydrocarbon resources during the 1970s because they wanted to gain, after their political independence, economic independence which was construed as the necessary complement to political independence.

**“Resource nationalism ... has become a catch-all expression encompassing various forms of government interventions”**

The most common root-cause of the recent manifestations of resource nationalism in oil-exporting countries is the failure of revenues from oil exports to be converted into modern social services, employment, and an improved standard of living for ordinary citizens. This failure contradicts the expectations aroused by oil

revenues. The sense of local deprivation and frustration, exacerbated by higher prices, presents an opportunity for producer-country politicians to attempt to deflect responsibility from themselves to the foreign investor. In some cases, populist politicians use a platform of resource nationalism to persuade disillusioned and frustrated voters to elect them.

International oil companies (IOCs) face serious obstacles in trying to deal with this root-cause of resource nationalism. While in some cases they build roads, schools, libraries, clinics, and indulge in other non-core activities in the regions where they operate, they cannot fully offset local government failure. Revenue from IOC operations, in terms of royalties and taxes, normally flows to the host national authorities who, in theory, should spread the resulting benefits widely rather than narrowly, so as to avoid conspicuous wealth and conspicuous poverty. Where this fails to occur, IOCs may understandably encounter a hostile environment, even if they have acted properly.

In some cases, newly elected politicians find it convenient to paint the international investor as the exploitative culprit, when the contracts signed by the previous regime turn out to be unfavourable to the host country in view of changed circumstances. While it would be perfectly normal for the new regime to renegotiate contracts for a more balanced deal (as occurs in some OECD countries), the extreme political actions taken by the host country to cancel entire contracts or to unilaterally dictate takeovers of the foreign investors’ interests are clearly acts of resource nationalism.

The other root cause of resource nationalism in oil-exporting countries is the perception that the resource constitutes the only source of political leverage in a world of larger established powers. Attempts in the 1970s by some exporters to apply this leverage through an oil embargo and through the ‘North-South’ Dialogue to establish a ‘new economic order’ achieved little, but that does not mean this motivation is now dead. The same motivation is reflected today in



Russia's officially stated goals for its gas industry, which include 'securing Russia's political interests in Europe and neighbouring states, as well as in the Asia-Pacific region' and building Gazprom into a super major company. This motivation is also reflected in Venezuela's efforts to spread its leftist political ideology throughout Latin America.

### “Resource nationalists’ may therefore continue to behave at home just as the Bush administration is behaving globally”

In addition, IOCs face difficulties in countering this sort of upstream resource nationalism. Royal Dutch Shell had little choice but to allow the entry of Gazprom into the Sakhalin-2 project. Similar government pressures have been applied to TNK-BP. Venezuela, for its part, has taken control of the large investments made by IOCs in the Orinoco projects, the latest step in a series of unilateral actions.

#### Implications for IOCs

The greatest burden of the current wave of resource nationalism thus falls on the IOCs. They have been through all this before during the nationalisations of the 1970s; they not only survived these, but thrived thereafter. Those whose assets were nationalised were able to reintegrate upstream by concentrating their efforts on exploring and developing new oil provinces in different parts of the world, such as the North Sea, and were successful in introducing new technologies to improve recovery rates from their discoveries. However, unlike in the 1970s, they now face increasing competition from both the traditional producer NOCs and the Asian NOCs:

- The traditional producer NOCs are becoming much more confident in their ability to 'go-it-alone' and seem determined to play a bigger

role, either directly or through local private companies, while relegating the role of IOCs to that of a contractor at the service of the NOC. Their overriding concern is how to efficiently develop the massive depletable resource with which they have been endowed, and how to support their government economic and social development plans and, in some instances, their government foreign policy. For this, they need to modernise and to integrate vertically and horizontally, both at home and abroad, to ensure long-term access to markets (sometimes referred to as 'demand security'), and to generate potentially attractive returns along the value chain.

- As for the Asian NOCs, they have a competitive advantage over IOCs by virtue of their access to low cost government financing and their willingness to offer to the host country a broad array of economic assistance including infrastructure development support. Their primary mission is to find and develop hydrocarbon reserves at home and abroad in order to enhance the supply security of their country. They appear to pay less attention to risk and profit considerations than private shareholder economics would dictate, and, as such, they have lately been very successful in meeting their objectives.

#### Implications for the Oil Market

Resource nationalism contributes to market instability and enhances consumers' anxiety about supply security, especially when global idle capacity is constrained.

Resource nationalism is both caused by and contributes to resource price increases. Indeed, in an environment of high oil prices, a Venezuelan president is emboldened to reorganise his national oil company along political lines and to threaten international oil companies with the cancellation of their contracts. In the same environment, an Iranian president is willing to advance his nuclear programme in spite of the threat of international sanctions. High oil prices tempt regional groups in Nigeria to rise in

rebellion against the federal government, seeking a greater share of the now higher oil revenues.

Over the longer term, resource nationalism restricts the free access of investors to some of the most promising resources, thus constraining the expansion of supply and sustaining high prices.

The traumatic events faced by oil and gas exporting countries following the price collapses of 1986 and 1998 have demonstrated that resource nationalism can be a short-lived phenomenon. There are indeed many examples in the past when protectionist and populist policies have failed.

None the less, the current wave of resource nationalism may persist, even if oil prices take a downturn. If the USA, the greatest superpower, perseveres in its unilateral course (pre-emptively invading Iraq, ignoring the Geneva Convention, withdrawing from Kyoto, refusing to join the International Criminal Court), it will, by setting a bad example, relieve the lesser powers from their obligation strictly to observe the standards of international commercial law (sanctity of contracts, international arbitration, stable fiscal regimes, and so on).

'Resource nationalists' may therefore continue to behave at home just as the Bush administration is behaving globally, especially if they believe that they can pursue their agenda without fear of retaliation. This evolution appears increasingly likely in view of the current vacuum of global leadership resulting from the loss of US moral and military power on the international scene.



## Michael Daly argues that the oil companies' move to the technological frontiers is a response to the access problem

The world's access to oil and gas resources is today characterised by a reducing diversity in the sources of supply, and increasing concern about supply security and carbon emissions. For private international companies (IOCs) the issue of access has an additional element. Increasingly aggressive competition for a changing opportunity set is challenging the international industry to search for new and more difficult sources of oil and gas. This essay considers access to resource from the latter perspective.

Holding the best 'Land' (an industry term used to refer to property with oil and gas resources or the chance of finding oil and gas resources) has always been the primary competitive factor in the oil and gas industry. The dominant resource position of Saudi Arabia and its OPEC neighbours is a direct result of having the best 'Land' – the most cost effective and largest resources. In the competitive context of the international oil industry this profound truism remains as valid today as it always has.

Since the 1970s and the creation of national oil companies (NOCs) by resource rich states, the competition for 'Land' has evolved dramatically. No longer are a few IOCs competing for the best 'Land' and dominating the world's industry. The best 'Land' is today firmly owned by NOCs who hold almost 80 percent of the world's oil and gas resource base.

For the past 30 years the international Majors have successfully explored and developed oil and gas outside of this core resource base. However, the opportunity to do this is changing as basins mature and exploration has increasingly covered more of the world's sedimentary basins. The result is potentially further reduction in

the diversity of the sources of energy supply. Over the past decade, the share of the world's oil production from the Middle East, Russia and West Africa has risen from 43 percent to 50 percent and, given that these regions hold about 70 percent of the oil resource, this growth is expected to continue.

Added to the changing opportunity set, the nature of the competition has changed. Supermajors, independent oil companies, new cash-rich start up companies and resource hungry NOCs are all competing for the same 'Land'. This changed competitive landscape has come about on the back of high prices, a declining diversity in the sources of supply and a growing preoccupation about energy security.

Competition between these companies is playing out in several areas: that of access by taking exploration risk; access to discovered resources owned by an NOC and access to so called unconventional resources. In the latter two the challenge is not to find oil and gas, but rather the economic development of resources that require technology to commercialise them. Typical of this category are the liquefaction of gas remote from a market, the development of difficult reservoirs requiring a particular technology, or reserves growth through enhanced recovery processes.

**Exploration access** has long been the primary mechanism of resource replacement. Today large areas of the world's offshore basins and the deep stratigraphy of many mature onshore basins remain unexplored. In addition, several highly prospective countries remain unexplored due to political and security barriers. These and other areas will sustain oil and gas exploration activity for decades to come, driven by technology advances and political change.

Exploration companies spend risk capital in the search for resources on the basis of making a premium return if successful. Access occurs through competitive events or bilateral deals. Competition in bilateral deals occurs as the 'Land' owner is usually a knowledgeable and sanguine NOC who knows the market and negoti-

ates what he wants. The transparent competitive processes that are decided on price, for example bidding for licences, leave more to chance and may leave the owner with a solution he did not anticipate or want.

The key competitive step for the IOC in exploration is early access to a basin before a play is proven. Once a petroleum system is proven and fields are discovered the level of interest rises, as does the price of access. Recent big signature bonuses in Angola are a great example of such late-access pricing.

## Holding the best 'Land' ... has always been the primary competitive factor in the oil and gas industry

The key success factor for the 'Land' owner is to be clear about the purpose of offering the exploration access; what he needs from the private company. Characteristically price is the winning criterion. Consideration might also be given to the exploration capability of the company being given the 'Land', the commitment being extracted and the pace at which the commitment will be delivered.

**Direct resource access (DRA)** has developed over the past 20 years as a means of resource replacement for private companies. DRA is the access to discovered resources that require development. A state may offer access for several reasons: it is unwilling or unable to risk its own capital in developing a particular resource; it requires technology or capability; it needs access to a gas market to commercialise resources.

This activity was dominated by the IOCs in the 1990s with access achieved to some of the world's great fields such as Tengiz and Karachaganak in Kazakhstan and the North Field/South Pars complex in Qatar and Iran. In all cases significant capital and technology were required to support the aims of the state owners. More recently, NOCs like Sinopec

and CNPC have been successful in accessing discovered resource, notably in Iran where many other companies are unwilling or unable to invest.

In the Middle East the NOCs have little interest in or need for IOC participation in conventional oil production. However, there has been a demand for IOC involvement in exploring for and developing gas. IOCs with particular tight or sour gas technology and know-how have been invited to compete for access to sizeable but difficult resources. These projects have significant risk associated with them; not a risk of finding but a developmental and commercial risk.

In the future, as the Middle East's oil fields mature, states may decide that the development of increasingly expensive and difficult oil resources is best done with other people's capital and technology. Reserves growth and enhanced oil recovery (EOR) technologies and capabilities are well developed in some IOCs. The Prudhoe Bay field of Alaska is an example of a large – 30bnb STOOIP (stock tank oil originally in place) – field where the recovery factor has grown over 25 years from an initial expectation of less than 35 percent, to a figure approaching 60 percent today, with more to come. This growth has been achieved by both secondary and tertiary recovery technologies, applied progressively as understanding of the field has evolved.

As with exploration access, direct resource contracts have been achieved through both competitive processes and bilaterally negotiated deals. In this instance the competitive processes are more complex and opaque due to the significant scale of the deals in question. They are rarely definable in a single bid price but demand a much broader offer. Consequently, the nature of successful direct resource access generally requires a more sophisticated offer being developed by the IOC, and the weighing of many variables by the resource owner.

For the private company it is crucial to understand what a resource owner both wants to do and should do. The deep understanding of an owner's

needs, and a company's ability to fulfil those, are key requirements to successful access. If the owner's objective is recovery factor rather than maximising short-term production, then he may be looking for a much longer-term technological offer. If the short-term production of gas is paramount, then pace and an aggressive work programme may win. Where resource sovereignty is important, the development of new contractual relationships may be required before access is possible. In addition to these technological and commercial factors the reality is that politics may also be an influencing factor in the outcome.

“successful IOCs have played a significant part in maintaining a ceiling on energy price by constantly searching for and finding alternate sources of supply”

As resource sovereignty remains a significant issue for many countries it is also crucial for a state to understand what is important to an IOC. IOCs characteristically value the opportunity to invest capital, take risk, and be rewarded for performance over the long term. If that can be described to the government in a transparent and simple manner, a relationship will be possible that does not impinge on sovereignty. The crucial point here is a direct and mutually beneficial relationship based on the future.

**In summary**, with the nationalisations of the 1970s the world changed. Since then a few private companies have prospered in accessing 'Land' outside of the core global oil and gas resource base. They have done so by operating on the technological frontier of oil and gas exploration and development and by responding to political change. They have succeeded by finding and developing the difficult hydrocarbons such as deepwater oil. These successful IOCs have played a significant part in maintaining a ceiling on energy price by constantly searching for and

finding alternate sources of supply. As such they have contributed to energy security through developing the diversity of sources of supply.

The world continues to change. Those private companies able and willing to take on the next difficult energy developments e.g. ultra-deepwater, deep stratigraphy, unconventional oil and gas, enhanced oil recovery, coal and gas conversion technologies, biofuels, and clean coal and carbon capture, will continue to place a ceiling on energy price and continue to enable greater energy diversity. There may be strong competition for access to 'Land' thought to contain conventional oil and gas; but there is no shortage of oil or gas resources to develop. Equally, there is no shortage of access opportunity for those private companies prepared to understand the needs of resource owners in order to solve the next generation of energy challenges.



## Patrick Pouyanné considers new stakes for companies and government and the need for renewed trust

The quest for hydrocarbons is for oil and gas companies a permanent challenge the magnitude of which increases directly with the size of the company, making it a crucial part of the Majors' strategy. It has frequently been commented in these past few years that the increase of oil and gas prices makes it more difficult for the Majors to deal with producing States and National Oil Companies (NOCs) over access to



more resources. Criticism focused on a combination of two factors: on one hand, International Oil Companies (IOCs) have been accused by some countries of benefiting from excessive profits and an unfair sharing of the hydrocarbon rent. On the other hand, the classic trio of technology, money and project management has been challenged as a real value brought by IOCs to the negotiation table. So how does a Major like Total consider this new situation, often characterised by a climate of lower trust between IOCs and their traditional national partners?

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**“Many would have smiled a few years ago at the idea of paying special attention to a 70 \$/b scenario”**

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The first factor causes in the real world heated negotiations and yields variously painful solutions or lack of any solution. It is however unfair for anyone to put the blame solely on IOCs for the current situation of high margins accruing sometimes to IOCs. Such margins derive from contractual arrangements that were negotiated and agreed by several parties. Some agreements have built-in mechanisms providing for adjustments to the profit sharing within a wide price range: they offer no justification for further adjustment. Other contracts were designed on the basis of a range of oil prices that seemed reasonable at the time. Many would have smiled a few years ago at the idea of paying special attention to a 70 \$/b scenario. The idea that such agreements could be modified to reflect today's market conditions appears acceptable in principle. It is difficult for shareholders to voluntarily offer to reduce their return on investment, but they can take a longer view toward constructive solutions addressing the real needs of the various stakeholders and securing the survival of their assets. The correct way of dealing with such issues is by negotiating in good faith a new profit sharing arrangement which would be balanced by counterparts

given to the investor, such as access to additional reserves through a licence of longer duration for example. Such a negotiation can generate a win-win situation and be accepted by both parties. It will respect the principle of contract stability which is essential in investment decisions in the oil and gas sector. Such a process is entirely different from the one in which a party would use high margins as a pretext to change the balance of the contract or even, more dramatically, to change fundamental terms such as ownership.

The question of the value brought by IOCs to producing countries and their national oil companies is a complex one. It is commonly heard today that since hydrocarbon prices increased to current levels NOCs have sufficient money. They can access technology through service providers and contractors and have developed the appropriate in-house skills to manage large and complex multi-billion dollar projects. Anyone sharing this view will logically continue to say that IOCs need to bring something else to the table if they want in return to gain access to resources.

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**“Technology is an area where we strongly believe that IOCs, ... can bring an expertise not available from other sources”**

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We agree with the above statement to some extent but would add some comments. First, the actual situation varies significantly from one country to another and one NOC to another. Starting with money, while it is obviously true that higher prices brought more income to the producing countries, it is equally true that not all NOCs have the ability to dispose of such funds for reinvestment in exploration or the development of production facilities. Very often it remains the prerogative of the State to prioritise the allocation of funds between the oil and gas sector and other uses in the public domain. This is where we believe that IOCs can

still bring funds and financing and contribute to developing sufficient production capacity to meet the world demand for oil and gas.

Technology is an area where we strongly believe that IOCs, and especially Majors like Total, can bring an expertise not available from other sources. While service providers can offer technological advances in certain specialties and are making efforts toward integrating focused technical progress into a wider range of know-how, it remains a core competency of the major IOCs and NOCs to combine all techniques and technologies in building and implementing a global and integrated long-term reservoir management and development strategy. An increasing number of NOCs have progressed a long way in the same direction and can claim to be at the same level of technological expertise as the Majors. However, the capability of the latter still remains almost unrivalled when it comes to the hardest to produce resources, such as very deep offshore and extra-heavy oils. They can also offer a diversified and worldwide experience as well as an integrated approach to surface and sub-surface developments that are difficult to match and will deliver real value once combined with the specific strengths of NOCs. Expertise and experience involve the unique benefit of them expanding when we share them. The same can be said with respect to the management of very large and complex projects, such as Liquefied Natural Gas, where the Majors offer a sum of human resources, know-how and experience that is not yet widely available to many NOCs.

To summarise, the classic paradigm linking resources with the ability to best develop such resources remains a very valid one and will remain so for many more years. This being said, one must still face the reality that the past years led to a change in perceptions by producing countries, their national companies and the civil society. In this respect, new stakes and new stakeholders have entered the decision-making process. Total view this apparently additional challenge as a new way of broadening the value a



Major can bring to a host country and creating new opportunities.

What are these new stakes? Respecting our environment is not new but its importance today and tomorrow is even greater than before. Carbon dioxide management may well become a distinct advantage in the competition for hydrocarbons. Total's efforts in R&D address this issue with our ongoing pilot project in the Southern part of France to capture and store CO<sub>2</sub>. For a true sustainable hydrocarbon development process, we have to listen to the NOCs, each with its own drivers and expectations. Some of them have an appetite for international diversification and here the IOCs' experience around the world and exposure to various cultures can be of very high value. Developing together the local refining or petrochemical industries, as Total do for instance in Qatar or in Algeria, creates jobs and value in producing countries and represents a real value in the eyes of many host governments. True sustainable value requires such projects to be also evaluated on their own merits in accordance with usual industrial and commercial criteria. Beyond the oil and gas industry, the contribution to job creation in the local communities is also a criterion that countries can use in evaluating the benefits of partnering with IOCs in developing

national resources. Training and development of a company's employees has long been an expectation by the authorities as well as a benefit to the company.

**“the classic paradigm linking resources with the ability to best develop such resources remains a very valid one and will remain so for many more years”**

Major IOCs, in addition to continuing and reinforcing their commitment toward this goal, can also expand their role as we do in Total by investing in local scientific institutions or by providing student scholarships abroad. The new programme for Université Total students, Total Summer School, is part of the same process of introducing people to our businesses and brainstorming with young graduates about issues that concern the future both of a company like Total and of society as a whole. Examples of socially responsible behaviour are numerous and the list is too long to be exhaustively reported here.

Obviously, initiatives must target

real needs and respect sound global economic criteria. Appropriate competencies must be available and mobilised in or by IOCs to ensure efforts will be efficiently oriented and implemented. A proper balance has to be maintained between the role of private ventures towards the people of the country where they operate and the specific duties of a state vis-à-vis its citizens. Initiatives will have to be individually and globally evaluated and monitored over time, always keeping the proper level of communication and cooperation between all parties involved including local, regional and national authorities.

Our view in Total is that IOCs have to look for a more comprehensive offer than the classic money, technology and management combination in order to negotiate access to new resources. We are building on our historical strengths to develop a global approach to our role in the twenty-first century. Technology and project management remain core values, as have been and continue to be our capability and willingness to dialog with our partners. We collectively share the responsibility of meeting global energy demand. Proper results will be achieved by working together with the confidence gained from reinforced and renewed mutual understanding and respect.

## Angola's Entry in OPEC: a win-win move?

*Sadek Boussena*

Despite (it would appear) advice to the contrary by some of its major oil company partners, Angola has become a member of the Organization of the Petroleum Exporting Countries (OPEC) since the beginning of the year. While Angola (along with other producers) had participated in OPEC meetings as an observer for several years, this announcement nevertheless came as something of a surprise.

Will Angola's entry in OPEC lead to a shift in the balance of forces in world oil? What will be the consequences of this move for the principal players?

### Angola has altered the OPEC/non-OPEC Balance of Forces

Angola is not just an ordinary oil producer. In a few short years, it has become one of the largest exporters and one of the stars in the so-called 'non-OPEC' region. With

production of 1.5 mb/d and, most importantly, an outlook for a rapid expansion to the 2 mb/d level within one to two years, and an ambitious objective of 3 mb/d before 2010, Angola represented – along with the Former Soviet Union (FSU) countries – the bulk of the potential increase in non-OPEC production.

Since 1 January 2007, the weight of OPEC has therefore increased by 1.5 mb/d while the weight of the non-OPEC producers has fallen by the same amount. It will therefore be necessary to reconsider the manner in which oil statistics are interpreted. A forecast of a 1.3 mb/d increase in non-OPEC production associated with a roughly equivalent increase in world demand implied that the need for additional OPEC production will be virtually zero. Now that Angola is an OPEC Member Country the same demand increase will require an increase in OPEC production.

## What are the Advantages for Angola of OPEC Membership?

Angola will probably face a few challenges as a result of its entry into OPEC. However, it apparently seems convinced that choosing this strategic option will prove profitable.

### A few disadvantages ...

On the one hand, in geopolitical terms, the United States (even if it has not reacted officially) cannot be pleased with Angola's entry into OPEC, despite the fact that the two countries enjoy good relations. This is all the more the case with the current Bush administration, for which Angola had been an important part of its strategy of reducing the United States addiction to Middle Eastern oil.

On the other hand, in purely oil terms, Angola, as a non-OPEC producer, could up until now produce at full capacity and therefore potentially behave, in the words of economists, as a stowaway or a free rider (benefiting from OPEC actions without having to sacrifice a portion of its production). It will now possibly have to submit to the quota system at some point in the future, in the same manner as the other members of OPEC. Of course, everything will depend on the timing and rigour of the application of such a measure. Nevertheless, this could potentially pose problems, including in connection with the foreign oil companies operating in the country. In this case, why did Angola put itself in such a position? What are the Angolan government's objectives?

### ... offset by the expected benefits?

The first benefit is certainly, as was explicitly stated by the Angolan minister himself, financial in nature. Angola is seeking to defend the price of what will become its principal source of hard currency for decades, in the same manner as the other members of OPEC.

Additionally, this move has probably been an occasion for the Angolan government, whose position has been strengthened by the comfortable level of oil revenues and the improvement in the domestic political situation, to demonstrate its autonomy vis-à-vis its major oil company partners. Angola has a tradition of militancy, and its current objectives include having the national oil company Sonangol play a very active role in the development of the hydrocarbon sector. The government is also seeking to accelerate the development of the Angolan economy and to boost the country's role in Africa.

The decision to join OPEC also probably involved political motivations, reflecting the expected benefits in terms of prestige that should come from joining an organisation that is considered to have the power to influence the prices of an eminently strategic product. Looking back over the history of the international oil sector, certain producing countries have successfully used their membership in OPEC to their advantage. On the domestic level, OPEC membership is often considered as a sign of international recognition that flatters national pride.

Finally, there is the sentiment of being better protected and carrying more weight when one belongs to a group whose strategic importance is once again being recognised given the expectation that international oil supplies will

become tighter in the future. This could improve Angola's bargaining strength and even protection in discussions with foreign governments (above all those interested in exploiting the country's natural resources) and with the other sector heavyweights such as the major international oil companies that pump Angola's oil.

Granted, Angola could potentially face the necessity of reducing its production or at least slowing the rate of its increase. The Angolan government was obliged to evaluate the pros and cons here. Joining OPEC was therefore a thought-out decision.

## The Long-term Imperative

It could also be imagined that Angola is seeking to position itself in a longer-term perspective. In effect, even if it possesses highly promising oil acreage (above all in deep water), Angola still has relatively modest reserves (close to 9 billion barrels) compared to the other OPEC members. From this viewpoint, certain observers are expressing surprise at the rhythm at which production is slated to increase (3 mb/d by 2010?) and the very rapid arrival at peak production for such a new entrant on the international oil scene. We cannot rule out, therefore, the possibility that the Angolan authorities will reconsider the best way to manage its reservoirs in case reserves do not increase as expected. In this case, it would be better to be a member of OPEC.

## A Good Deal for OPEC?

Current conditions are facilitating Angola's entry. Demand for oil is trending upward, mainly in the emerging economies, and the improvement in member countries' revenues is providing the manoeuvring room needed to give OPEC time and flexibility in its negotiations for the full integration of Angola. For OPEC, Angola has thus become without much ado an additional card to play in order to influence the oil markets.

OPEC has already suspended its quota system for the last two years. The decisions to reduce the production ceilings taken at the end of 2006 were based on the OPEC members' actual production levels. This enabled OPEC to avoid the quota problem in a pragmatic manner. The OPEC members do not appear to be too much preoccupied today by potential market share losses. Consequently, negotiations concerning new quotas (even if scheduled) are not an urgent priority for OPEC. The Organisation's new Secretary General has just reconfirmed this. In addition he stated that Angola will continue to be regarded as a non-OPEC country as regards production in 2007.

One could suppose that internal discussions will continue during this interval in order to resolve the delicate question of whether OPEC will allow Angola to reach the 2 mb/d level before having to come into line with the quota system. However, it can be assumed that, except in the case of a significant deterioration in market conditions requiring cuts in production, OPEC will take its time in resolving the quota question. It could even integrate this issue into the overall discussion of new quotas for all its members.

In any case, OPEC has nothing to lose.

## The Battle of the Sour Futures Contracts

*Bassam Fattouh*

The Intercontinental Exchange (ICE) and the New York Mercantile Exchange (NYMEX) with its partner the Dubai Mercantile Exchange (DME) have been fiercely competing to create a viable and liquid sour oil futures contract that could serve as a pricing benchmark and as a mechanism for improved risk management. In part, this fierce competition reflects a battle between two very different approaches to oil trading and pricing. While ICE's Middle East sour crude futures contract (launched on 21 May) is a purely financial instrument settled in cash against a Platts Dubai assessment, DME's Oman futures contract (launched on 1 June) allows settlement against physical delivery of Oman crude oil. In the first month of trading, DME announced that a total of 4000 Oman futures contracts would be going for physical delivery in August. This is equivalent to 4 million barrels comprising a little less than 18 percent of Oman's monthly crude oil production.

Since inception, both competitors have engaged in a propaganda battle, each emphasising the superiority of its futures contract. DME's main emphasis has been on physical deliverability which according to DME CEO Gary King 'provides true price convergence between the cash and physical markets'. Ahmad Sharaf, the Chairman of the DME, argues that the 'high number of contracts going for physical delivery in August certainly confirms the market's need for a physically delivered rather than a financially settled crude oil futures contract.' ICE's main emphasis has been on its electronic trading platform and its growing popularity with market makers, financial institutions, hedge funds and physical traders. The opening paragraphs of the document outlining the ICE Middle East Sour Crude Oil Futures contract's specifications emphasise that the contract 'not only brings the benefits of electronic trading to Middle East sour crude oil but also brings together the world's three most significant oil benchmarks on a single Exchange. This in itself offers a number of benefits to participants, including reductions in collateral requirements through the offsetting of margins.'

In this ongoing battle, both parties found a fleeting sense of achievement in the first month or so of trading. To begin with, both contracts have shown a relatively strong start compared to previous failed attempts to launch a new sour contract. It seems that each market has attracted its own flock: DME's Oman contract is probably traded more by oil companies and physical traders while ICE's Middle East Sour contract is traded more by financial players. Vitol SA, one of the world's biggest independent oil traders, has provided support for the DME's Oman crude oil futures contract, considering it superior to the old pricing method based on Dubai which has been suffering from continual decline in physical liquidity. On the other hand, financial institutions have been more inclined to use the ICE's future contract as these are not interested in physical delivery and are more familiar with trading of the ICE cash-settled instrument which is similar to the already-existing Dubai swaps instruments.

Both ICE and DME have been providing incentives to

'market makers' on the condition that they trade a certain volume. According to a Platts article on 5 July, DME is offering up to \$5 per traded lot to market makers who trade at least 600 lots a day for 15 consecutive days. Allegedly, this is in addition to a big stipend. It is said that ICE has five and DME twenty market makers. Although many firms and traders (about 250 in all) have entered the ICE market since the inception of the contract on 21 May, the average number of trades per trading entity has been exceedingly small. The same situation obtained in DME.

DME faces a specific challenge. It has been long realised that for the DME's futures contract to have any realistic chance of success, it required that Oman abandon its official pricing system. Having both an official selling price (OSP) and futures market-related price undermines the market function as price discoverer. Thus, Oman's strong backing for the DME contract and the Sultanate's decision to shift from a retroactive pricing system to a forward pricing system based on the DME contract represents the crossing of an important milestone. The OSP for Oman crude for the month of June has been calculated as the arithmetic average of the daily settlement prices over the month of June for delivery in August. The Government of Dubai also announced that it will cease pricing its export crude oil sales off its current mechanism and instead will utilise DME futures prices giving additional boost to the contract.

These limited achievements however have been eclipsed by low and more importantly declining liquidity. Figure 1 shows the volume of DME Oman futures contracts between June and July. After peaking at 4085 contracts on 5 June, trading volumes have been going down at an alarming rate. For the month of June, average volume per trading day stood at 1885 contracts. In the first eleven trading days of July, average trading declined to around 800 contracts per trading day (this is not counting the zero trade on 4 July). The ICE Middle East sour futures contract has not been doing much better. After reaching a peak of 6177 contracts on 29 May, the volume has been in decline with some secondary peaks. In the month of June only 42,209 Middle East sour crude oil futures contracts were traded i.e. around 2000 contracts per trading day.

The futures market plays two important roles: price discovery and hedging/speculation or what is termed as risk management. In order to efficiently perform these functions, liquidity remains the key factor. Physical deliverability, which the DME tends to emphasise, is less important. To put it differently, deliverability is a necessary but not a sufficient condition for the success of the DME Oman futures contract. In fact, in some instances, physical deliverability can reduce the chances of the success of a futures contract if market participants have doubts about the likely performance of the delivery mechanism. In other instances, physical bottlenecks around the delivery point can create some serious dislocations. In the context of the DME Oman futures contract, some companies have raised concerns about the logistical

problems in delivering Oman crude especially that there is asymmetry between buyers and sellers. While the latter may sell small amounts, the buyer can only take physical delivery if he holds an open position of 200,000 barrels. The DME is however confident that it would be able to deal with such logistical problems. Indeed, there is no reason to believe why physical delivery against the August futures contract would encounter any problems. This is especially true given that Shell would be delivering the bulk of the 4 million barrels while Vitol would be taking most of the delivery (Argus Petroleum, 9 July 2007). For these two parties, it is business as usual.

In the future, the battle between the two exchanges will be over which of the contract gains sufficient liquidity. If low liquidity persists, then the two functions of price discovery and risk management will be undermined and both contracts would cease to be attractive for market participants. Thus, the main question is: where would the liquidity that is vital for the success of any of the contracts come from? In principle, liquidity could come from producers, physical traders, and financial institutions. How does each of these parties view the current contracts?

Gulf oil producers do not generally hedge their oil production and this is unlikely to change in the near future. For oil exporters, the interest in a sour futures contract would be only for pricing purposes. Low liquidity however is likely to discourage the already very cautious Gulf oil exporters from setting their crude price against the DME or ICE futures contracts. So far, none of the big Gulf producers such as Saudi Arabia, Kuwait, and Iran have shown any interest in these new contracts. Instead, these producers have adopted a wait-and-see approach. For instance, Saudi Aramco's Marketing vice-president Ibrahim Mishari has been quoted saying that Saudi Arabia is 'watching this [the DME Oman futures contract] and probably will be the last one to join it'. The survival of the contracts would depend to a large extent on Middle East producers. If they do not switch to DME or

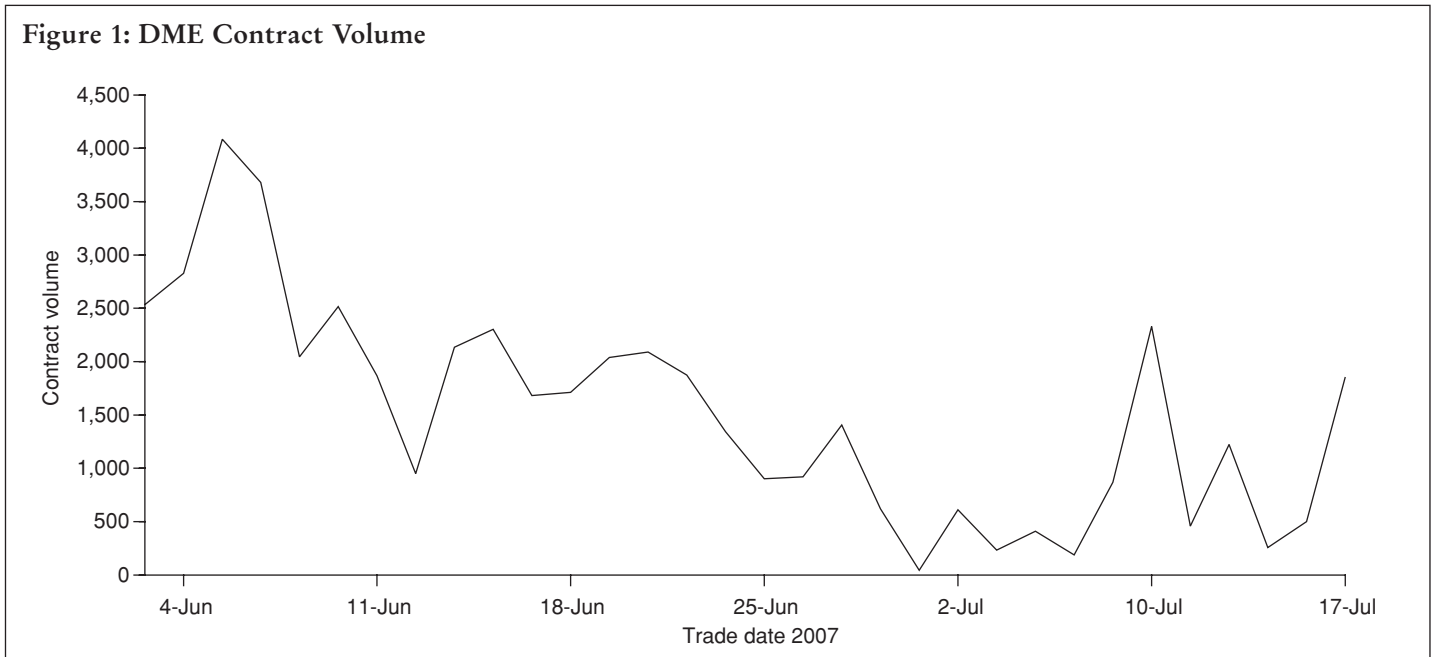
ICE settlement prices, then it is pointless to rely on either of the futures contracts for pricing oil cargoes.

Asian interest is crucial in the long term as the Asia-Pacific region is the main importer of the Middle East sour crude oil. To Asian traders, this contract could serve both as a risk management tool and as a tool for price discovery. However, Asian traders who were the main target for this contract have also shown little enthusiasm. As Petroleum Argus (9 July 2007) notes, most of the trading of the DME Oman contract has been taking place during US and London time reflecting Asian traders' lack of enthusiasm in the DME contract. It is clear that like oil exporters, Asian traders have also adopted the wait-and-see approach. As one Singapore-based trader puts it, 'There is not enough volume. We need to see the coming months.'

As to the financial players, these contracts may open new opportunities for trading and risk management. But again, without sufficient liquidity, speculators and hedgers will not be attracted to the market. Both exchanges have been trying to boost liquidity through the use of market makers. But so far this has not met any success.

Given that the main parties are adopting the wait-and-see approach, it is difficult to see where the needed liquidity to support these contracts would come from. If there is no surge in liquidity very soon, a vicious circle will set in. In the same way that liquidity attracts further liquidity, illiquidity can result in more illiquidity. Although it is too early to make a firm prediction about the future of these contracts, it is likely that both contracts are falling in this vicious circle. If this were the case the difficult question would be: how can this circle be broken? It seems that at this stage, the battle is not between ICE and DME, each engaged against one another to eliminate the competitor. It is rather a battle conducted in parallel in which both parties are seeking to attract higher liquidity. This is a very difficult battle to win and it is possible that it would end with two losers and the demise of yet another two sour crude futures contracts.

Figure 1: DME Contract Volume





# Venezuelan Oil – The Unfulfilled Promise

*Luis A. Pacheco*

## Background

Winston Churchill once said that ‘Russia was a riddle wrapped in a mystery inside an enigma.’ One is reminded of these words when approaching the subject of Venezuela’s oil strategy in the last few years.

Venezuelan politics, and by implication its economy, have always been product and hostage to oil and the capriciousness of the oil price. A founder member of OPEC, and throughout history a very vocal, and at times vociferous advocate for the rights of the sovereign state against the international oil companies, Venezuela is today the archetype of an oil-producing and exporting country that does not seem to be able to leverage its resource base into sustainable development for its population.

Ever since the nationalisation of its oil industry in 1975, in the wake of the then oil price bonanza, Venezuela’s oil strategy has struggled between two seemingly contradictory objectives. On the one hand to maximise the rent per barrel either through increasing fiscal pressures or supporting production quotas to raise prices, and on the other hand to increase production in the hope of fostering growth in the non-oil economy.

At the risk of oversimplification, one may argue that this as yet unresolved dichotomy lies at the heart of the strategic seesaw with which one can characterise Venezuelan oil strategy in the last fifteen years.

In 1970 Venezuela reached a production peak of almost 3.8 million b/d, out of proven reserves of the order of 14,000 million barrels. By 1988, production levels had fallen to almost 1.5 million b/d and reserves had risen almost 59,000 million barrels. During the same period Saudi Arabia had increased its production from 3.8 million b/d to 5.1 million b/d (going through a peak of almost 10 million b/d in 1980), and increasing its booked reserves from 141,000 million barrels to 255,000 million barrels. (Data from OPEC Annual Statistical Bulletin 2005)

Today Venezuela claims booked reserves of the order of 80,000 million barrels, and has announced that it expects to book an additional 50,000 million barrels in the next 18 months. However, its level of production still hovers between 2.5 and 3.1 million b/d, depending on whose numbers one chooses to believe, but still quite far from the potential its resource base would allow.

## Does Venezuela have a Long-term Oil Strategy?

When the present administration came to power in 1999, the Venezuelan oil industry differed significantly from the modest beginnings after nationalisation in 1975. The production levels were still around 3.1 million b/d and reserves in books had risen to a staggering 77,000 million barrels. However, PdVSA, the state-owned company, had evolved from being mainly an E&P outfit in Venezuela, to becoming an international corporation with significant presence in the

downstream of its primary markets in the USA and Northern Europe, and with plans to penetrate the Latin American and Asian markets.

Furthermore, as a consequence of a change in its investment strategy, Venezuela had managed to attract back foreign investment through the structuring of various upstream business opportunities, the so called ‘Apertura Petrolera’ (opening of the oil industry). This strategy was inscribed into the wider vision of leveraging the ample resource base, and the market opportunities identified in Asia and South America, into an aggressive growth plan of the production and refining capacities, in Venezuela and overseas.

The robustness of those plans, in particular the huge investment that the IOCs were still making in the late 90s, guided the oil strategy of the incoming government during the initial years, despite the fact that the collapse of the oil price in 1997, and the promises of the then presidential candidate, called for a sudden change of direction.

Since then, and despite a nominal adhesion to an aggressive expansion plan (‘Siembra Petrolera’, circa 2006), very similar to what previous administrations had pursued, one can surmise that the real strategic intent of the administration continues to be the short-term maximisation of the oil rent and therefore the strengthening of fiscal revenues for the central government. As we will discuss below, this has been somewhat at the expense of economic efficiency and long-term sustainability.

This strategy of rent seeking can be characterised under three headings:

- Production quotas to maintain high oil prices
- Increased political control over the oil industry
- Use of oil and oil revenues as a political weapon (nationally and internationally)

## OPEC Quotas

OPEC quotas have always been difficult and economically painful to implement for the Venezuelan oil industry. This is a consequence of the low productivity and relative high cost of production of its reservoirs, and in particular, the result of the complex mesh of relations between the oil industry and the rest of the economy (gas for manufacturing and electricity generation, social impact in communities, marketing strategies, downstream integration, operational downturns, and so on).

From 1999 onwards, and at great cost to the efficiency of the industry, the Venezuelan government has embraced wholeheartedly OPEC’s strategy and has been rewarded with an increase in oil prices, which the administration reads as a vindication of its policies.

Without getting involved in the discussion of whether OPEC’s discipline is the main reason behind the historical level of prices or not, the end result of the strategy is that Venezuela, because of the constraints briefly mentioned

above, always seems to end with the short end of the stick. In 1998 OPEC's production was 27.37 million b/d, of which Venezuela contributed 3.12 million b/d. In 2005, OPEC's production increased to 30.67 million b/d, of which Venezuela still remained at 3.12 million b/d (at least according to official numbers). One is reminded of Orwell's *Animal Farm*: 'All animals are equal, but some animals are more equal than others.'

### Political Control

Ever since the 1975 nationalisation, the political actors in Venezuela have characterised PdVSA (the state-owned oil company), as too independent and difficult to control. The expression 'a state within a state' was freely used by all sides of the political spectrum. After the political crisis of 2002/3 which resulted in the firing of more than 20,000 employees (including almost all the management), and the resulting reorganisation of the industry, PdVSA lost all its independence to pursue its own industrial strategy.

The most telling sign of this loss of independence is that the minister of energy and petroleum is now, at the same time, the representative of the shareholder and the chief executive of the corporation. This in itself is not much different than the structure of other NOCs in OPEC countries (for example, Kuwait and Qatar). This nevertheless represents a significant loss of the orthodox mechanisms of balance and control.

The most significant part of this new political control is the 'new nationalisation' of the oil industry, carried out since 2005. This basically consists of the renegotiation of all the contracts that PdVSA entered into during the 1990s with private oil companies, both national and international.

A complete treatment of this subject is beyond our scope. Suffice to say that the increase of the oil price well above the expectations of the industry when all these contracts were signed highlighted asymmetries in the rent distribution implicit in the contracts, which were politically difficult to sustain for any government.

The government has taken advantage of this very rational argument as an opportunity to extract political capital out of the situation, using the popular notion of 'nationalism'. The net result of this exercise, which still has not ended, has been the reluctant acceptance by the private companies of the terms imposed by the government, as the price to pay for remaining in what is still a very prolific oil province, but at the expense of an uncertain investment climate and reduced production capacity.

The fact of the matter is that the rent distribution has been redrawn in light of the new market realities, and that the private companies still remain an important factor in the Venezuelan oil industry. It may be, after all, that rumours about the death of the 'Apertura Petrolera' have been greatly exaggerated.

### Oil as a Geopolitical Weapon

Venezuelan governments are no strangers to using oil to further their geopolitical objectives in the region. The present

administration, however, has taken this to new levels, both internally and internationally. Although most of its initiatives are still largely announcements, and one can not be sure that they will be sustained, it is certain that the promises to supply gas, oil and oil products at reduced prices or with generous financing terms, not to mention direct assignment of hard cash, have attracted a lot of sympathy from governments in and out of the region.

The fact that most of those promises, in particular those associated to the financing of ambitious infrastructure projects such as refineries in south and central America, a gas pipeline to be built through the Amazon rain forest and a myriad of other projects, are unlikely to be fulfilled, does not stop the strategy from being geopolitically effective, much to the chagrin of the traditional powers in the region, USA, Mexico and Brazil.

From the recipient's perspective, it would be political suicide to refuse the offers of a country that has such a huge resource base of fossil fuels, in a continent that has a net deficit of energy, at a time of high prices. However, this strategy has one drawback: it depends on Venezuela being able to tap its resources into long-term sustainable production streams.

### What of the Future?

The easiest answer to that question, at least in the short run, is one of continuity. Why change a winning game? However, there are some important caveats to keep in mind when one tries to look beyond the next OPEC meeting:

- Will Venezuela continue to sacrifice market share for per barrel rent?
- With an ever growing demand for barrels for the internal market, will it continue with the domestic oil subsidies?
- When the time comes to develop the technically challenging Orinoco Belt, or its offshore gas reservoirs, will it call back the IOCs?
- Either way, what is the answer to the age old question of whether the state should invest in the oil and gas industry that keeps the country afloat, or invest in health, education and infrastructure?

The Venezuelans will have to find the right answers to the question of how to transform their resource base into sustainable benefit for their citizens, and in the process help alleviate the thirst for energy of their partners in trade. For that they will have to find new ways of looking at the relation between resources and wealth, control and participation, mistrust and alliances.

It is a great and difficult challenge for any country. If one is to judge by present evidence, Venezuela will be facing a Gordian knot but with no Alexander in sight.

## Letter

Dear Robert,

I refer to the article on Pemex versus PdVSA in the last issue of Oxford Energy Forum. Both national oil companies have been facing structural managerial, operational, technological and financial problems for too long, yet in contrast to the scenarios presented by Mr Lajous in which PdVSA is essentially heading to a crash whilst Pemex is likely to face a soft landing, an emerging view is that Pemex could be due to face bigger challenges over the next ten years than PdVSA. In part this is because PdVSA is already there whilst Pemex is not, and in part to the lack of diversification of the Pemex upstream portfolio. The long-term portfolio of opportunities of Pemex may be more diverse and promising than that of PdVSA (even if the ultimate recoverable reserves are smaller), but not the current portfolio. The present is what needs to be reconsidered in order to have a different future.

Mr Lajous starts the section on Mexico by reminding us that the Mexican oil industry is at a critical juncture and that all key operational parameters have deteriorated. He goes further to say that three strategic initiatives are recommended (focus on brown field developments in existing production core areas, develop Chicontepec and intensify offshore exploration in deepwater), but none can be executed without large capital inflows and organisational changes. Technology is not an issue, according to the article. Finally, he concludes that long-term security of supply is a matter of urgency for the Mexican state and that the most innovative solution the politicians can find is to regulate production.

In the section on Venezuela, he essentially questions the statistics coming out of PdVSA as well as secondary sources. He points out that the company lacks capital, technology and managerial expertise and that the important projects in the Faja, Venezuela's only future option, will slow down due to uncertainty. The

article indicates that production and exports of both Pemex and PdVSA to the critical US market are likely to stagnate or further contract, but the issue appears to be more imminent for PdVSA than for Pemex.

If we consider the above points and other external evidence, we infer that Pemex is in fact more exposed today than PdVSA to the mistakes of the past and lack of reforms. Firstly, the Venezuelan oil industry enjoys far more diversification than Mexico's from an upstream and downstream point of view. The simple fact that over 50 percent of Mexico's production comes from the Cantarell complex, while in Venezuela there are over 200 fields or field complexes and several operators, is the major difference. Furthermore, the statistics of both national oil companies are questionable; they are just presented differently and with different time lags. The bottom line is that exploration performance trends have been poor in both companies and management has been unable to reverse them over many years. It is surprising that technology appears not to be an issue for Pemex in the article. It depends how you define technology. Although anybody can go out to the market and contract a deepwater rig, equipment to pump extra heavy oil, or purchase the latest reservoir modeling package, the fact is that the years of experience with these technologies are

more important than having access to the toolkit. In truth, neither of the companies are technology leaders even in their core areas at the present time. Looking ahead, Pemex cannot go solo to deepwater areas, and PdVSA cannot go solo to exploit the Orinoco extra heavy crude and the evidence is pretty clear on that, otherwise the government would not be talking to more parties for Orinoco developments.

There is no denying that from a strategic perspective both companies are losing importance as other companies such as Aramco and Petrobras continue to grow. Pemex and PdVSA have been strong competitors in the US Gulf market and reliable suppliers. But this may not be the case in the future. Until the politicians realise that they are losing the projected revenues and economic benefits each country needs (for their own survival as well), pressing issues will continue to be hidden. I guess that the articles published in the last issue should have stated more clearly that Pemex and the Mexican congress should not waste any more time whatever they choose to do, and that PdVSA would be better advised to begin telling the truth to President Chavez.

Yours sincerely  
Ivan Sandrea  
Vienna

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## *Asinus Muses*

### *Great news for the environment*

The new planet-friendly spirit, celebrated a few months ago in this column, now seems to be on an unstoppable roll. Redemption through carbon neutrality is becoming a universal faith. OK maybe there is a bit too much 'neutraler than thou' sentiment around. But new carbon saving ideas appear daily and this is surely great news for the environment. Asinus finds it hard to know where to start in reporting on some of the latest examples.

### *Vatican re-roofed*

Well, if in doubt, start at the top. And what could be superior to the Pope's roof? Yes, you are right – only the sun and then heaven. The Vatican has announced that it is to replace the crumbling roof of its Paul VI auditorium (designed by the famous Italian architect Pier Luigi Nervi) with a huge photo-voltaic panel, which will supposedly directly generate (divine?) light and heat. Other roofs of the principality will be similarly replaced in the future. So I suppose the ceiling of the Cistine Chapel roof (painted by that other Italian architect) may become no more than the B-side of a solar power generator. Great news for the environment, however.

### *Devil rocks against climate change*

His present Holiness recently dared to criticise His previous Holiness for hobnobbing with rock musicians in mass concerts, especially the one when Bob Dylan sang as the late pontiff dozed off beside his old fossil-fuel powered popemobile. So one can only guess at Benedict VI's opinion of the eight huge 'Live Earth' rock concerts organised by Al Gore in July, staged from Wembley to Shanghai with a massive use of fossil-fuel energy and featuring, among others, Madonna – not, I suspect, a

Vatican favourite. Nonetheless these concerts pose the question of whether Satan and the papacy might make a tactical alliance to save the planet. That would not only score maximum points in the world unholy alliance tournament but would be great news for the environment. Wouldn't it?

### *The plastic plane*

The 787 Dreamliner (more sexily named than the popemobile, you must agree) will fly in worldly terms much higher than the Pope's roof. Its construction of plastic and carbon fibre will make it lighter than other planes so that it can run on only 80 percent of the fuel per mile; this will make air travel much cheaper, attracting millions of new passengers. Oh, what has happened to this argument? Didn't Boeing claim at the glittering launch, that the Dreamliner's fuel economy was more great news for the environment? There must be a step Asinus didn't understand.

### *Christmas dinner*

Having started at the top, I now arrive at the bottom. Sorry to mention Christmas, but it is acquiring ever greater significance for energy saving and climate change. All that over-indulgence, of course, is very very bad for CO<sub>2</sub> production, but the spirit of Christmas to come may be suffused with energy saving, and all thanks to turkey dung. The state of Minnesota, which produces nearly 50 million turkeys a year (which are nearly all killed in the weeks before Thanksgiving and Christmas), also, as a result, finds itself with nearly 10 million tons of turkey manure a year, which, previously sold at low prices as fertilizer, is now sold very profitably to a state-subsidised power station (the first in the world to run on this fuel). So Minnesotans, at least, can cook their turkeys with power generated by their own (so far just the turkeys') lifetime

excretions. It is not a fossil fuel so it must be more great news for the environment. Readers of this column could come up with their own suggestions of what we can burn to produce alternative energy (there must, for instance, be tens of millions of regularly defecating household pets in the UK, as well as an already operating system of classified recycled rubbish collection; all we need to do is to add tabby-coloured bins).

### *For your loved ones*

The two important things about Christmas are eating and presents. And here is a super new idea to save shopping and mailing bulky items. Why not, give your 'loved one' a carbon offset certificate as suggested by the many carbon offset firms which have exploded on the internet in the months since carbon neutrality became the rage. Think of the rapturous look on your child's face as the little tot opens the envelope to find a certificate for 2 tons of carbon offset. Of course, it will cause a lot of trouble at first among the kids ('Mummy, it's not fair. Why didn't I get a carbon offset voucher?' 'I'm more carbon neutral than you, so there!'). But it must be great news for the environment.

### *Tireless Eurocrats go tieless*

The EU Commission is ingeniously to decrease the air conditioning in its buildings, but to allow male workers to show up without ties, thus saving energy and allowing the tieless Eurocrats to be no hotter than before. Women are assumed to be already sufficiently covered (i.e. uncovered) under existing dress regulations. As for the men, why stop at ties? Jackets could be dispensed with and long trousers dropped during the summer, while woolly sweaters and down jackets could be normal winter office wear. More great news for the environment? Asinus leaves this one for you to decide.

Oxford Energy Forum. ISSN 0959-7727. Published by Oxford Institute for Energy Studies, 57 Woodstock Road, Oxford OX2 6FA, United Kingdom. Registered Charity 286084. Tel: (0)1865 311377. Fax: (0)1865 310527. E-Mail: forum@oxfordenergy.org EDITOR: Robert Mabro. Annual Subscription (four issues) £45/\$85/€65. © Oxford Institute for Energy Studies, 2007.

**Indexing/Abstracting:** The Oxford Energy Forum is indexed and/or abstracted in PAIS International, ABI/INFORM, Fuel and Energy Abstracts, Environment Abstracts, ETDE and CSA Human Population and the Environment