A person is performing a handstand on a beach at sunset. The person's silhouette is dark against the bright, golden light of the setting sun. The person's arms are extended upwards, and their legs are also extended upwards, forming a vertical line. The background shows the ocean with waves breaking on the shore. In the distance, an oil rig is visible on the horizon. The sky is a mix of orange and blue.

OPEC bulletin

3/07

Market insight – it's all about balance

Technology marches on — so does oil

Advances in technology have enabled the world to increase its oil resource base to levels which would have been considered unimaginable in the past. There is little doubt that this march of progress will continue unabated well into the future.

Half a century ago, for example, who would have foreseen the transformation of the North Sea into a major oil-producing area, with Norway becoming the world's third-largest exporter? In fact, at that time, offshore oil was not even classified as conventional, because it was not considered economically recoverable. However, the twin engines of technology and economics have resulted in the huge expansion of global reserves in that sector of the global industry.

Technological breakthroughs, in such areas as sub-surface imaging (3D and 4D), drilling and offshore production, have had a dramatic effect on upstream activity, leading to large discoveries, particularly in deepwater. This has contributed to significant additions to hydrocarbon resources, increased exploration success and expanded access to new frontier areas.

Not surprisingly, estimates of the ultimately recoverable resources of conventional oil (URR) have increased, for example from just 0.6 trillion barrels throughout the 1940s, rising to 2tr b in the 1960s and 1970s, up to the latest mean assessments by the US Geological Survey (USGS) of 3.3tr b. Indeed, the USGS's latest four estimates of the URR have seen consecutive rises.

Interestingly, at the time of each USGS estimate since the mid-1980s, cumulative world production since the start of the modern oil industry in the 19th century, as a percentage of the estimated global resource base, as perceived on each occasion, has been relatively stable, at just under 30 per cent.

Technological progress should also allow the development of large amounts of non-conventional oil at lower cost, and will thereby enable an extension of the availability of oil supply, and support its role in

the long run. Indeed, we expect advances in technology to continue to blur the distinction between conventional and non-conventional oil.

The diverse nature of non-conventional oil impedes efforts at collective quantification, but estimates of recoverable heavy oil, tar sands and oil shale alone, with present technology, total around 600 billion barrels. However, these estimates are expected to rise in the future, since there are many unexploited regions in the world. Extraction rates should also increase, with intensification of research and development.

To provide a further insight into non-conventional oil, this issue of the *OPEC Bulletin* has a feature on heavy oil in Venezuela and the tar sands in Canada.

In the light of all this, it is clear that there will be enough oil reserves to meet world oil demand growth well into the future. Up to 2030, OPEC's reference case scenario sees world oil demand rising by an annual average of 1.4 per cent, with oil accounting for close to 40 per cent of energy demand.

With nearly 80 per cent of proven global crude oil reserves — ie conventional reserves — OPEC will be relied upon increasingly to supply the incremental barrel, and our Member Countries are committed to doing this. To put this commitment into perspective, a simplistic calculation suggests that OPEC's recoverable crude oil reserves will last around 80 years, at present production rates.

When the issue of non-conventional oil enters the picture — and some Members also have a significant role to play here — then clearly there are even stronger grounds to dismiss notions of oil supply peaking in the not-too-distant future.

There is plenty of oil across the world, in its diverse forms — conventional and non-conventional.

The accent, as Saudi Petroleum and Mineral Resources Minister, Ali I Naimi, has contended, should be placed on deliverability of oil, rather than availability. 

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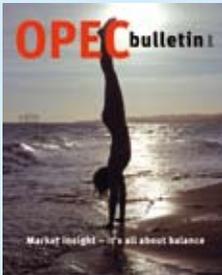


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Indonesia pushes ahead
with biofuel development



Cover

Balancing the oil market is one of the main missions of OPEC (see pp4-7).

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Membership and aims

OPEC is a permanent, intergovernmental Organization, established in Baghdad, September 10-14, 1960, by IR Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. Its objective is to co-ordinate and unify petroleum policies among Member Countries, in order to secure fair and stable prices for petroleum producers; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the industry. The Organization now comprises 12 Members: Qatar joined in 1961; Indonesia and SP Libyan AJ (1962); United Arab Emirates (Abu Dhabi, 1967); Algeria (1969); Nigeria (1971); and Angola (2007). Ecuador joined the Organization in 1973 and left in 1992; Gabon joined in 1975 and left in 1995.

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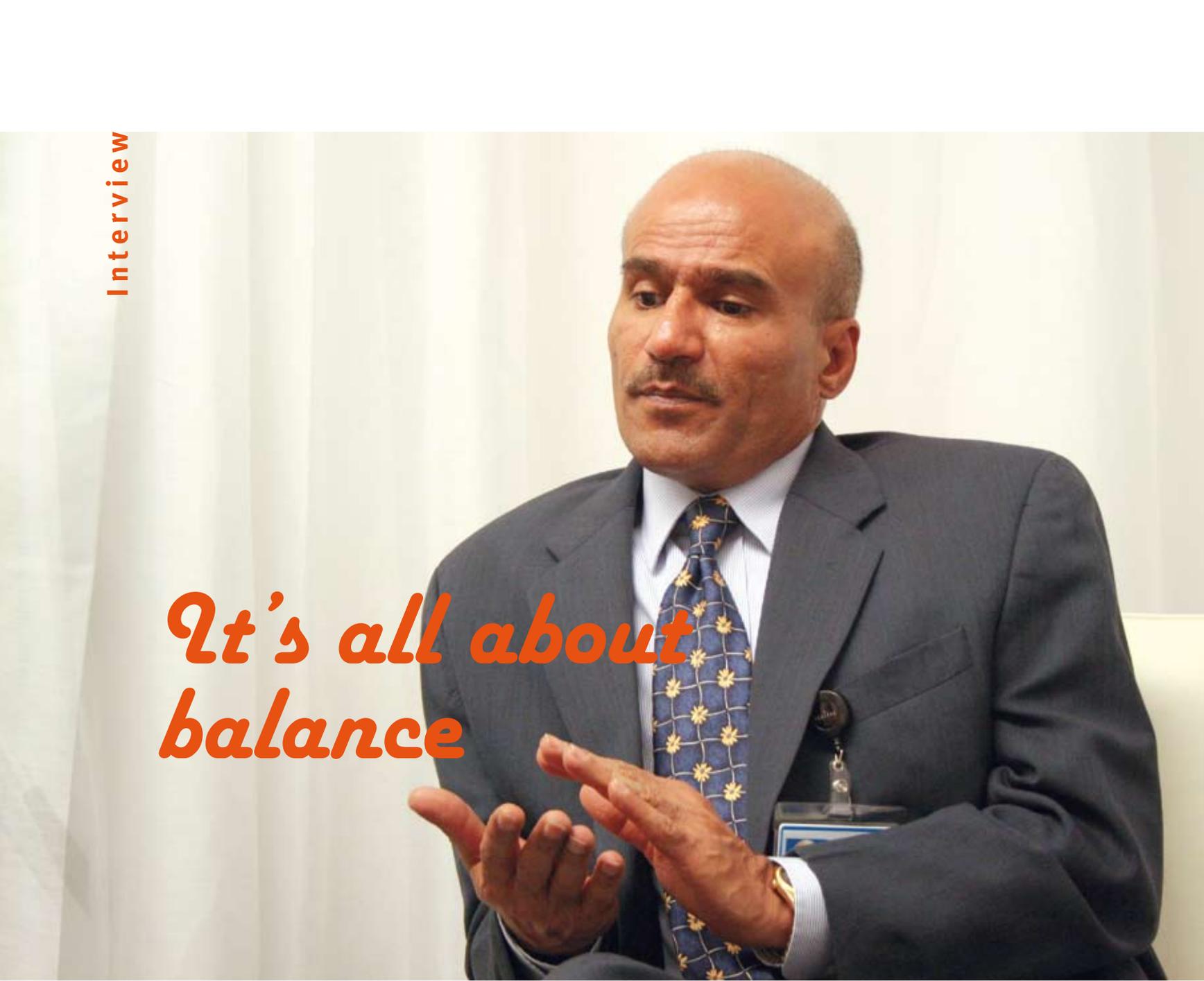
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It's all about balance

The last six months have been an eventful period for OPEC.

*The October Consultative Meeting in Doha and the December 143rd (Extraordinary) Meeting of the OPEC Conference in Abuja both resulted in reductions in OPEC production to help balance supply and demand fundamentals. Ahead of the 144th Meeting of the OPEC Conference in Vienna, **James Griffin** talked to **Dr Hasan M Qabazard** (above), OPEC's Director of Research, about the impact of these recent supply decisions and the outlook for the rest of 2007.*

 head of the 144th Meeting of the OPEC Conference, there was much speculation about the potential outcome of the deliberations. It is easy to understand why. The two most recent Meetings — the Doha Consultative Meeting in October 2006 and the December 143rd (Extraordinary) Meeting of the Conference in Abuja — resulted in reductions in OPEC output to realign the balance between supply and demand. On top of this, the Abuja Meeting also welcomed Angola as a new OPEC Member.

It has all led to many questions: Have the reductions in production rebalanced the market? Might further reductions be required? And how will Angola, the first new OPEC Member for over 30 years, be brought into the Organization over the coming months? To garner an understanding of answers to these questions, it is important to take them one-by-one and place them in the circumstances and context of the outcomes from Doha and Abuja.

Reacting to market changes

Among other things, 2006 is likely to be remembered as a year when the oil market witnessed much price volatility. Looking back to the 2006 summer season, Qabazard views it as a time “when high seasonal consumption, particularly with regards to the tight gasoline market in the United States, saw prices peak in July at around \$78 a barrel.” Though these were uncharted nominal heights, they were still below the absolute real peaks witnessed in the 1980s.

Following this, however, “consumption declined and as the late summer and autumn seasonal change occurred prices fell rapidly and the magnitude of this caught much of the market by surprise,” says Qabazard. “Of course, alongside this, many geopolitical events, particularly in the Middle East, were subsiding and the risk premium associated with these was removed.” It meant attention shifted to market fundamentals, leading to a sharp downward correction in prices of around 27 per cent.

Qabazard adds that during this price fall, “the Organization studied the market intensively and saw further impending excess supply. This information and data was then passed to OPEC Ministers and the feeling was that after looking at market fundamentals an emergency meeting was required. This resulted in the Doha Consultative Meeting.”

In Doha, the Ministers discussed the oil market situation, in particular forecasts for the fourth quarter of 2006 and the first half of 2007. It was observed that actions taken by OPEC in recent years have contributed to stability in the oil market, to the benefit of producers and consumers alike, but at this point “crude oil supplies are well in excess of actual demand, as the above-average level of crude stocks in the OECD countries demonstrates, and the over-supply situation and imbalance in supply/demand fundamentals have destabilized the market.” In the light of this, and in order to ensure market stability, the Conference decided to reduce production by 1.2 million barrels/day, from about 27.5m b/d, to 26.3m b/d, effective November 1, 2006.

By the Abuja Conference in December, “there was a recognition that OPEC’s Doha decision and actions thereafter had brought more stability and balance to the market, although prices remained somewhat volatile, reflecting the continuing supply overhang in the market,” says Qabazard. He adds that this was also the time when “talk started up about the potential for a warm northern hemisphere winter, which has proved to be true in the main.”

On reviewing the oil market outlook once again, including the overall demand and supply expectations for 2007, as well as the outlook for the oil market in the medium term, the Abuja Conference observed that market fundamentals clearly indicated that there was more than ample crude supply, high stock levels and increasing spare capacity. Thus, the Conference decided to reduce OPEC output by a further 500,000 b/d, with effect from February 1, 2007, to further balance supply and demand.

Is the market rebalanced?

Qabazard stresses that the “continued joint efforts of the OPEC-10 (excluding Iraq) towards full reduction compliance (at present it is difficult to fully factor in the February 1 reductions), underlines that the Organization’s timely actions, taken in line with its ongoing commitment to stabilize the market, have resulted in all indicators pointing towards the market balancing itself.” In fact, even though there has been much press discussion about plans for a further meeting of Ministers prior to the March OPEC Conference, “there was never a feeling one was required as we felt the market was moving in the right direction,” says Qabazard.

He adds that a further factor that has helped the market move towards a better supply and demand



Above: Conducting the press conference at the Consultative Meeting of the OPEC Conference in Doha, Qatar, on October 19–20, 2006, are (from l–r): Dr Hasan M Qabazard, Director of OPEC’s Research Division; Mohamed Bin Dhaen Al Hamli, (then) Alternate Conference President; Mohammed S Barkindo, Acting for the OPEC Secretary General in 2006; and Dr Omar Farouk Ibrahim, Head of OPEC’s PR & Information Department.



Above: Dr Edmund Maduabebe Daukoru, Minister of State for Petroleum Resources, and then OPEC Conference President, opening the 143rd (Extraordinary) Meeting of the OPEC Conference, which was held in Abuja, Nigeria, on December 13–14, 2006.

balance has been the lowered expectations for non-OPEC production increases in 2007. “The expectation towards the end of 2006 was that non-OPEC production would increase by about 1.8 m/d, but due to issues such as project delays and unforeseen output declines, this figure has been revised down to about 1.2m b/d. In turn, this has led to increased expectations from OPEC oil.”

On the demand side, however, unseasonably warm weather over the past few months has dented world oil consumption during its usual upward winter cycle. Qabazard stresses that the warm weather has had two significant effects. The first is a sharp decline in demand for fuel oil as warm weather alleviated the pressure on natural gas prices, encouraging power plants to switch

from liquid to gas. As a result US fuel oil consumption was more than 20 per cent lower in January compared with the same month last year.

The second effect has been a decline in heating oil demand, resulting in less of a draw on heating oil stocks so far this winter. Indeed, for the first time on record, heating oil stocks displayed a contra-seasonal build in the first half of January. This sudden decline in fuel and heating oil demand has mainly occurred in OECD countries.

Nevertheless, given the information available to the OPEC Secretariat today, Qabazard says “that come March in Vienna, if the market is where we expect it to be and we envision it to be more or less balanced, then there will be no need for additional decisions with regards to changing production levels.”

The Outlook for 2007

That is not to say that uncertainties do not exist and here Qabazard stresses the importance of monitoring the market “day-by-day, week-by-week, month-by-month, particularly as there are still doubts over demand, with some saying it will be revised up and others down.” Currently, OPEC Secretariat figures see world oil demand in 2007 increasing by around 1.2m b/d, though it should be remembered that at the start of last year the figure for 2006 was estimated to be 1.4m b/d, but turned out to be 800,000 b/d.

With regards to supply, non-OPEC producers are expected to account for an increase from 53.7m b/d to 55.1m b/d (including OPEC natural gas liquids and non-conventional oils). This will mean that demand for OPEC crude will be around 200,000 b/d lower than last year.

The major uncertainty Qabazard highlights surrounds the issue of geopolitics. Here, he specifically mentions uncertainties regarding the situation in Iraq and the ongoing developments between Iran and the International Atomic Energy Agency (IAEA). And as the market witnessed in 2006, unexpected events, such as the partial closure of BP's key Prudhoe Bay oil field in North America, can have an impact. Additionally, a further wild card could be a repeat of the past mild winter in the fourth quarter of 2007, which could lead to a further downward revision in demand.

"All other factors look relatively stable at present," he says. "The market is well supplied, there are a large number of upstream projects, spare capacity is increasing, global economic prospects for 2007 remain generally bright, for developed countries and especially developing countries, and prices appear to be relatively stable."

In response to a follow-up question on prices, Qabazard says that expectations for the spring are "that prices might turn a touch lower." He believes that the anticipated slight fall will be influenced by the seasonal turnaround and the anticipated soft spring demand. This will see stock levels rise further. On this point, he adds that the projected stock-build for the second quarter of 2007 is around 700,000 b/d, and though lower than the seasonal norm, it is adding to the already high stock levels and as a market fundamental is likely to put some downward pressure on prices.

Angola and OPEC

A further outcome of the Abuja Conference and one that has led to numerous questions from journalists and analysts was the decision to accept Angola as a Member of the Organization from January 1, 2007. According to its Petroleum Minister, Desidério da Graça Veríssimo e Costa, it is a position the country has wished to hold since its independence in 1975. It will take up its seat as a full Conference Member at the March Meeting in Vienna.

"Angola is sub-Saharan Africa's second biggest oil producer, after Nigeria, with a daily production of 1.5m b/d," says Qabazard. "Its oil is high quality, the country a net exporter and for the Organization it is an important step to bring on board a major oil producer." Its position within OPEC is still in its infancy, however, and Qabazard states that "we have not talked about anything much beyond the terms of it joining the Organization." He says that more on Angola and the Organization will be discussed at the upcoming March Meeting, when it will



Above: OPEC Ministers gather at the 143rd (Extraordinary) Meeting of the OPEC Conference in Abuja.

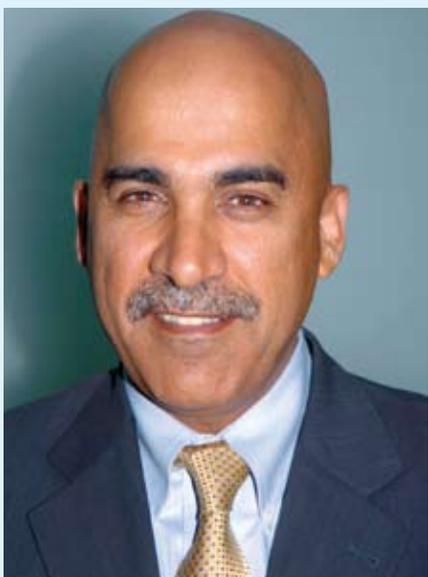
become clearer how Angola fits into OPEC's production decisions and policies, as well as into the Secretariat.

Searching for equilibrium

Says Qabazard: "The market needs to be viewed like a set of scales; much care needs to be taken to balance out supply and demand. It is not something that stays rock steady over long periods, with work on both sides required to continually maintain some sort of equilibrium. This is what OPEC's recent actions, and its actions throughout its history, have aimed to achieve.

"Going forward, the Organization will continue its unswerving and repeatedly-proven commitment to providing adequate supplies of petroleum to consuming nations. And it is determined to take measures deemed necessary to keep market stability through the maintenance of balanced supply and demand, for the benefit of producers and consumers alike," he adds. OPEC crude capacity expansion plans already in place are expected to result in almost 40m b/d of crude capacity by the end of 2010, an increase of nearly 5m b/d.

Qabazard concludes that it is impossible to draw any conclusions in advance of the March Conference, but what he does state is that "looking back three months to Abuja and then examining the current state of the market, today we see much more balance and predictability, and in turn, there is much less reason for anxiety." ■■



New Qatari OPEC Governor appointed

Qatar Petroleum (QP) Marketing Director, Ali Mohammed Al-Hammadi, has been appointed his country's Governor for OPEC, succeeding Abdalla H Salatt, who held the position for 30 years.

Al-Hammadi joined Qatar Petroleum (formerly known as the Qatar General Petroleum Corporation) in 1987 as a Marine Engineer.

In 1992, he was seconded to the Qatargas Shipping Team (QST), which was responsible for the shipping procurement process associated with the giant Qatargas project.

Two years later, he was again seconded, this time to Ras Laffan Port to assume the position of Deputy Port Manager, where he remained for two years.

He moved to Japan in 1996, when the construction of Qatargas vessels started in the Asian country. As Project Manager, Al-Hammadi was responsible for the construction of the ten-vessel Qatargas fleet.

The following year, he was appointed General Manager of the Japan Liaison Office (JLO), a position he assumed in addition to his role as Shipping Project Manager.

In his new capacity, Al-Hammadi maintained the active communication window established between Japanese buyers and Qatargas headquarters, which covered all the important commercial, operational and technical issues that were required for the successful start-up of the project.

In October 2000, he was transferred from Japan back to Qatar to assume the position of Deputy Manager, Commercial and Shipping. In January 2002, he was promoted to Chief Operating Officer, Commercial and Shipping, and made responsible for all existing sales, expansion sales and shipping activities involving the Qatargas group of joint ventures.

In September 2004, Al-Hammadi was nominated Chairman of the Board of Directors of the South Hook LNG Terminal Company in the United Kingdom. He is also a member of the Board of Directors of Qatargas 1, Qatargas 2, Qatargas 3 and the Qatar Gas Transportation Company (Nakilat).

In January 2006, he was appointed to his current position of QP Marketing Director. A native Qatari, Al-Hammadi holds a Certificate in Marine Engineering from the Arab Maritime Transport Academy in Sharjah and a BSc (Honours) in Maritime Studies from John Moors University in Liverpool, UK.

New Nigerian OPEC Governor

Muhammad Mahmood Sadiq has been appointed OPEC Governor for Nigeria, replacing Ms Ammuna Lawan Ali, Permanent Secretary at the Federal Ministry of Petroleum Resources.

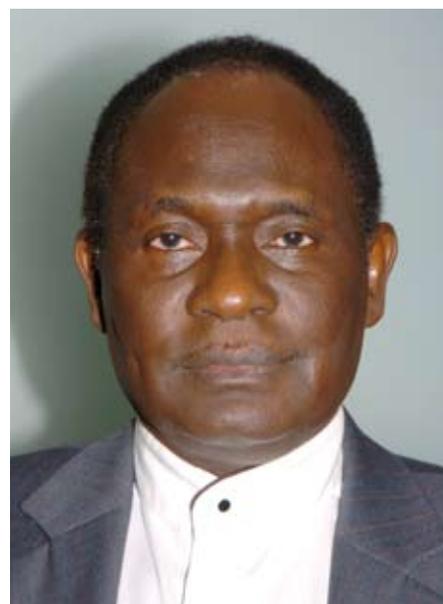
Sadiq, the Permanent Secretary at the Federal Ministry of Energy, started his career in 1977 where he worked on the Gubi Dam Water Supply Project as Area Engineer on civil construction projects.

In 1983, Sadiq became General Manager of the Bauchi State Water Board and, in 1984, started working for the Federal Government as Chief Civil Engineer in the Ministry of Works and Transport.

Between 1986 and 1991, he was General Manager of Bauchi State Urban Utilities Board, after which he returned to the Federal Service as Director of Dams and Reservoir Operations in the Ministry of Water Resources.

He was appointed Federal Permanent Secretary in 2002 and has since served in the Ministries of Industry; Power and Steel; Housing and Urban Development; and, starting in January 2007, Energy.

Sadiq holds a BSc (Hons) in Civil Engineering from the Ahmad Bello University, 1973, and an MSc in Environmental Engineering from Delft University of Technology (The Netherlands), 1976.



Angola appoints Governor

Felix Manuel Ferreira has been appointed OPEC Governor for Angola, which joined the Organization on January 1, 2007.

A long-time employee of the Angolan national oil company, Sociedade Nacional de Combustiveis de Angola (Sonangol), Manuel Ferreira obtained his bachelor's degree in 1969 from Albert First College, in Kinshasa, Democratic Republic of Congo.

Between 1970 and 1974, after attending the University of Tunisia, he was awarded a scholarship by the United Nations Development Programme (UNDP) to study at the Prague School of Economics, where he successfully completed his studies and received a Master of Science in Economics.

In 1975, he received a scholarship to study German from the German Student Organization Otto Benecke Stiftung, and the following year attended a six-month training course at the Central School of Economics, Statistics and Planning, in Warsaw, Poland.

Manuel Ferreira's work experience began in August 1977, when he was appointed Head of the Products and Gas Department in the Trading Sector of Sonangol.

In this capacity, he was responsible for negotiating and executing various contracts for the export of LPG and fuel oil and the import of refined products. He became increasingly involved in crude oil export dealings and subsequently became Deputy to the Head of Operations and Commercial Exports.

In March 1989, Manuel Ferreira was appointed Director of the Commercial Exports Department, responsible for the execution of all Sonangol crude oil export contracts.

In accordance with the company's training programme, he attended several courses in Europe and the United States to broaden his technical knowledge of petroleum trading and management.

He was later appointed Manager of Business Development and International Relations, where he helped develop the international oil trading activities of the Sonangol group of companies.

Manuel Ferreira, who is married, has represented Angola at various international meetings involving organizations, such as OPEC and the African Petroleum Producers' Association (APPA). 





Indonesia pushes ahead with biofuel development

Responding to the needs of its fast-growing population and wishing to diversify its energy sources, Indonesia is actively promoting an expansion of its biofuel industry. Alhilal Hamdi, Head of the National Team for Biofuel Development, sees this emerging sector as a means of creating jobs, reducing poverty, improving the environment and increasing energy security.

By Susannah Maio

A nascent biofuels industry

With over 219 million inhabitants, Indonesia is important not only for its size but also for its position on the global energy scene. A Member Country of OPEC since 1962, it has played a key role in the petroleum and natural gas industries for almost half a century, despite declining stocks of crude oil in recent years. Having become a net importer of 'black gold' in 2005, Indonesia is now stepping up to a new challenge and aiming to meet 17 per cent of its energy mix by 2025 from renewable resources, with biofuels representing a five per cent share.

Biofuels are usually subdivided into two categories: biodiesel, which is produced from vegetable oils, and bioethanol, which is made by fermenting sugars and starches contained in plants such as sugar cane, cassava and corn. Indonesia plans to reach a production capacity of 10.22 million kilolitres of biodiesel and 6.28m kl of bioethanol by 2025, thus meeting 20 per cent of total domestic diesel consumption and 15 per cent of premium fuel consumption by the same year.

As a step towards reaching these targets, six million hectares of land will be developed for the cultivation of

sugar cane, cassava, *jatropha curcas* and oil palm, the latter being the largest source of oil for biodiesel in the country.

Palm oil, which is derived from the flesh of the palm's fruit, is the most widely used vegetable oil globally for providing energy. It is no wonder that both Indonesia and Malaysia, neighbouring countries that enjoy the same tropical climate ideal for growing palms, have given over vast tracts of land to palm oil plantations. Together, these two nations account for approximately 90 per cent of global production and trade in palm oil, according to an October 2006 report by the United Nations Food and Agriculture Organization (FAO).

Reflecting its stated commitment to the promotion of new technologies, the Indonesian government of President Susilo Bambang Yudhoyono has established a National Team for Biofuel Development (TIMNAS BBN). On January 9, 2007, TIMNAS BBN oversaw the signature of 67 contracts worth an estimated \$17.4 billion for investments in the renewable energy sector. Indonesia's banks contributed \$5bn, with the rest coming from domestic and



Jatropha Curcas plantation in Indonesia.



Jatropha

When speaking of jatropha, reference is usually made to *Jatropha Curcas* L, a hardy shrub that originated in Central America and spread to West Africa and, eventually, to South-east Asia. Today, jatropha is found in tropical areas all over the world.

Jatropha is a wild plant that has traditionally been used to make fences to keep animals at bay and in the production of soap. Its name, which derives from the Greek 'iatrós' for 'doctor' and 'trophé' for 'food', points to its medicinal properties.

While it has been established that the oil extracted from the jatropha nut can be used in the production of biodiesel, its commercialization is still at an early stage but is expected to take off in Indonesia in the near future. On December 15, 2006, Indonesia's news agency Antara reported that the government is planning to produce over 15,000 tons of biofuels from jatropha by the end of 2007.

Indonesia's National Team for Biofuel Development points out that jatropha is versatile, has a quick yield and is highly pest and disease resistant. These qualities make the plant ideal for reclaiming land that has been damaged by fires or over-cultivation.

Sources: The FACT Foundation (Fuels for Agriculture in Communal Technology) and the National Team for Biofuel Development of Indonesia.

foreign companies. China, Japan, Brazil, Malaysia and South Korea headed the list of investors from abroad.

There is little doubt that the industry will continue to grow. Indonesia plans to increase both its domestic use of biofuels and its exports to Europe (biodiesel) and Japan (bioethanol). Although some technical and trade-related issues still need to be resolved, the European Commission's target of meeting 5.74 per cent of its transport energy needs by 2010 with biofuels points to a sustained interest in South-east Asian biofuels.

The good and the not so good news about biofuels

To many policymakers, researchers and companies, as well as to the general public and the media, biofuels represent a breath of fresh air in the midst of an energy debate often weighed down by dire predictions of environmental cataclysms and geopolitical tensions. Biofuels have been touted as the answer to many modern evils and, certainly, they do present numerous advantages.

Converting palm oil into biodiesel

Palm oil is harvested from the flesh of the fruit of the oil palm species *E. Guineensis*, whose name reflects its origins in the Gulf of Guinea in West Africa.

The raw material is converted into industrial-grade oil through a process called ‘transesterification’. This means filtering the feedstock, then mixing it with alcohol (usually methanol) and a catalyst (usually sodium hydroxide or potassium hydroxide).

This leads to the break up of oil molecules and their subsequent re-formation into biodiesel and glycerol. Once these have been separated from each other, they must be purified. The glycerine that results as a by-product of transesterification has a variety of uses in the non-energy sector, including as an ingredient in many kinds of cosmetics, medicines and foods.



Sources: *The American Palm Oil Council, the Malaysian Palm Oil Council and the International Energy Agency's World Energy Outlook 2006.*

According to TIMNAS BBN, these renewable sources of energy emit fewer greenhouse gas emissions, do not pollute groundwater, are cheaper to make than gasoline, reduce dependence on imported fossil fuels and alleviate poverty by providing a boost to the local economy through increased exports and a strengthened domestic agricultural sector.

Environmental groups, however, fear that the industry does more damage than good to Indonesia's natural heritage. Conservationists, for example, worry about the

consequences of converting large portions of lush, biologically rich areas into monocultures. In a telephone interview with the *OPEC Bulletin*, Alhilal Hamdi countered this argument by saying that his government is avoiding deforestation by “prioritizing the conversion of unproductive and degraded land” and by recommending that “15–20 per cent of crops” be farmed as “heterocultures”. Moreover, he said that cassava will only be farmed on land already given over for this purpose, while efforts are being made to increase the yield.



A farmer holding cassava that has been uprooted to show the plant's tubers. Also known as manioc and yucca, cassava is consumed as both food and fuel.



Some social groups have pointed to a rise in conflicts between farmers and corporations. Hamdi responded by saying that smallholders are given some advantages over companies (including lower interest rates on loans) to lessen any existing tensions.

Another response to these problems has been the establishment of the Roundtable on Sustainable Palm Oil (RSPO). Its members are private and state-owned companies involved at all stages of the palm oil industry, as well as environmental and social non-governmental organizations. By accepting the RSPO Principles & Criteria, members commit to abiding by “legal, economically viable, environmentally appropriate and socially beneficial management and operations.”



Machine used to extract oil for fuel.

Hamdi stressed that Indonesia's main objectives in expanding its biofuels industry are "to create jobs, reduce poverty, improve the environment and increase energy security," in that order. Equally positive, the website of the Ministry for Energy and Mineral Resources highlights that its policies are "pro-poor, pro-job and pro-growth" and refers to their investment in biofuels as the "second energy awakening era."

Aiming for an increasingly diverse basket of resources

These are still early days for the biofuel industry. According to the International Energy Agency (IEA), biodiesel and bioethanol combined are only able to meet one per cent

of global road-transport needs and only in Brazil, Cuba and Sweden did that share exceed two per cent in 2004. Moreover, the global share is only expected to grow by between four and seven per cent by 2030.

On January 2007, Indonesia stuck by its commitment to encourage the use of biofuels when it signed, together with other countries in the region, the Cebu Declaration on East Asian Energy Security. At the same time, the signatories acknowledged that "fossil fuels underpin our economies, and will be an enduring reality for our lifetimes." This is a pragmatic and realistic position. Although biofuels do not constitute a functional alternative to fossil fuels in the short or medium term, they are likely to be integrated in an increasingly diverse basket of energy sources. 

Photographs in this feature, unless otherwise credited, courtesy of the National Team for Biofuel Development Programme.

The sands of time

How Venezuela and Canada are extending the life of the world's petroleum resources

Oil sands, tar sands, or extra-heavy oil, as they are all known, are the most abundant forms of non-conventional oil on the planet today. A varying semi-solid combination of clay, sand, water and bitumen, the oil found in tar sands will not flow naturally, as in conventional reservoirs, making the resource difficult to exploit and more expensive to produce commercially. Conventional oil is tapped by drilling wells into the ground, whereas oil sand and extra-heavy oil deposits are either mined, or extensively processed, to extract the bitumen, which is then either upgraded into synthetic crude, or refined directly into petroleum products by specially equipped refineries.

Oil sand and extra-heavy oil deposits are widespread and can be found in over 70 countries. However, some 75 per cent of the world's total reserves are located in two countries — Venezuela, one of OPEC's founding Members, and Canada. In this feature article, **Jerry Haylins** looks at the value of these immense reserves of 'other' crude to the global petroleum industry and explains how higher prices for the conventional product are actually helping the increased exploitation of the non-conventional variety.

When most people think of crude oil, they conjure up an image of a constant stream of pitch-coloured liquid gushing out of the ground at great pressure. It is this conventional form of ‘black gold’, with all its by-products and myriad of uses, that has fuelled economic growth and prosperity the world over for almost a century now.

It supported the rebuilding of the industrialized nations after the Second World War and will continue to underpin their economic development in the years ahead. It will also meet the demand expectations of the developing world for the foreseeable future at least. Some three-quarters of future growth in global oil demand is projected to come from developing nations, particularly the Asian tigers, China and India, which are seeing unprecedented economic expansion. So, after helping the advanced nations rise from the ashes of conflict, it is now envisaged that the world’s less-fortunate countries are next in line to reap the benefits that oil — a comparatively cheap and still abundant energy resource — can bring.

New technologies

The question frequently asked today is “how long will the world’s crude oil resources last?” According to OPEC forecasts, the projected expansion in global oil demand up to 2030 will be in the region of 34 million barrels/day. Hence, the more than one trillion barrels of known conventional crude oil reserves that exist today, 80 per cent of which are located in OPEC Member Countries, will be sufficient to cover virtually all realistic demand eventualities well into the 21st century.

And who is to say that this still considerable conventional resource base will not be added to in the ensuing years as improved seismic detection pinpoints more reservoirs, or as the huge amounts of oil still trapped in exist-

ing deposits is made accessible by technological methods of exploitation that are becoming more advanced with each passing year. It is a fact that, globally, the oil industry recovers only about one-third of the oil that is known to exist in any given reservoir. The new technologies being applied by the major oil companies are already lifting that recovery rate.

The good news for the petroleum industry — and hence for OPEC — is that with more and more countries opening up their borders to inter-regional trade, cooperation and development, the world’s thirst for energy can only increase, whether for power generation, industrial expansion, or the transportation sector, which is forecast to experience a boom in the developing world in the years ahead.

Lately, with all this talk of extra demand for energy, there has been an understandable rush to develop supplementary sources of energy such as biofuels, solar, wind power, and even hydrogen cells. But even with the progress that has been made in the direction of renewables over the past decade, the fact remains that the technology required for seriously enhancing most of these applications is still in its infancy. Oil will maintain its leading role in satisfying the energy needs of humanity and to support sustainable development in the years ahead.

However, even though the world’s conventional crude resource base appears more than adequate to meet future global oil demand requirements, it is actually only part of the world’s known oil resources. There are also other types of oil — often referred to as heavy oil, oil shale, bitumen, and tar sands. They have not enjoyed the kind of worldwide attention afforded their conventional brand, despite the fact that they exist in vast amounts,

**The world’s thirst
for energy
can only increase.**

Today the potential for unconventional oil development is immense.

greater, some say, even than the conventional reserves. Unfortunately, due to the complexity of their extraction and the high cost of their development, only limited success has been achieved in this direction in the past. All that appears to be changing.

Much has been said in the media of late about inflated oil prices and how they are affecting the global economy, yet many energy analysts now generally believe that it is these higher crude prices that will help provide the answer to increasingly tight energy supplies in the future. It is a simple matter of economics — as crude oil prices rise, more funds become readily available to finance the necessary production capacity expansions required.

The extra oil revenue the producers, oil companies and investors are currently enjoying also provide the incentive to develop the technology necessary to find new and deeper oil fields and to squeeze more crude out of existing reservoirs. For instance, 30 years ago oil producers could not physically drill in waters deeper than 600 feet. Today, firms are sinking their drill bits into 10,000 ft of water.

On the other hand, the higher crude prices seen over the past three years have made it economically viable, and certainly profitable, to develop unconventional oil resources, such as the extra-heavy oil deposits of the Orinoco Oil Belt in Venezuela, and the massive and still largely untapped oil sands of Canada. That is good news for the crude oil industry in general, since major oil players are now ploughing considerable funds into the development of these ‘other’ oils.

The United States-based Cambridge Energy Research Associates (CERA) recently forecast that oil from non-conventional sources would expand to 35 per cent of total capacity in 2015, compared with ten per cent in 1990. The research points to 250 per cent more heavy oil production capacity from Venezuela and Canada alone.

Exploitable oil reserves

According to a study by the Business Communications Company, global demand for unconventional oil will reach 10.3m b/d in 2008, up from 8.6m b/d in 2003 at an average annual growth rate of 3.7 per cent.

Although oil sands were actually used by the ancient Mesopotamians and Canadian Indians, they have only recently been considered a major part of the world’s exploitable oil reserves, having become economically extractable at current prices with modern technology.

Today, experts estimate that tar sands represent as much as 66 per cent of the world’s total reserves of oil, with at least 1.8 trillion barrels located in Venezuela’s Orinoco region and 1.7 billion in the Canadian Athabasca tar sands.

In the past, the global scope for the future of unconventional oils was limited. But today, with the accompanying sustained higher crude oil prices, the potential is immense. As long as the investment is forthcoming, unconventional oil operations will continue to move forward. And with high-growth nations like China and India looking to secure ever-increasing supplies of energy — primarily oil — to fuel their burgeoning economies, the future is indeed very bright.

It is clear that OPEC producers will be relied upon to supply the incremental barrel of conventional oil in the long term. By 2030, they could be producing well over 55m b/d of crude, compared with around 30m b/d today, to satisfy global demand.

But as conventional crude resources become less productive in the distant future, it is the extra-heavy oil of Venezuela and the massive tar sands of Canada, as well as other global producers of unconventional oils, that could become essential to satisfying global oil demand.



Tar sands and extra-heavy oil — the difference is in the temperature

So what are tar sands and extra-heavy oil deposits — and what does it take to extract the petroleum from them? Well, oil sands consist of a combination of sand and clay with bitumen, a heavy black viscous oil that must be treated to convert it into an upgraded, synthetic crude before it can be used by refineries to produce gasoline and diesel fuels.

For extra-heavy oil, the difference lies in the fact that the resource is a liquid, whereas the natural bitumen found in oil sands is not. There is actually no chemical difference between the two, but as far as production techniques and costs are concerned, the oil sands bitumen is a lot more costly to produce than extra-heavy crude because it has to be mined and treated with large amounts of heat and water.

Ironically, around 90 per cent of the world's estimated extra-heavy crude is located in one reservoir — the Venezuelan Orinoco Oil Belt — while some 80 per cent of global natural bitumen is located in the tar sands of Athabasca, in the Canadian province of Alberta.

The difference between the two locations is the cli-

mate. The average temperature of the reservoir in the Orinoco Oil Belt is around 53° Celcius, whereas in the Athabasca sands it is barely 11° C. This stark contrast in ground temperature affects the physical state of the bitumen and hence its classification.

The Orinoco Oil Belt essentially contains crude oil of less than 10° API, in other words heavier than water. Although this type of crude oil is liquid at reservoir conditions, above ground and at normal temperatures and atmospheric conditions, it will not flow.

This leads to the problem of transporting the extra-heavy crude. Two processes have traditionally been used to overcome this difficulty. In the first, the crude is heated to enhance its liquid state for transfer by pipeline, and, in the second, a diluent is blended with the oil to create the same condition.

However, due to the size of the Orinoco Oil Belt, it was felt that a more suitable solution to the transportation problem needed to be found. After several options were studied, it was eventually decided to build several upgrading facilities on site.

The advantage of this solution is that the extra-heavy crude can, with the help of the diluent, be transported short distances by pipeline to the upgrading plants before being converted into usable petroleum.

In the oil sands of Canada, the process is more complicated. The virtually solid tar is found in the reservoir rock. The oil is extracted by mining the sand, mixing it with hot water and then skimming off the oil.

The tar sands in Canada generally lie deep underground and have to be strip mined. Extracting the tar requires huge amounts of water and an abundance of energy. Sufficient space is also required to accommodate the waste sand, which necessitates extensive site reclamation.

To produce just one barrel of oil requires excavating, moving and processing two tonnes of sand. Roughly 75 per cent of the bitumen can be recovered from the sand. The oil sand that is dug out of quarries is transported to the processing centre by monster caterpillar trucks. These purpose-built vehicles measure 48 ft in length, are 22 ft high and are capable of carrying 400 tons of material at one time.

The trucks dump their payload into crushers which grind the material down to fine oil-coated grains. The grain sand is then transferred via conveyor to a cyclo-feeder where it is mixed with hot water to produce a slurry. The slurry flows to the extraction facility, where large centrifuges separate the oil-rich bitumen. The bitumen then flows to cokers where it is heated to remove impurities, such as sulphur and nitrogen, leaving the usable crude oil.

According to industry experts, Orinoco extra-heavy oil is economically feasible to extract at a crude oil price of \$16/barrel, while the Canadian Athabasca sands require \$20/b. At today's oil price of over \$50/b, both processes can be extremely lucrative and profitable.



Raw oil sands and the finished oil product

AP Photo

Non-conventional Oil



Venezuela

AP Photo

Situated in eastern Venezuela, north of the Orinoco River, the Orinoco Oil Belt competes with the Canadian oil sands as the largest known accumulation of bitumen in the world. The Belt is located south of the states of Guárico, Anzoátegui, Monagas, and Delta Amacuro. It basically follows the line of the river, stretching 600 kilometres from east to west and 70 km from north to south. The total area of the Belt measures 55,314 square kilometres.

The national oil company, Petróleos de Venezuela SA (PDVSA), estimates that the Belt contains 235 billion barrels of heavy crude, which, if verified, would make it the largest petroleum reserve in the world. And this is in addition to Venezuela's considerable proven conventional oil reserves, which stand at around 80bn b.

The Orinoco Oil Belt is currently divided into four exploration and production areas — Boyacá, initially called Machete, Junín (before known as Zuata), Ayacucho (Hamaca), and Carabobo (Cerro Negro). The current exploration area covers about 11,600 sq km.

Venezuela prefers to refer to its non-conventional oil as extra-heavy oil, although the distinction between the resource and tar sands is somewhat academic (see page 19). In fact, the Orinoco area was originally called the Orinoco Tar Belt. What is important for the country is that the extra-heavy crude found in the Belt represents some 90 per cent of the known global reserves of extra-heavy oil.

Exploration programme

PDVSA, in partnership with foreign companies, including ExxonMobil, ConocoPhillips, Chevron, TotalFinaElf, BP and Statoil, converts the extra-heavy crude into lighter, more marketable fuels in four projects in the Orinoco. The synthetic oil, with an average



Above: Venezuelan President Hugo Chávez (r), with his Energy and Petroleum Minister, Rafael Ramírez, at an oil facility in the state of Anzoátegui.

Right: A worker at Block Carabobo 2, located in Anzoátegui state.

Left: Much of Venezuela's deposits of extra-heavy oil are situated alongside the Orinoco River, pictured here.



viscosity of 25° API, is acquired through special upgrading facilities that produce oil that can be processed by traditional refineries.

Exploration work in the Orinoco Oil Belt began back in 1920. The initial results were disappointing and the oil discovered was too heavy for commercialization, given the available technology and economic conditions of the time.

Activities resumed in the 1930s when 45 wells were drilled, although these too were soon abandoned. After a third attempt at exploitation was made in 1956, which led to 20,000 b/d of heavy oil being put into

production, the area was renamed the Orinoco Oil Belt.

In the late 1960s and early 1970s, the then Ministry of Mines and Hydrocarbons implemented an intensive exploration programme entailing the drilling of over 100 wells in the Belt.

Following the nationalization of the Venezuelan oil industry in 1976, the new Ministry of Energy and Mines gave the extra-heavy crude development responsibility to PDVSA, which subsequently divided the area of the Belt into the four sections that exist today. From 1979 to 1983, the company drilled over 660 exploratory wells in the Belt.



The Petrozuata oil upgrading plant in the Orinoco Oil Belt in the Venezuelan eastern state of Anzoategui, which converts the tar-like extra-heavy oil into lighter synthetic crude for processing in conventional refineries.

Reuters

The volume of oil in the Orinoco Belt was initially estimated at 1.18 trillion barrels, of which 267bn b were said to be recoverable.

From 1993 onwards, four extra-heavy crude upgraders were built on the site of the Orinoco Belt to aid the easy transport and processing of the extra-heavy crude.

Upgraded oil

Petrozuata was authorized by the National Congress in September 1993, with PDVSA holding 49.9 per cent of the equity and Conoco 50.1 per cent. The upgrader, which began operations in 2001, has the capacity to

convert 120,000 b/d of extra-heavy crude into 104,000 b/d of synthetic oil of 20° API. Investment in the plant was about \$2.2bn.

At the same time, another outfit, Sincor, was authorized to build another upgrader, 38 per cent owned by PDVSA alongside TotalFinaElf with 47 per cent and Statoil with 15 per cent. The plant began operating in 2002. At full capacity, the plant processes 160,000 b/d of extra-heavy crude, which is transformed into 144,000 b/d of upgraded oil (32° API). Investment was put at around \$2.6bn.

Four years later, in May 1997 the Ameriven project was authorized, with PDVSA holding 30 per cent of the



Venezuelan President Chávez tours Block Carabobo 2, located in the Anzoátegui state, with his Argentinian counterpart, President Nelson Kirchner.

equity, Philips 40 per cent and Texaco 30 per cent. The upgrader began operations in 2004. At full capacity, the plant can convert 210,000 b/d of extra-heavy crude into 190,000 b/d of synthetic oil of 25° API. The estimated investment was \$3.5bn.

And finally, in June that same year, the Cerro Negro upgrader was granted approval, with both PDVSA and ExxonMobil holding a 41.67 per cent stake, and Germany's Veba Oil 16.67 per cent. Operating at full capacity, the

plant can upgrade 120,000 b/d of extra-heavy oil into 105,000 b/d of synthetic crude of 17° API. Investment was put at around \$1.8bn.

Energy and Petroleum Minister, Rafael Ramírez, says that under the government's 2006–2012 business plan oil investment in Venezuela is expected to be close to \$60 billion, with the aim of increasing the crude production capacity from 3.3m b/d to 5.4m b/d by 2012. Refining capacity, both within Venezuela and from

Venezuela's President Chávez chats with drill workers at an oil facility in the Orinoco Oil Belt.



Reuters

overseas ventures, is set to rise from 3.3m b/d to 4m b/d over the same period.

The Orinoco Oil Belt is one of the focal points of this plan with the region expected to produce about 1.2m b/d by 2012, double the current output capability of 620,000 b/d, which makes up about one-fifth of the country's total oil production. PDVSA hopes to increase production in the Belt in 2007 by around 100,000 b/d.

Increasingly cost-effective

PDVSA is currently exploring a number of blocks in the Orinoco Belt, in several cases in partnership with international investors. Under the Orinoco Project, 27 blocks have been selected for development with the cooperation of selected firms.

In addition, the government, under its recently implemented Magna Reserva scheme, has embarked on a geological study to quantify and certify the oil reserves of the Belt.

The project is slated for completion in November 2008, at which time, according to Ramirez, the country fully expects to increase the country's official certified reserves by a further 235bn b to 310bn b. Progress is already being made in this direction with some 7bn b of oil reserves being certified in nine exploration blocks in the Belt, with another 21bn b *in situ* at Bloque Ayacucho 6.

Today, with higher oil prices translating into more attractive investment opportunities and additional financial resources becoming available, coupled with improvements in technology and infrastructure in the Orinoco region, the development of the Oil Belt has become increasingly cost-effective and appealing.

PDVSA Exploration and Exploitation Vice President Luis Vierma has been quoted as saying that 2007 would see a "remarkable" increase in exploration activity in the Orinoco Oil Belt.

Some of the exploratory drilling in the Belt has found bitumen deposits that extend more than twice as deep as originally estimated. These initial estimates put the layer of sands that contain the crude oil at about 80 ft, but they have turned out in some instances to be about 220 ft thick.

Another benefit was to emerge from the development of Venezuela's non-conventional oil resources. This actually came about as a result of the problems faced by the industry in transporting the sticky crude from the producing fields.

In the early 1980s, PDVSA developed a method of emulsifying the extra-heavy crude with water to allow it

to flow in pipelines. The national oil company's research affiliate, Intevep, then struck on the idea that this emulsion, when mixed in a certain way, could actually be used as a fuel in power stations.

Such a fuel source was derived from mixing 70 per cent extra-heavy crude with 29 per cent water and one per cent surfactant. It signaled the birth of the trademark boiler fuel, Orimulsion. Consequently, around \$1bn in investment went into further researching and developing this process.

Orimulsion could not compete with the cleaner-burning natural gas, or even with the more efficient, yet dirtier-burning coal, but started to find a small niche in energy markets around the world. Such was its success that, in 1988, PDVSA set up an affiliate, Bitor, which was specifically dedicated to Orimulsion's production and marketing. Production subsequently rose to over 100,000 b/d.

However, in December 2003, the Venezuelan Ministry of Energy and Petroleum decided to stop production of the boiler fuel. The announcement followed an extensive revision of the product by the Ministry, which concluded that Orimulsion was not the most appropriate use for the country's extra-heavy crude oil and that more financial benefit could be accrued from the production of synthetic, light crude.

Looking to the future for Venezuela, the government has been busy renegotiating its contracts with the participating oil companies across the industry as it seeks to gain a greater share of control and revenues for the state as global demand for its energy increases.

Venezuelan President Hugo Chávez, who is leading a nationalization drive, last year converted 32 oil field subcontracting deals to state-majority joint ventures. In the same vein, he has also moved to take over the country's largest private companies in the telecommunications and electricity sectors.

Now negotiations are due to take place for the state to take majority control of the four Orinoco extra-heavy oil projects, which together are valued at more than \$30bn. Initially, Chávez indicated that he wanted to take over the operations by May 1, 2007, but he has now extended the deadline to September to allow the companies involved sufficient time to conduct the necessary arrangements.

It is a move that is going to help seal the country's petroleum future and ensure that as the vast reserves of the Orinoco Oil Belt are progressively developed, the people of Venezuela will benefit the most from an array of planned socio-economic projects.

Non-conventional Oil



Canada



*Specially built monster trucks remove the sand from the giant quarries.
The sand is loaded into crushers which grind the material down to fine oil-coated grains.*



AP Photo

Most of the oil sands of Canada are located in three major deposits in northern Alberta province. They comprise the Athabasca-Wabiska and Cold Lake deposits in the north-east, and the Peace River deposits of the north-west. Between them, they cover an area stretching over 140,8000 square kilometers and hold an estimated 175 billion barrels of recoverable crude bitumen, which amounts to three-quarters of North American petroleum reserves. In addition to these deposits, there are major oil sands on Melville Island in the Canadian Arctic islands. However, these are not yet destined for commercial production.

The Alberta oil sands contain at least 85 per cent of the world's total bitumen reserves and are concentrated in such a way as to make their exploitation and conversion into marketable oil possible. The largest bitumen deposit — and the only one suitable for surface mining — is the Athabasca oil sands, situated alongside the Athabasca River. The mining area takes in over 20 townships north of the city of Fort McMurray. The smaller Cold Lake deposits are important because some of the oil is fluid enough to be produced by conventional production methods.

The Canadian oil sands have been in commercial production since the original Great Canadian Oil Sands (now

The largest bitumen deposit is the Athabasca oil sands.

Suncor) mine began operations in 1967. A second mine, operated by the Syncrude consortium, started activities in 1978 and is the biggest mine of any type in the world. The third mine, in the Athabasca oil sands, run by the Albion Sands consortium and Western Oil Sands, began operation in 2003. The Canadian Natural Resources Horizon Project is currently under development.

However, with the development of new *in-situ* production techniques, there are now several dozen companies planning around 100 oil sands projects in Canada, with capital investment totaling over \$100 billion.

It is these tar sands, which when looked at as a whole potentially offer as much as 500 years' worth of reserves, that are painting such a rosy future for Canada's hydrocarbons industry in the years ahead.

Oil output to almost triple

The country, already a major oil supplier to the United States, has conventional oil reserves amounting to some 1.6bn b. Yet its giant oil sands have an estimated 174bn b of recoverable oil, which is second only in size to Saudi Arabia's reserves of conventional crude.

Canada currently supplies more than 21 per cent of the US's crude oil imports, far more than any other country. The 2.1m b/d come primarily from traditional oil fields in the far northern and Rocky Mountain regions. The US Department of Energy projects that Canada will increase its total oil production by almost 50 per cent in the next four years and that US imports from its neighbour will increase in the coming decade.

The National Energy Board in Canada forecasts that over the next ten years, oil production from Canadian oil sands will just about double to nearly 3m b/d. Around \$108bn will be invested over the next decade to almost triple daily oil output from the tar sands and capitalize on the current high prices. Importantly for Canada, the increase in oil sands projects is offsetting the decline in the country's conventional crude oil production.

According to the Alberta Energy and Utilities Board, oil output from Canadian tar sands stood at around 1.2m b/d last year, up from 1.06m b/d in 2005 and more than twice the amount produced in 2000. It also compares very favourably with the 572,000 b/d produced from the conventional oil fields in Alberta, the country's major oil-producing province.

Over the next decade, production increases from the established oil sands producers, such as Suncor, Syncrude and others, will add another 2.4m b/d to out-

put. And with some 80 per cent of Alberta's oil sands acreage still available for development, there is considerable potential for further investment and output growth.

The Canadian Association of Petroleum Producers is also very optimistic about the future. It forecasts that the country's crude output will hit 3.9m b/d in 2015. Oil production in 2006 was slated to have risen by ten per cent to average 2.7m b/d, compared with 2.46m b/d in 2005. This is indeed a welcome development for the Canadian authorities and will greatly help meet surging US demand for energy supplies.

However, the further exploitation of the tar sands comes at considerable energy cost for Canada. The expanded operations will require large amounts of new natural gas supplies for the numerous projects that are expected to sprout up in Alberta. The Energy Board's latest estimates show that the amount of gas used in oil sands production will rise to 2.1bn cu ft a day in 2015 from about 700m cu ft in 2005.

Oil companies from Canada, the US, France and China are already planning the estimated \$100bn in oil sands schemes over the next decade and if this scale of investment comes to fruition, in ten years' time over 13 per cent of Canada's daily gas output will be required by the tar sands operators.

Due to the relatively high cost of developing the oil sands, the industry in Canada has not really made any great strides until recently, as higher oil prices have led to a more conducive environment for the necessary investment. Until the mid-1990s, producing a barrel of oil from such operations cost upwards of \$15. With benchmark prices for conventional crude standing at \$20/b at that time, it left very little profit margin. Today, higher crude oil prices are spurring the investment required for extracting the bitumen from the sands and converting it into synthetic crude.

As long as prices remain high, it appears that the industry will remain both productive and rewarding. Past tar sands operations managed to remain a concern with oil costing \$35/b, but today, at \$50/b, coupled with all the benefits of improved mining and extraction techniques, oil sands production costs have been cut nearly in half since the 1980s.

The result is that the petroleum industry is now spending billions on new methods to get at the estimated 6tr b of non-conventional oil resources estimated worldwide.

In Canada, the domestic enterprise Suncor has been producing synthetic crude from the country's oil sands

since 1967. It made history that year by tapping the sands to produce the first commercial barrel of synthetic crude oil. Since then, Suncor has grown to encompass four major businesses with more than 5,000 employees. An integrated energy company with its headquarters in Calgary, it now produces 270,000 b/d of crude oil from its Athabasca tar sands activities near Fort McMurray and has plans to expand that to 350,000 b/d by 2008. The firm's Voyageur expansion project is expected to see output hit some 550,000 b/d by 2012. The company also operates a refining and marketing business in Ontario and has a pipeline system and retail distribution outlets.

The other major oil sands firm is the joint Canadian-US concern Syncrude, which has been conducting operations since 1978. Syncrude Canada, a joint venture comprising eight US and Canadian energy companies, including the Canadian Oil Sands Trust, Imperial Oil, Petro-Canada, ConocoPhillips, Nippon Oil, and Murphy Oil, last year accounted for some 14 per cent of Canada's total oil sales abroad by exporting almost 80m b of crude.

It operates the giant Aurora Mine on the Athabasca sands, located north of Fort McMurray. Syncrude mines about 180m tonnes of oil sands a year, turning them into some 250,000 b/d of oil. And like Suncor and other companies developing the region, it is eyeing further expansion. It aims to be producing 500,000 b/d of crude from its operations by 2015.

Deposits more accessible

The attractiveness of the oil sands is catching the attention of all the oil majors. For example, ChevronTexaco is planning a major project in northern Alberta that could produce more than 90,000 b/d of synthetic crude by the middle of the next decade. The company has already acquired five leases in the Athabasca region, covering more than 180,000 acres that could contain as much as 7.5b b of bitumen. Another keen investor, Shell Oil, believes there are as much as 2tr b of oil reserves in Canada — deposits that will become more accessible as extraction technology develops and production costs fall further.

All this attention is understandably putting a great deal of strain on the communities surrounding the oil



The processing plant at the Suncor oil sands project in Ft McMurray. Suncor made history in 1967 by tapping the sands to produce the first commercial barrel of synthetic oil.

sands areas. With this in mind, the Alberta government has just announced that it has earmarked \$341 million for the operational hub of Fort McMurray to help the city deal with the pressure on healthcare facilities, affordable housing and other services.

Looking to the future, the US Geological Survey claims that Canada will one day rival Saudi Arabia when it comes to recoverable oil production. Ironically, just two years ago, the government agency ranked Canada 20th on the list of potential global oil suppliers. Today, it is second on that list — and all because of the potential of its oil sands. The future indeed looks promising for the land of the maple leaf.



UAE, Algeria partners in \$5bn aluminium smelter

Abu Dhabi — In an historic alliance, the national Algerian oil and gas company, Sonatrach, has signed an agreement with the Mubadala Development Company, a wholly owned investment and development arm of the Abu Dhabi government and the Dubai Aluminium Company (DUBAL), to develop the country's first aluminium smelter.

The smelter is to be located on a 400 hectare site at Beni Saf on the western coast of Algeria. It is expected to produce around 700,000 tonnes of high-grade primary aluminium annually, largely for export.

The agreement was signed by Khaldoon Khalifa Al Mubarak, CEO and Managing Director, Mubadala Development Company, and Abdullah Kalban, CEO, DUBAL. Mohamed Meziane, President and CEO of Sonatrach, concluded the signing in the presence of Algerian Minister of Energy and Mines, Dr Chakib Khelil.

The complex will include a 2,000 MW power plant with a specially constructed deep-water wharf to handle the import of raw materials and the export of aluminium. The smelter will feature two potlines, using the modern and energy-efficient DX technology from DUBAL, one of the leading players in the worldwide aluminium industry.

Speaking about the initiative, Al Mubarak said the UAE and Algeria had always maintained close ties in the region and that the new venture further cemented the relationship between the two countries.

He said: "This investment is necessary to provide for increased demand for aluminium globally. The rising cost of energy in some regions continues to make older smelters uneconomic, whereas Algeria's abundant sup-



ply of energy and regional position makes for an exciting opportunity."

Kalban stressed that DUBAL would contribute its considerable expertise and industry knowledge to ensure the success of the project.

"For more than 25 years, DUBAL has been the success story of aluminium production in the region," he pointed out. "We have developed our own DX technology which will be a feature of the new smelter."

He added: "At every stage we will ensure the latest technology is applied and adheres to the highest environmental standards globally."

Pre-feasibility studies have been completed and a detailed feasibility study will commence immediately. This will include an environmental and social impact assessment study to ensure that best industry practices are utilized during the design, build and operation phases of the plant. *WAM*

Algeria's GDP up to \$117 billion in 2006

Algiers — Algeria's gross domestic product (GDP) rose to 8,340 billion dinars (\$117bn) in 2006, the government said in a report. It gave no comparison for 2005. The statement reported a strong performance by the country's oil and gas-dependent economy, stating that the balance of payment surplus stood at about 15 per cent of GDP, the current account surplus at about 26 per cent of GDP and the budget surplus at about 15 per cent of GDP. "The cabinet noted healthy hydrocarbons prices, which positively influenced external and internal financial balances," the statement said, adding favourable economic trends had helped the fight against unemployment, which stood at 12.3 per cent in October 2006. *APS*

Algeria's foreign exchange reserves rise to \$78 billion

Algiers — Algeria's foreign exchange reserves hit a record \$78bn at the end of 2006 due to high oil prices, according to a government statement. The reserves represented around 38 months of imports, it said. The reserves stood at \$56.18bn at the end of 2005. Higher oil prices over the past few years have helped Algeria launch an \$80bn five-year national economic development plan and repay a large part of its foreign debt. In December 2006, the country's President, Abdelaziz Bouteflika, said his government had cut its external debt to \$4.7bn from \$15.5bn in January last year. *APS*

Angola needs foreign investment to boost economic growth

Luanda — The consolidation of economic growth taking place in Angola requires foreign investment, as it enables the country to gain access to new technologies, according to the Prime Minister's Assistant Minister, Aguinaldo Jaime. Speaking at the opening of the Angola-United Kingdom Energy Forum, he stressed that in addition to securing access to high-technology, foreign investment permitted the country to develop "know-how" and find new markets. He stressed that in order to attract foreign investment and obtain the trust of foreign investors, the country needed to be open, "publicizing its reality, activities and constraints". Aguinaldo Jaime pointed out that energy would contribute to the country's productive development, with an enormous impact on the economy, chiefly in the sectors of transport and telecommunications. The Minister stressed that the Angolan government also had a strategy for diversifying the nation's economic structure, in promoting the growth of the non-oil economy. *AngolaPress*

Luanda customs collects \$1.5 billion in 2006

Luanda — Angola's National Customs Department (DNA) collected around \$1.5bn for the state's coffers in 2006, representing record growth of 44.3 per cent, compared with the previous year (2005). According to a source at the DNA, the revenues surpassed the expectations of the Customs Department, as forecast in the plan of activities for 2006. In 2005, the total collected stood at \$1.06bn. In the last six years, customs revenues have grown by 611 per cent. In 2000, before customs reforms were put in place, revenues amounted to only \$215 million. *AngolaPress*

Rain, isolation hamper Indonesia landslide rescue

Kupang — Heavy rains and poor access to remote areas have hampered search and relief efforts for about 40 missing people and hundreds displaced by landslides in Indonesia's eastern Flores Island, officials have said. Around 1,000 people, whose homes were washed away, have been evacuated, but many remained cut off with key roads severely damaged by the landslides and floods that have killed 34 people across vast swathes of land. The landslides followed days of torrential rain in hillside areas in the Flores Manggarai regency, around 1,500 km east of Jakarta. Rescuers, including soldiers and policemen, were forced to take food and medicine to evacuees by foot because some affected districts were still cut off. *AntaraNews*

Indonesia aiming to maintain 6.1 per cent growth in 2007

Jakarta — Indonesia hopes in 2007 to maintain the economic growth figures of 6.1 per cent it attained in the fourth quarter of 2006, the country's Finance Minister, Sri Mulyani Indrawati, has said. Indonesia posted economic growth of 5.5 per cent in 2006, which was short of the government's original target of 6.2 per cent. "We have seen that economic growth in the first quarter of 2006 was very low as a result of the increase in the prices of fuel oils at home. In the long run, we would see the development, which at present has reached 6.1 per cent," Indrawati said. Meanwhile, the International Monetary Fund (IMF) said it believed Indonesia's economic growth rate in 2007 would reach only six per cent because new investment was likely to take place only after the first half of the year. "I think it will be six percent as many quarters and analysts have projected," IMF Representative in Indonesia Stephen Schwartz said. *AntaraNews*

Indonesian output of palm oil set to grow by six per cent this year

Jakarta — Indonesia, the world's second-largest producer of crude palm oil after Malaysia, is expected to see a six per cent rise in its production in 2007 — to 16.8 million tons from 15.9m t the year before, according to the Finance Director of oil palm plantation company Astro Agro Lestari, Julie Syaftari, who gave the figure in a report to the Jakarta Stock Exchange. Global crude palm oil output in 2007 is expected to grow by four per cent to 38.4m t, from 36.8m t in 2006, with the greatest chunk of the increase to come from Indonesia and Malaysia. Indonesia's target of palm oil production for 2007 is higher than that of Malaysia, which is set at 16.3m t, up by two per cent from 2006. Malaysia produced 15.9m t of the produce last year. Crude palm oil consumption in Indonesia and Malaysia this year is expected to increase by 11 per cent, or 4.2m t, and eight per cent, or 2.4m t, respectively. *AntaraNews*

Iranian Majlis approves outline budget for coming fiscal year

Tehran — Iran's Majlis has approved an outline budget bill for the next Iranian year (March 2007–March 2008), which it has set at \$250bn. Out of the 223 members of parliament present at the formal session, 136 MPs voted in favour of the bill, 67 voted against, while 13 abstained. The budget debate took two days to complete. Some \$74.4bn of government revenues expected in the year will come from ceding the capital and financial assets to the public, in line with the country's privatization programme. In January, President Mahmoud Ahmadinejad proposed a budget of \$248bn to the Islamic Consultative Assembly (Majlis), an amount which Tehran MP Fatemeh Alia said would meet the demands of the people, particularly those in the low-income bracket. *IRNA*

UAE is Iran's most important economic partner — official

Tehran — The volume of non-oil exports from Iran to the United Arab Emirates (UAE) accounted for 16 per cent of the country's total non-oil exports in the first nine months of the current Iranian year (started March 20, 2006), according to the Director General

of the Planning Office of the Trade Development Organization of Iran (TDOT). Mehdi Fathollahzadeh added that Iran exported 11.1 per cent of its non-oil goods to China, 7.6 per cent to Iraq, 5.4 per cent to India and 5.3 per cent to Japan. Natural gas, pistachios, liquefied propane and hydrocarbons are among the goods exported to the UAE, he added. He pointed to the fellow OPEC Member as Iran's most important economic partner in the current Iranian year. *IRNA*

Iranian President rejects dispute over Iran's nuclear issue

Tehran — Iranian President Mahmoud Ahmadinejad has said that if negotiators involved in Iran's nuclear issue believed they could get somewhere through dispute, conspiracy and sowing seeds of discord among the people, they were mistaken. He stated that Iran was willing to discuss the issue based on logic, adding that such talks should be held under fair conditions. "There is nothing wrong with suspension of Iran's facilities where nuclear energy is produced, but our negotiators should also suspend their own nuclear fuel cycle to facilitate talks under equal conditions," he said. Underlining that the Iranian people were in favour of talks and logic, Ahmadinejad said the attempt of the negotiators to set preconditions for holding talks — to deprive the nation of its rights — meant the suspension of nuclear activities for peaceful purposes. "However, such a preset condition is not acceptable to the Iranian nation," he added. *IRNA*

Libya signs three oil exploration deals

Tripoli — The Libyan National Oil Corporation (NOC) has signed oil exploration and production-sharing deals with three consortia headed by Germany's Wintershall, Japan's Inpex, and PetroCanada. The permit agreements, awarded in December 2006, following a bidding round, were signed in February. Wintershall was awarded Area 201 in the Kufra Basin, Inpex Area 113 in the Murzuq Basin, and PetroCanada Area 137 in the Sirte Basin. The awards were among several made under Libya's third licensing round since sanctions against the country were lifted. The country is seeking to increase its oil output capacity to three million barrels per day by 2010-12 from about 1.6m b/d at present. *NOC website*

Volume of Libyan, Tunisian trade exceeds \$1.3 billion

Tripoli — Tunisian Prime Minister Mohammed Ghannouchi has announced that the volume of trade exchange between his country and Libya in 2006 had exceeded \$103bn, with more than two million people traveling between the two countries. Speaking at a joint press conference at the conclusion of the 20th session of the joint Libyan-Tunisian Executive High Committee, he underlined his country's commitment to implementing all bilateral agreements adopted during the session, which were aimed at consolidating existing relations between both countries. He said: "The 20th session has taken several measures and a number of agreements were signed that will have an impact on the citizens and the economic texture and will give a strong boost to relations between the two countries." *Jana*

Kuwaiti MPs agree on need to revise oil sector salaries

Kuwait — Kuwaiti members of parliament have agreed on the importance of revising salaries for employees in the oil sector, especially those specialized in fields that were not included in the salary rises that were granted to employees in the public sector. At a seminar organized by the Union of Employees of the Kuwait Petroleum Corporation (KPC), they stressed that the oil sector was Kuwait's economic lifeline and it was vital to improve the skills of the national workforce. MP Ahmad Baqer said that, by law, oil sector employees were entitled to equal pay with those working in the public sector, calling on KPC to take action in this regard so as to attract a skilled national workforce. *KUNA*

Qatar, Norwegian firms to jointly produce aluminium

Doha — Qatar Petroleum (QP) and the Norwegian company, Hydro Aluminum, in July will begin the implementation of a joint-venture plant for the production of aluminium at Messaieed Industrial City in Qatar. The new firm — Qatalum — will be established to build and operate the primary aluminum plant, consisting of a smelter, a cast house and a carbon unit, as well as a dedicated power plant. The plant will have an initial annual capacity of around 585,000 tonnes of primary aluminum with full production expected to be reached mid-2010. Project Director, Truls Gautesen, told reporters that QP and Hydro would each hold 50 per cent equity in the new company, adding that the project was scheduled to start production in the last quarter of 2009. He added that the plant's products would be exported to Asia, with future plans to export to American and North European markets. QP and Hydro signed the joint-venture agreement in 2006. It was seen as an important step forward in building one of the world's largest and most competitive primary aluminum plants. *QNA*

Saudi Arabia announces discovery of new oil field

Riyadh — Saudi Arabian Minister of Petroleum and Mineral Resources, Ali I Naimi, has announced that Saudi Aramco had discovered a new oil field south-east of the Al-Ghawar field in the Eastern Region of the Kingdom. In a statement, he noted that the Derwaza-1 well had flowed at a rate of 3,915 b/d associated with 11.9 million cubic feet of gas daily. He said the well, located 70 km south of Al-Ghawar, was expected to produce at higher levels. *SPA*

Industrial investment in UAE touches \$19 billion

Abu Dhabi — Investment in the industrial sector of the United Arab Emirates (UAE) amounted to \$19.178bn in 2006, showing an increase of \$0.6bn over the previous year, according to Dr Mohammed Khalfan bin Kharbash, Minister of State for Finance and Industry. He said the rise in investment was coupled with a similar growth in the number of industrial concerns — the number of firms registered in the country increase by 42.2 per cent. Kharbash said foodstuff industries accounted for the lion's share of investment with \$8.704bn, followed by chemical products (\$4.184bn), non-metal mining industries (\$8.387bn), base metal industries (\$2.284bn), and machinery and equipment (\$1.087bn). The number of firms registered with the Industrial Development Department rose to 3,567 from 2,509 during past five years, showing an increase of 273 per cent. As for the workforce, figures indicated that the number rose from 196,606 in 2001 to 264,719 by the end of 2006, with national manpower accounting for 34.6 per cent. Dubai topped the list of registered industrial firms, hosting 40.2 per cent of the total. *WAM*

Venezuelan unemployment falls to 9.5 per cent in second half of 2006

Caracas — The unemployment rate in Venezuela dropped from 11.4 per cent in the second half of 2005 to 9.5 per cent in the same period last year, according to the National Statistics Institute (INE). It disclosed that the number of employees increased to 11,104,624, with the percentage of new workers in the formal sector rising from 53.3 per cent to 54.6 per cent. Most economic activities registered an increase in new employees in the second half of 2006, especially the manufacturing, construction, transportation and communication sectors. *ABN*

Chávez, Morales discuss alliance of gas exporters, producers

Caracas — Venezuela's President, Hugo Chávez Frías, has suggested to his Bolivian counterpart, Evo Morales, the creation of an international alliance of gas-exporting and producing countries. A statement issued by the Miraflores Presidential Palace in Venezuela, noted that Chávez had already made the proposal to his Iranian counterpart, Mahmoud Ahmadinejad, during his visit to Caracas in January. Chávez and Morales also discussed the next South American Energy Summit, due to take place in Caracas next April. *ABN*

Venezuela certifies 7 billion barrels in reserves at Orinoco Oil Belt

Ciudad Bolívar — A total of seven billion barrels in reserves of oil in situ have been certified in nine blocks under exploration at the Orinoco Oil Belt, the Exploration and Exploitation Vice-President of Petróleos de Venezuela SA (PDVSA), Luis Vierma, has announced. He said that through the ongoing Orinoco Magna Reserva programme, the authorities expected to certify a total of around 235bn b of extra heavy oil among all the blocks in the Belt. He added that 2007 was expected to see a remarkable increase in exploration work at the Oil Belt. Meanwhile, PDVSA hopes to assess and certify an estimated 21bn b of more oil *in situ* at the Orinoco's Bloque Ayacucho 6. The Oil Belt has been divided into 27 blocks for development. *ABN*



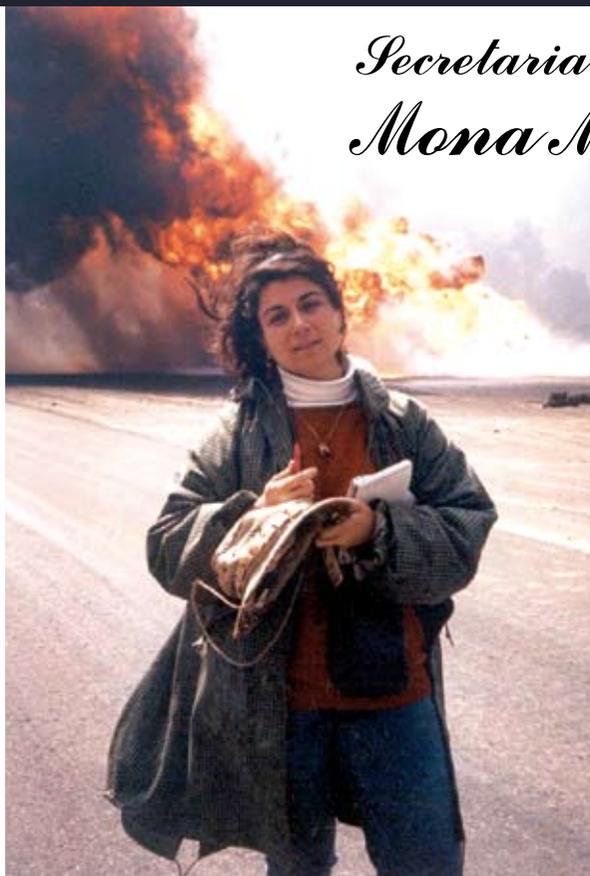
O b i t u a r y

It is with deep regret that we announce the passing away of Mona Megalli, a seasoned journalist who became a familiar, smiling face at OPEC Meetings over the years.

Mona, 49, who covered numerous OPEC Conferences, both before and after she joined Reuters in 2001, was always a prominent member of the media and grew to be both respected and well-liked for her direct approach to her work.

Born in Egypt, she moved to the United States when she was 16. Her experiences in Arab and Western cultures meant she was particularly well placed to understand the salient issues affecting the larger Middle East region — from Egypt to Afghanistan via the Gulf, and to communicate them to the larger public.

Mona not only covered OPEC affairs, but also the United Nations oil-for-food negotiations during the Gulf crisis, international financial meetings and, more recently, the reconstruction efforts being made in war-torn Iraq.



Secretariat pays tribute to Mona Megalli

She worked from the Reuters Cairo bureau from 2002 to 2004, later boosting the news agency's financial reporting from Dubai, in the United Arab Emirates.

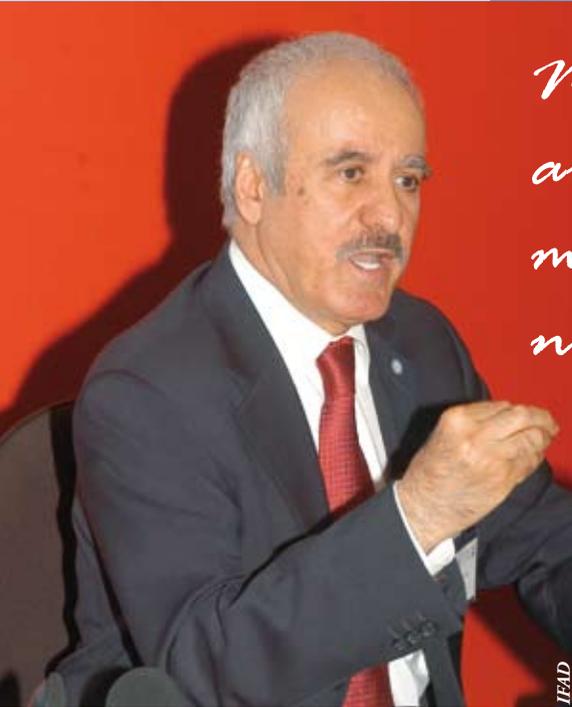
An exuberant and curious person, who loved her work, Mona had a keen sense of humour. Her warm disposition led to the establishment of many friendships with staff and officials at the OPEC Secretariat in Vienna, as well as among OPEC Member Country delegations.

Her commitment and bravery were epitomized by her determination to continue reporting even after she was diagnosed with cancer in the summer of 2004. She died in Istanbul, Turkey, on February 3, 2007.

The Secretariat would like to pay homage to Mona, a skilled journalist and writer who will be sorely missed by her colleagues, friends and all associated with OPEC Meetings. Our condolences go to her family, especially her twin brother, Murad.

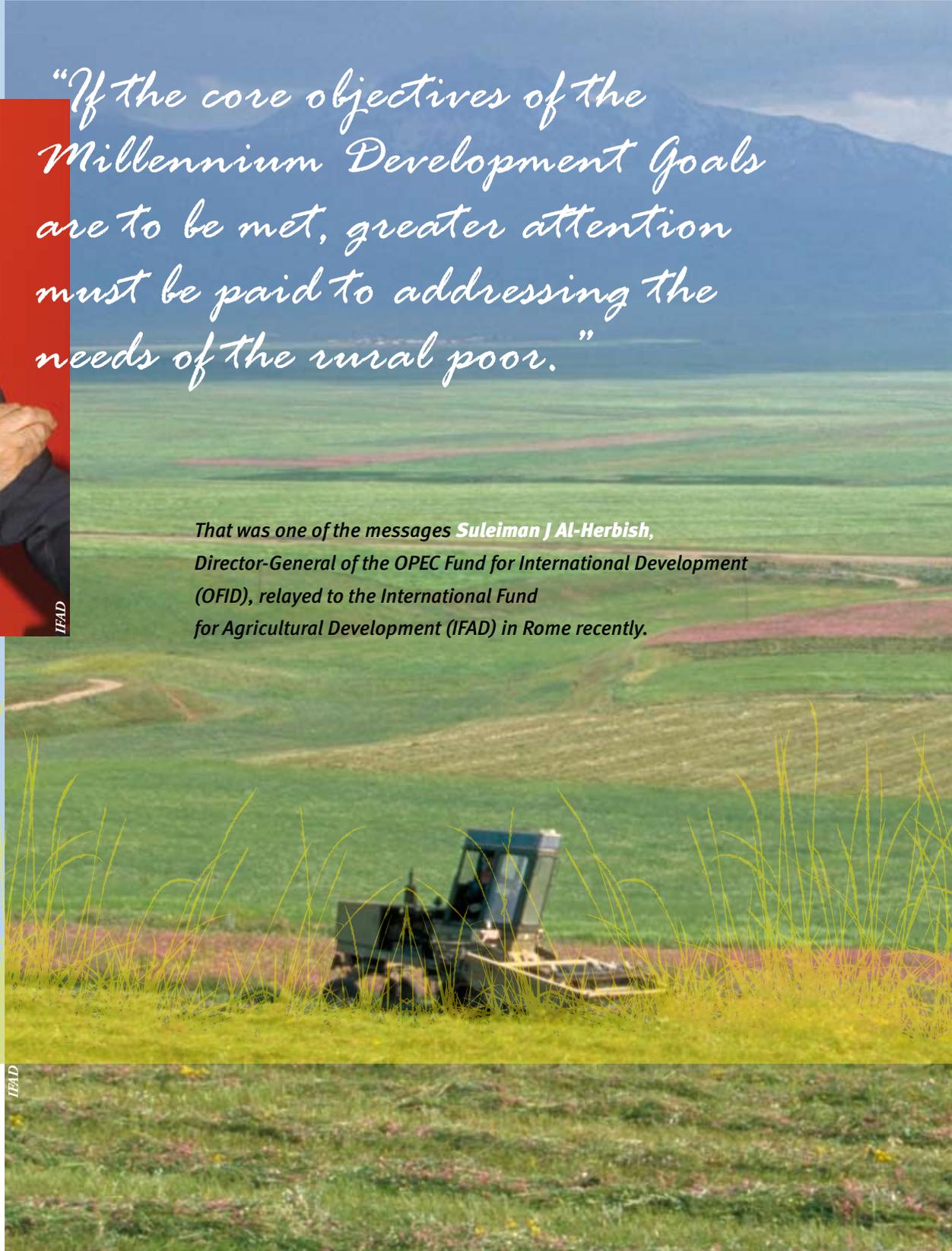


Al-Herbish urges support for rural development



“If the core objectives of the Millennium Development Goals are to be met, greater attention must be paid to addressing the needs of the rural poor.”

*That was one of the messages **Suleiman J Al-Herbish**, Director-General of the OPEC Fund for International Development (OFID), relayed to the International Fund for Agricultural Development (IFAD) in Rome recently.*



IFAD

IFAD



Addressing delegates at the inaugural plenary session of IFAD's Governing Council, he stated that the link between rural poverty and the attainment of the Millennium Development Goals (MDGs) was self-evident.

Al-Herbish used the occasion to appeal to the Group of Seven (G-7) industrialized nations to push the MDGs higher up on their agenda, stressing that the realization of the goals was "just as important as issues like global warming, energy security and debt relief."

He singled out aid effectiveness, globalization and climate change as three of the greatest challenges confronting developing countries and the donor community in their joint bid to spur socio-economic development in rural areas.

OFID is a committed advocate of rural development and has channelled the bulk of its aid to rural areas. As well as providing direct support to agriculture, it has invested heavily in rural infrastructure and in initiatives that promote private enterprise development. The financing has been given in the form of both soft loans and grants.

IFAD, which is dedicated to eradicating rural poverty in developing countries, is a key partner

of OFID, whose Members were instrumental in establishing the Rome-based institution. Globally, the two organizations have financed over 60 projects together.

The following transcript is the full speech to IFAD by Al-Herbish, who later participated in a press conference with the Prime Minister of Mozambique, Luisa Dias Diogo, and the Secretary-General of the Gulf Cooperation Council (GCC), Abdul Rahman Al Attiyah.



The eight Millennium Development Goals

agreed to by the United Nations General Assembly in September 2000 form a blueprint for action supported by all leading development institutions. The goals have galvanized unprecedented efforts to help meet the needs of the world's poorest people. They range from halving extreme poverty to halting the spread of HIV/AIDS and providing universal primary education, all by the target date of 2015. They are:

- 1 Reduce by half the proportion of people living on less than a dollar a day and the proportion of people who suffer from hunger.
- 2 Ensure that all boys and girls complete a full course of primary schooling.
- 3 Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015.
- 4 Reduce by two-thirds the mortality rate among children under five.
- 5 Reduce by three-quarters the maternal mortality ratio.
- 6 Halt and begin to reverse the spread of HIV/AIDS and the incidence of malaria and other major diseases.
- 7 Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources, reduce by half the proportion of people without sustainable access to safe drinking water, and achieve significant improvement in lives of at least 100 million slum dwellers, by 2020.
- 8 Develop further an open trading and financial system that is rule-based, predictable and non-discriminatory, including a commitment to good governance, development and poverty reduction — nationally and internationally; address the least-developed countries' special needs, including tariff and quota-free access for their exports; enhanced debt relief for heavily indebted poor countries; cancellation of official bilateral debt; and more generous official development assistance for countries committed to poverty reduction; address the special needs of landlocked and small island developing states; deal comprehensively with developing countries' debt problems through national and international measures to make debt sustainable in the long term; in cooperation with the developing countries, develop decent and productive work for youth; in cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries; in cooperation with the private sector, make available the benefits of new technologies — especially information and communications technologies.

It is a particular pleasure to be here at IFAD, one of OFID's key partners and an organization with whom we share much more than just common ideals and goals. Our two institutions also have common roots, as many of you may know. OFID's founders, the Member States of OPEC, are the very same countries that were instrumental in the establishment of IFAD. Indeed the Member States of OPEC have always been vocal in their commitment to poverty eradication, which they described, and I quote, as "the overriding global priority" in the Declaration issued after their Second Summit in Caracas in 2000. In the same communiqué, they pledged to maintain their support to developing countries, both through their individual aid programmes and through OFID and IFAD. These shared beginnings — OFID in 1976 and IFAD in 1977 — have underpinned a unique relationship that, today, goes far beyond mere financial cooperation.

IFAD–OFID cooperation

The theme of this Council meeting is *Rural employment and livelihoods*, a topic that will no doubt be covered in depth at the various round-table discussions. What I would like to focus on in this speech are some of the key challenges that we currently face in relation to rural development. First, though, a few words on OFID and its position vis-à-vis the rural sector.

Like IFAD and other institutions involved in development cooperation, OFID's overarching objective is the alleviation of poverty. It is an objective to be achieved, we believe, not through a simple redistribution of income, but as a result of genuine growth. Poverty, as we all know, is predominantly a rural phenomenon. Rural development, therefore, with its potential to generate employment and raise living standards, should be a key priority in the development plans of the poor countries and in the strategies of donor organizations.

OFID's mandate requires it to tackle need where it is most severely felt. It should thus come as no surprise that the bulk of OFID's development assistance — which cumulatively exceeds \$8.6 billion — has gone to rural areas. In addition to direct support to agriculture, we have invested heavily in rural infrastructure and in projects that

promote private enterprise development both on- and off-farm. OFID financing has been given as soft loans, as outright grants and also through our private sector window. Hand-in-hand with the financial resources we provide is our support to the formulation of policy frameworks that complement and strengthen our efforts to promote sustainable development.

In recent years, as a result of the international community's commitment to the *Millennium Development Goals* (MDGs), the focus on rural development has gained even greater recognition. The link between rural poverty and attainment of the MDGs is self evident. Already, we are seeing progress towards the poverty and hunger goals in regions where investment in agriculture has increased. Where such investment has lagged behind, so too has progress. It has become clear that if the MDGs' primary goal of halving the proportion of people living in poverty by 2015 is to be met, our continued focus on addressing the needs of the rural poor is an absolute necessity. It would certainly help our cause if the G-7 nations accorded as much importance to the MDGs on their agenda as they do to issues like global warming, energy security and debt relief.

Aid, globalization and the environment

Developing countries face numerous challenges in relation to rural development. Three, in particular, are worthy



Suleiman J Al-Herbish, OFID's Director-General, addressing IFAD's Governing Council in Rome.



Ensuring that all children complete a full course of primary schooling is one of the eight Millennium Development Goals, targeted to be achieved by 2015.

of attention. Firstly, how to increase the effectiveness of aid delivery to the rural sector. Secondly, how to ensure that the rural poor are not further disenfranchised by the forces of liberalization and globalization. And lastly, how to adapt farming practices to overcome the obstacles presented by environmental influences.

The first topic refers, of course, to the issue of sustainability. To be effective, aid must have an impact that is enduring. So, while investment in infrastructure improvement is vital, equally important is the capacity strengthening and institution-building that will guarantee not just the longevity of the infrastructure, but its efficient management as well.

For example, when we invest in rural roads or electrification, or in irrigation schemes, we must ensure that the relevant authorities have the knowledge, training and institutional capacity to operate, maintain and manage

the new investments well into the future. This is development that is truly sustainable. It is also an approach that makes optimal use of resources, which as we all know, are nowhere near adequate enough for the task in hand.

The second issue I wish to highlight — that of liberalization and globalization — is somewhat more complex. While it is generally agreed that, on the whole, these two phenomena present exciting opportunities for developing countries, there are genuine concerns that there could be serious consequences for rural populations.

Indeed, this very concern was raised recently in a conversation I had with President Al-Bashir of Sudan, who warned that the market forces unleashed by liberalization and globalization have the potential to marginalize rural areas still further. While the rich get richer, he said, the poor get poorer, and the economic gap between urban and rural populations grows ever wider.

As partners in the development process, governments and aid institutions alike have to remain wary of the less desirable outcomes of market-led growth. We have a responsibility to ensure that any deepening disparities caused by market-oriented development be corrected by pro-poor development policies, such as greater investment in social services and public infrastructure, especially in rural areas. This has to be our overriding concern.

A third — and perhaps the toughest — challenge standing in the way of rural development relates to the environment. Climate change has made a hard life even harder for the rural poor. Floods, drought, desertification and soil degradation all have a direct impact on agricultural productivity and, consequently on the living standards of farming communities in developing regions worldwide. For these people, the agricultural way of life — the only life they know — has to be preserved, and this means finding ways, not only to combat climate change, but to adapt to it as well.

Empowering the rural poor

A large part of this burden falls on the researchers and scientists, whose work revolves around developing hardier varieties of seeds and livestock, together with inno-



vative farming methods that respond specifically to the needs of the rural poor.

Intensified support is thus imperative to organizations like the Consultative Group on International Agricultural Research (CGIAR), the Arab Organization for Agricultural Development (AOAD) and the International Centre for Biosaline Agriculture (ICBA), to name just a few. I had the honour of meeting earlier this week with Dr Mahmoud Solh, Director-General of ICARDA, one of CGIAR's most active members, and was pleased to discuss with him ways and means of strengthening our cooperation. Support is equally important to the activities of the Global Mechanism of the United Nations to Combat Desertification. All of these bodies are doing sterling work and OFID, for one, is fully committed to furthering their efforts.

We are all here today because of our commitment to rural development. And we remain committed despite the enormous challenges. These are challenges that the rural poor cannot tackle alone. As responsible global citizens, they are our challenges too. So, if we are to succeed in stemming the flow of people from the countryside to the cities and halting the erosion of rural economies, we need to focus on empowerment; on providing the tools and creating the environment that will allow the rural poor not only to maintain their way of life, but to prosper. The foundations for this lie in participation, cooperation and partnership.

On the subject of partnership, I would like, before closing, to say a few more words about OFID's cooperation with IFAD. Over a period of 30 years, we have pooled experience, knowledge and resources. We have implemented over 60 projects together, and there are many more in the pipeline. While this relationship has always been strong, in the past 12 months it has been moving towards new horizons. As well as increased dialogue, both at policy and technical levels, our co-financing activities have grown substantially, not only in terms of the number of joint operations, but also in terms of OFID's share in each financing package.

I should point out, however, that OFID's resources are limited and that we can only work within our means. It is

our singular objective to use these resources as wisely as possible, and this aim forms the basis of our 17th lending programme, which is currently being formulated. The programme launches on January 1, 2008, and will seek to expand both the quantity and quality of OFID aid.

Finally, I would like to take this opportunity to highlight my personal appreciation of Lennart Båge, IFAD President, for the genuine interest he has shown in OFID and its work. We were particularly grateful last year for his active participation in the High Level Roundtable on Arab Development which was organized and hosted by OFID at its headquarters in Vienna.

We welcome this strengthening of ties between our two institutions and look forward to many more years of fruitful collaboration. ■■

Another Millennium Development Goal is to reduce the mortality rate of children under five years of age.



This section includes highlights from the OPEC Monthly Oil Market Report (MOMR) for February published by the Research Division of the Secretariat, containing up-to-date analysis, additional information, graphs and tables. The publication may be downloaded in PDF format from our Web site (www.opec.org), provided OPEC is credited as the source for any usage.

Crude oil price movements

OPEC Reference Basket¹

The OPEC Reference Basket (ORB) began the New Year on a declining note on persistent warm weather. The ORB price lost nearly eight per cent in two days and ended the first week of January averaging 5.3 per cent, or \$2.51, lower to settle at \$53.99/b. However, tighter OPEC supply amid a halt in Russian exports via the Belarus pipeline revived some market bullishness which, however, was short-lived on unsold prompt North Sea barrels. Ample supply amid the prolonged warm weather in North America helped sustain the bearish market sentiment. Unseasonably low demand for winter fuels triggered fund sells-offs, which exerted downward pressure on the whole petroleum complex. Opening arbitrage opportunity for western grades to move eastward also contributed to downward pressure on the Asian market. Nevertheless, the resumption of Russian exports instilled some calm in the marketplace. In the second week, the ORB averaged more than eight per cent, or \$3.72, lower to settle at \$50.27/b, falling in daily terms below the

\$50/b level for the first time in three weeks. Market volatility returned in the third week on declining prices, amid the emergence of colder weather.

However, weaker European refining margins amid the flow of West African crude to Asia kept market sentiment in balance. In the third week, the ORB declined by well over four per cent, or \$1.82, to settle at \$48.45/b, the lowest weekly average since May 2005. Nevertheless, a blast of winter weather in North America, amid prompt Asian demand for naphtha, revived the market's strength. A call by the United States administration to divert around 100,000 b/d of crude into the strategic petroleum reserve (SPR) added to the bullish market sentiment, as did tight supply at Russia's Black Sea outlet. In the fourth week, the ORB rebounded by nearly five per cent for a gain of \$1.97 to settle at an average of \$50.42/b.

The bullish momentum was sustained in the final days of the month and the ORB closed January at \$52.52/b to average the month at \$52.58/b. However, the prolonged cold spell in the US, amid supply interruptions from Russia's Black Sea, kept some bullish sentiment intact.

Moreover, the perception of revived geopolitical tensions added to the market's strength.

In monthly terms, the ORB plunged by over 12 per cent, or \$7.22, to settle at \$50.73/b, the lowest level since May 2005.

In the early part of February, continuing cold weather in the US and heightened geopolitical tensions in the Middle East and West Africa helped push the ORB up towards the \$55/b level to close the first two weeks of the month at \$53.98/b.

US market

Activity in the US domestic market emerged on a weaker note amid the holiday season and a sustained weak seasonal demand for winter fuels. The WTI/WTS spread was a notch wider at \$4.52/b in the first week, amid the prospect of increased demand for light-end products. However, healthy builds in gasoline and distillate stocks maintained a wide spread. Nevertheless, with futures market prices declining to their lowest level since June 2005, the US domestic market was directionless in the second week, which triggered sellers to dispose of prompt barrels at lower levels. The WTI/WTS

1. An average of Saharan Blend (Algeria), Minas (Indonesia), Iran Heavy (IR Iran), Basra Light (Iraq), Kuwait Export (Kuwait), Es Sider (SP Libyan AJ), Bonny Light (Nigeria), Qatar Marine (Qatar), Arab Light (Saudi Arabia), Murban (United Arab Emirates) and BCF-17 (Bachaquero, Venezuela).

spread was 18¢ wider at \$4.70/b. Bearish US petroleum data, which revealed healthy builds in crude oil, gasoline and distillate stocks, exerted pressure on sweet crude in the third week.

A wider contango spread not seen since early December also supported market sentiment, amid improved refining margins. Thus, in the fourth week, the WTI/WTS spread was 31¢ narrower at \$4.39/b when rising demand for light-end products, amid a cold snap in the US north-east, revived the market's strength. Although lower March supply from Canada's offshore Hibernia field lent support to the light grade, the WTI/WTS spread was 30¢ narrower at \$4.09/b. The spread contracted further in the final days of the month to below the \$4/b mark, amid demand for winter fuels, as distillate stocks dropped with heating oil stocks below last year's level. The monthly average for WTI was \$54.40/b, down by over 12 per cent, or \$7.56, while the spread over WTS was \$4.34/b, or 15¢ firmer.

North Sea market

The crude oil market in the North Sea also showed a weak trend, amid softening regional freight rates and poor refining margins. Warm weather also lent support to market calm. However, the clearing of some prompt barrels, amid improved margins, balanced market sentiment. In the second week, while the markets awaited the February loading programme, unsold Norway offshore barrels maintained some pressure. Yet, improving refining margins lent support to North Sea crude, amid clearing front-end barrels. The swap curve flipped into backwardation supporting the regional grade. Moreover, in the third week, prompt buying, amid healthy Russian demand, which cleared most of February's programme, kept the bulls intact. This strong sentiment continued into the fourth week, amid demand for winter fuels, as refining margins improved. A limited number of available February barrels was seen as supportive. The month closed on a stronger note as the cold snap continued in North America. Dated Brent closed the month at an average of \$53.68/b, representing a drop of nearly 14 per cent, or \$8.65.

Table A: Monthly average spot quotations for OPEC's Reference Basket and selected crudes including differentials

	Dec 06	Jan 07	Jan/Dec	2006	2007
OPEC Reference Basket	57.95	50.73	-7.21	58.48	50.73
Arab Light ¹	57.70	50.85	-6.85	58.43	50.85
Basrah Light	55.23	47.63	-7.59	55.59	47.63
BCF-17	48.56	42.68	-5.88	47.90	42.68
Bonny Light ¹	64.28	56.18	-8.10	64.04	56.18
Es Sider	60.73	52.08	-8.65	61.76	52.08
Iran Heavy	55.75	47.90	-7.85	57.10	47.90
Kuwait Export	55.69	48.42	-7.26	56.52	48.42
Marine	59.25	52.58	-6.67	59.85	52.58
Minas ¹	62.55	55.39	-7.15	63.35	55.39
Murban	63.12	56.42	-6.70	62.71	56.42
Saharan Blend ¹	63.55	55.78	-7.77	64.06	55.78
Other crudes					
Cabinda	58.28	50.65	-7.63	60.13	50.65
Dubai ¹	58.69	51.92	-6.77	58.56	51.92
Isthmus ¹	56.82	48.90	-7.92	58.54	48.90
Tia Juana Light ¹	54.89	47.83	-7.06	54.27	47.83
Brent	62.33	53.68	-8.65	63.05	53.68
West Texas Intermediate	61.96	54.40	-7.56	65.39	54.40
Differentials					
WTI/Brent	-0.37	0.72	1.09	2.35	0.72
Brent/Dubai	3.64	1.76	-1.88	4.49	1.76

Note: As of the third week of June 2005, the price is calculated according to the current Basket methodology that came into effect as of June 16, 2005. BCF-17 data available as of March 1, 2005.

1. Old Basket components: Arab Light, Bonny Light, Dubai, Isthmus, Minas, Saharan Blend and T J Light.

Source: Platt's, direct communication and Secretariat's assessments.

Mediterranean market

The sour crude market in the Mediterranean emerged on a bullish note on supply disruptions at the Bosphorus Strait. The closure of Novorossiysk port on the Black Sea lent support to the grade's refining margins. The Urals average spread under Dated Brent improved in the first week of the year by 62¢ to \$2.95/b. This sentiment strengthened further into the second week as Russia halted exports by pipeline via Belarus on a dispute over tariffs. The Urals discount to Dated Brent was 48¢ narrower at \$2.47/b in the second week. In the third week, the swap curve flipped into backwardation, lending support to the bullish market on supply disruptions and improved margins. However, shipping delays were seen as an obstacle for procurement, halting recent strength in differentials, as many buyers were looking for alternative crude. Hence, buying interest slowed, leaving some unsold January

barrels. The Brent/Urals spread widened by \$1.25 to \$3.72/b as the market focused on the February loading programme. Sustained delays pressured the grade and deteriorating refining margins, amid earlier strength in differentials, shifted the buying spree to alternative grades elsewhere. The Urals discount to Brent widened by a further 80¢ to \$4.52/b. In the final days of the month, revived refining margins, amid continued shipping delays and a tight February loading programme, lent support to the Urals differentials. The Brent premium to Urals narrowed to \$4.16/b at the end of January. The Urals monthly average was \$50.12/b, representing a drop of almost 14 per cent, or \$7.83, yet the discount to Dated Brent narrowed by 82¢ to stand at \$3.56/b.

Middle Eastern market

The sour Mideast crude market emerged on a weaker note as many participants were

on holiday. Taiwan did not submit a buy-tender and traders awaited the retroactive December benchmark OSPs. Poor refining margins also lent support to the market's bearishness. Clearing February Oman was on offer at a 6¢ discount to MOG, while emerging March barrels were assessed at +/-5¢ to MOG. In the second week, Mideast crude remained under pressure from relatively high retroactive OSPs, while traders waited for February allocations.

Flows of rival Russian crude with Azeri grade on offer added to the bearish market sentiment. March Oman was on bid/offer at a 13/6¢ discount to MOG. However, improved fuel oil prices lent support to sour crude in the third week. Lower Mideast allocations for February barrels, in line with the second OPEC cut, resulted in a firmer sentiment in Asia. However, soft demand for winter fuels in Japan, due to the warm weather, kept prices in balance. March Oman firmed, assessed at a 1-3¢ discount to MOG on an improved fuel oil crack spread. Persistent warm weather in the north-eastern hemisphere limited demand for winter fuel and continued to pressure kerosene-rich grades, while the narrowing crack spread for fuel oil pushed March Oman into a steeper discount of 10¢ to MOG. Market sentiment weakened further in the final days of the month. Refiners fulfilled procurements as Japan entered the heavy maintenance season with some 14 per cent, or 700,000 b/d, of capacity offline.

Product markets and refinery operations

Continued warm weather across the board during a large part of January, coupled with gasoline stock-builds over the last few weeks, capped the crack spread of the top and middle of the barrel complex from the previous month. Despite these bearish developments, refining margins for different benchmark crudes improved across the globe, which was attributed mainly to lower crude oil prices.

Refining margins for benchmark WTI in the US Gulf Coast rose to \$4.52/b in January from

\$3.91/b the previous month. In Europe, margins were lifted sharply to \$2.80/b from minus 21¢/b in December. Lower Dubai crude oil prices from December, along with the improved performance of the middle and bottom of the barrel cut, also contributed to the surge in the benchmark Dubai margin in the Singapore market to reach \$4.47/b from \$2.67/b in December.

A cold snap in the US north-east in the latter part of January and early February changed crude and product market sentiment, lifting both physical and futures market prices. The start of refinery maintenance, along with higher demand for gasoline in February, may further improve product market sentiment over the next weeks, compared with the early part of January. But any strengthening of the market will mainly depend on the continuation of a cold spell in the US north-east.

Refiners usually maximize their throughput levels during January, but this year, due to factors such as warm weather, lower seasonal demand for heating oil, and comfortable stock levels of different products, they have not followed the traditional policy and kept their throughput levels lower than last year. In some areas, refiners even reduced their utilization rates compared with December 2006.

Japanese refiners cut throughput levels slightly compared with December, with utilization rates dropping to 90.1 per cent from 90.3 per cent the previous month. European refiners reduced their utilization rates marginally to 85.5 per cent, compared with December's 86 per cent. US refiners cut throughput levels more than in other areas as utilization rates fell to 85.6 per cent in January from 89.4 per cent in December. With the start of seasonal maintenance, the utilization rate in the US may be trimmed further in the coming months.

US market

Bearish market sentiment prevailed in the US market during the greater part of January, and it was exacerbated by gasoline stock-builds in the last six weeks. Traditionally, demand for gasoline drops to its lowest level in January, resulting in stock-builds, but this year the trend was compounded by higher imports and an

earlier-than-usual ramping up of production by regional refiners, which led to higher gasoline stocks compared with the last few years. With emerging gasoline demand in February and the trimming of refinery throughputs, due to the seasonal turnaround, gasoline supply may tighten over the next weeks, but not significantly given the higher imports.

Apart from gasoline, the distillate crack spread also failed to peak in January, due to the unusually warm weather. In the latter part of the month, a cold spell in the north-east lent support to the middle part of the barrel components and lifted the gasoil crack spread to \$14.53/b from around \$10.50/b in early January. Many forecasters believe that such cold weather may persist over the next few weeks, which could lend more support to product and crude prices.

Colder weather in the US north-east also provided support for the bottom of the barrel complex, with the fuel oil crack spread improving to minus \$15.68/b in the last week of January from minus \$20.47/b earlier. Despite the recent positive movements in the US product market, many analysts believe that the current soft margins in the US are not likely to strengthen further in the coming months.

European market

Gasoline stock-builds in the US had a negative impact on the gasoline market situation in Europe and eroded trans-Atlantic arbitrage opportunities. This bearish development exerted downward pressure on gasoline prices and narrowed the gasoline crack spread versus benchmark Brent in the Rotterdam market.

Despite persistently bearish developments in the gasoline market, European naphtha market sentiment improved versus the previous month, due to arbitrage opportunities to Asia, which provided support for prices. The naphtha market is expected to remain strong in the coming weeks.

The continuation of unseasonably warm weather supported the bearish momentum of the European middle distillate market, but the cold spell in the US north-east lifted both physical and futures product markets in Europe. The

gasoil crack spread in Rotterdam against benchmark Brent rose from nearly \$12/b in the latter part of December to about \$14/b in the last week of January. Due to the continuation of the mild winter in Europe, there is uncertainty about the sustainability of recent positive developments in the distillate market.

As far as the fuel oil market is concerned, arbitrage opportunities to Asia supported the European fuel oil market, and its discount versus Brent narrowed to about \$17/b on average from around \$24/b the previous month. However, the continuing mild weather dampened seasonal European utility plant demand. The current weak circumstances are not expected to change significantly in the coming months.

Asian market

Due to mild weather in north-east Asia, middle of the barrel components did not take their traditional driver's seat in the market in January. High jet/kerosene stocks in Japan also contributed to the bearish trend. Despite slack demand for kerosene, the gasoil market was more lucrative and its crack spread strengthened, due to tight supply, as some refiners cut back on exports to meet petrochemical demand, amid soaring naphtha prices. The gasoil crack spread against benchmark Dubai rose to over \$17/b in January from about \$15.60/b the previous month.

As mentioned above, the naphtha market was strong, due to higher demand and a tightening of supply, as arbitrage cargoes initially booked for arrival at the end of January were delayed to February, due to bad weather. The naphtha market also found some support in the firm butane prices for winter heating, which discouraged petrochemical producers from using butane in place of naphtha.

In terms of gasoline, the Asian market lost ground compared with the previous month, as seasonal demand from Australia and New Zealand abated. Its crack spread versus benchmark Dubai in the Singapore market fell to about \$8.5/b from nearly \$10.35/b in late December.

The Asian fuel market displayed a much improved performance relative to the other

parts of the barrel components during January, and its discount versus Dubai narrowed from above \$16/b in December to around \$10/b. Higher Chinese demand and lower arbitrage cargoes from the west contributed to the strengthening of the Asian fuel oil market. Many market players believe that, upon arrival of the arbitrage cargoes, the Asian fuel oil market may lose its current strength.

The oil futures market

The oil futures market saw a weak start to the month, amid warm weather in the US, as the mild winter dominated the north-east, with Nymex WTI dipping below the \$60/b level. Although WTI averaged the first weekly period at \$60.06/b, which was nearly four per cent lower than the previous period, closed at \$58.32/b, or 4.5 per cent lower, than the previous week, the non-commercial net volume fell by a hefty 17,700 lots as the increase in short positions outpaced the rise in longs, according to the CFTC report. Hence, volumes stood net long at 2,200 contracts. Yet, open interest surged by a hefty 47,000 lots to 1,226,600 and, with options included, was 127,000 lots higher at 1,993,700 contracts, mainly on commercials' gains.

In the second week, further bearish inventory data added to the weakening factors on untapped winter fuel stocks. WTI closed the week at \$55.64/b, or 4.6 per cent lower, with the weekly average down to \$55.91/b, representing a loss of almost seven per cent. Hence, the CFTC reported that the shorts sharply increased, while the longs fell, flipping net non-commercial positions into net shorts with a drop of 24,500 lots to 22,350. Open interest rose by another hefty 53,700 lots to 1,280,300 and, with options, stood 166,900 contracts higher at 2,160,600.

In the third week, oil futures continued their downward trend, losing \$3.38, or six per cent, to average \$52.53/b, closing at \$51.21/b. A healthy build in US gasoline and distillate stocks, amid the prolonged warm winter, sup-

ported the bearish market sentiment. The resolution of a dispute between Russia and Belarus over oil flows eased concerns over a possible supply shortfall. Speculation that OPEC might cut output further was balanced by comments of a Mideast major denying any plans for a supply cut. The CFTC reported that non-commercials reduced short positions, while increasing longs, resulting in net short positions falling by 20,300 contracts to 2,000. Open interest was up by some 37,100 to set a new record of 1,317,400 lots. With options included, open interest gained 236,500 to nearly 2.4 million contracts.

Warm weather continued to dominate the market, amid ample OPEC supply.

In the fourth week, warm weather continued to dominate the market, amid ample OPEC supply. However, a late cold snap in the US revived market concerns over winter fuel stocks, pushing WTI up to close the week at \$55.04/b, for a gain of 7.5 per cent, while the weekly average slipped to \$52.18/b, amid the shift to the new front-month contract. The CFTC revealed that non-commercials reduced longs, while increasing short positions, boosting net shorts by 6,500 lots to 8,500. Open interest decreased by 47,800 to 1,269,600 lots; including options, it decreased even further – by 123,400 lots to 2,273,700.

In the final week of the month, the slide in long positions continued, while the shorts built, hence net short positions improved by 5,800 lots to 14,000. Although concern over a possible further OPEC cut was revived, a call by

Table B: FSU net oil exports *m b/d*

	1Q	2Q	3Q	4Q	Year	Growth y-o-y
2003	5.87	6.75	6.72	6.61	6.49	0.91
2004	7.17	7.30	7.38	7.37	7.31	0.82
2005	7.45	7.69	7.76	7.85	7.69	0.38
2006 ¹	7.98	8.41	8.31	8.24	8.24	0.55
2007 ¹	8.70	9.16	8.98	8.78	8.91	0.67

1. Forecast.

the US to refill its strategic petroleum reserve, coupled with colder weather in the US north-east, saw the bullish sentiment maintained. WTI closed 3.5 per cent higher at \$56.97/b, while the weekly average was virtually unchanged at \$55.20/b.

On a monthly basis, the CFTC revealed that the weekly average for non-commercials in January was net short of 9,000 lots, compared with 17,500 lots net long in December and 1,700 lots net long last year, respectively. Short positions set a record-high of 178,000 lots, while longs fell from July's high to 169,200 lots. Open interest's weekly average was up to 1,280,000 lots, representing a gain of 84,400 over the previous month and 377,800 above the same time last year. With options included, open interest's weekly average was 2,234,000 lots, or 338,500 higher than in December and 743,000 higher than the previous year. The WTI front-month contract average was \$54.35/b for a drop of \$7.64, or over 12 per cent, from December and 17 per cent lower than last year.

The forward structure

The contango in the forward curve narrowed to its lowest level in three months, amid depleting crude oil stocks in the US. The 1st/2nd month spread averaged 99¢ in January, compared with \$1.35 in December and 65¢ last year. The 1st/6th, 12th and 18th month spreads were \$3.64, \$5.87 and \$6.67, respectively, which was 83¢, 64¢, and 44¢ lower. Compared with last year, the respective spreads were \$1.97, \$2.50 and \$2.32. On a weekly basis, crude oil stocks averaged 320.8 million barrels in January, some 750,000 barrels above last year, yet 8.1m b lower than in December.

Table C: OPEC NGL production, 2004–07

				<i>m b/d</i>
2004	2005	05/04		
4.02	4.04	0.02		
1Q06	2Q06	3Q06	4Q06	
4.18	4.22	4.33	4.33	
2006	06/05	2007	07/06	
4.27	0.22	4.44	0.17	

The tanker market

OPEC spot fixtures rebounded with an increase of 2.7m b/d, or 19 per cent, from the previous month to average 14.23m b/d. The increase in fixtures fell within the typical rebound trend following the holiday season; nevertheless, OPEC spot fixtures showed a decline of 1.0m b/d compared with the same month a year ago. Non-OPEC spot fixtures increased by 24 per cent, while spot fixtures around the world increased in January by 21 per cent, averaging around 22m b/d. Middle East eastbound fixtures – including OPEC and non-OPEC – rebounded by 1.3m b/d to average 6.2m b/d, whereas westbound fixtures remained steady at the previous month's level. Compared with a year earlier, Middle East fixtures (eastbound and westbound) were 700,000 b/d lower. The share of Middle East spot fixtures in total spot fixtures remained stable at around 35 per cent, with eastbound at 28 per cent and westbound dropping to nine per cent.

Preliminary data shows that January OPEC sailings were steady, dropping 130,000 b/d, or by one per cent, to average 22.58m b/d. OPEC sailings in January represented a decline of five per cent when compared with the same month last year. The OPEC cut coupled with demand issues and high stock levels are the main factors for the year-on-year decline. Arrivals around the world remained steady. US Gulf, East Coast and Caribbean arrivals were unchanged at around 9.1m b/d in January, indicating y-o-y growth of two per cent. North-west Europe arrivals maintained their level of 7.2m b/d, while displaying a y-o-y decline of around nine per cent.

The crude oil tanker spot market showed a mixed pattern over its various routes with a tendency towards slowing down in January. Specific routes in each sector came under pressure. Aframax experienced further weakening, while few routes managed to close the month with minor improvements. The VLCC sector was mostly steady with rates for vessels trading on the Middle East/eastbound long-haul route averaging Worldscale 73.5 points, seven per cent higher than the previous month, and the first gain since August 2006.

Despite this slight improvement, January rates indicated a y-o-y drop of 45 per cent, which can be attributed generally to tanker oversupply, the OPEC output cut, and stock levels. The same factors influenced the Middle East/westbound route, where VLCC rates fell by five points to average W54. Rates dropped as far as W48 around the second week of the month, which is estimated to be a record-low for the last three years, while the monthly average was the lowest since July 2005.

Tanker oversupply was one of the main factors weighing on spot freight rates. Oil in transit experienced an increase during the first weeks of January, before leveling off to be slightly higher than at the end of 2006. This, combined with a VLCC fleet growth, produced a charterer-market environment, where vessel unemployment encouraged owners to accept lower rates. Similarly, VLCCs for West Africa/eastbound routes lost seven points to average W72. Rates were better on this route than elsewhere, gaining some support from fuel oil arbitrage opportunities from the North Sea to the east. Also, it should be noted that this sector is usually affected by market forces normally associated with the Suezmax sector.

The Suezmax market softened on the routes from West Africa and strengthened from north-west Europe. Spot freight rates for Suezmax moving volumes on the West Africa/US Gulf coast route fell 11 points to average W124, the lowest level since last April, with a y-o-y decline of 27 per cent. The decline was supported by an imbalance of cargoes against tonnage availability with the latter outweighing volume. On the other hand, constant delays, due to conges-

Table D: OPEC crude oil production, based on secondary sources

1,000 b/d

	2005	2006	2Q06	3Q06	4Q06	Nov 06	Dec 06	Jan 07	Jan/Dec
Algeria	1,349	1,367	1,368	1,361	1,363	1,354	1,353	1,350	-3.3
Angola	1,256	1,422	1,355	1,459	1,448	1,471	1,474	1,508	33.7
Indonesia	942	896	914	882	867	868	864	869	4.6
IR Iran	3,924	3,845	3,800	3,910	3,821	3,822	3,800	3,788	-12.3
Iraq	1,830	1,932	2,001	2,061	1,949	1,921	1,899	1,704	-195.3
Kuwait	2,504	2,505	2,513	2,506	2,467	2,455	2,445	2,455	10.0
SP Libyan AJ	1,642	1,702	1,699	1,719	1,709	1,702	1,697	1,683	-14.2
Nigeria	2,412	2,232	2,212	2,211	2,248	2,236	2,257	2,209	-47.6
Qatar	792	822	820	834	817	809	810	808	-2.5
Saudi Arabia	9,390	9,117	9,133	9,135	8,788	8,751	8,688	8,675	-13.3
UAE	2,447	2,538	2,535	2,573	2,517	2,488	2,483	2,486	3.8
Venezuela	2,633	2,539	2,574	2,504	2,485	2,458	2,474	2,438	-36.7
OPEC excl Iraq	29,291	28,985	28,925	29,095	28,530	28,414	28,345	28,267	-77.9
OPEC excl Angola & Iraq	28,035	27,563	27,569	27,637	27,082	26,943	26,871	26,759	-111.6
Total OPEC	31,121	30,917	30,926	31,156	30,479	30,334	30,244	29,971	-273.2

Totals may not add, due to independent rounding.

tion in the Turkish Strait, estimated by industry experts to be around 10–17 days, exerted pressure on tonnage availability and created relative tightness in the market, which contributed to the increase in Suezmax spot freight rates for the north-west Europe/US east coast-US Gulf coast route, which gained 24 points from the previous month to average W149 in January. Additionally, fuel oil arbitrage opportunities, which opened from north-west Europe to the Far East, lent support to market tightness in this sector.

In January, the Aframax sector came under pressure with the Caribbean/US east coast route spot freight rates continuing to decline by 69 points to average W178. The delays created by the closure of the Black Sea port and those associated with congestion in the Bosphorus and Dardanelles Straits exerted some pressure on the north-west Europe and Mediterranean markets. Nevertheless, available cargoes were limited, hence overshadowing the delay effects and eroding the spot freight rates by 16 and 25 points on the intra-Mediterranean and Mediterranean/north-west Europe routes to average W206 and W199, respectively. Spot freight rates from the Mediterranean were the

only rates showing an annual gain, averaging 17 per cent higher.

In the product markets, spot freight rates weakened on most routes in January after a rebound the previous month. Freight rates from the Mediterranean were steady, while rates on other trade routes declined with the biggest drop in the north-west Europe to transatlantic destinations. Spot freight rates fell 73 points to average W240 on the north-west Europe/US east coast-US Gulf coast route, indicating a y-o-y decline of around 29 per cent. Freight rates from the Caribbean dropped 23 points to average W263 with an annual decline of around 30 per cent. In the Mediterranean, rates were steady, averaging around W250 to north-west Europe and other Mediterranean destinations. Weather-related delays, coupled with Far East arbitrage opportunities, supported the market, although, on an annual basis, rates showed a decrease of around 40 per cent. East of Suez rates fell on the routes from the Middle East and Singapore on the back of weak tonnage demand, triggered by high Japanese product stocks, as well as increased naphtha volumes arriving from the Mediterranean and north-west Europe.

World oil demand

World oil demand in 2006

Warm weather in December negatively affected global oil demand, although oil demand in the month was stronger than in November. OECD countries showed the largest decline in oil demand in December, while the impact on non-OECD countries was not as strong. In fact, India and Middle East oil demand were stronger than expected, which offset the decline in OECD oil demand. Total y-o-y world oil demand growth for 2006 is estimated at 800,000 b/d, or 1.0 per cent, representing only minor changes from the last report. Most of the decline in OECD oil demand was as a result of fuel switching from fuel oil to natural gas.

Estimated regional oil demand

OECD

North America is the key demand factor, especially concerning the weather. According to the EIA weekly, US oil demand declined by 760,000 b/d, or 3.6 per cent, in December compared with the same period the previous year. This decline was mostly in fuel and heat-

ing oil – the main two products consumed during winter. As far as the whole of 2006 is concerned, US oil demand declined by 200,000 b/d. As a result of fuel switching, the largest decline came from fuel oil, which dropped by 250,000 b/d in 2006. Kerosene-jet fuel demand declined by 60,000 b/d in the year. There was a slight increase of 0.8 per cent in motor gasoline demand, but this did not offset the overall decline. As a result, North America's y-o-y fourth-quarter oil demand was revised down by 90,000 b/d, showing a decline of 40,000 b/d to average 25.44m b/d.

OECD Europe

European auto owners benefited from heavily-subsidized biofuel. The Swedish government plans to have more than half of driven vehicles equipped with a biofuel-operated engine. According to Statoil, sales of E85 biofuel increased by 270 per cent in 2006. Along with low transport fuel demand, the warm winter reduced demand for heating oil; hence, the OECD Europe y-o-y fourth quarter is not following the normal cycle of growth, but is estimated to show a decline of 30,000 b/d to average 15.66m b/d.

OECD Pacific

Although crude runs were low, South Korea took advantage of the lower oil prices, as the country's oil imports rose by 3.7 per cent in December, with the annual average growth pegged at 5.5 per cent. According to government data, Japan's y-o-y oil imports grew by 18 per cent in December; however, total oil imports for 2006 were flat. Slow economic activity, the warm winter, fuel switching, low transport fuel demand and high utilization of Japanese nuclear power plants were the main factors behind sluggish oil demand in Japan last year. Japanese oil demand in December dropped by 17.3 per cent, while, for the full year, it declined by 2.5 per cent from 2005. Products that declined the most in 2006 were kerosene and gasoil. They fell by 6.4 per cent and 5.4 per cent, respectively. Both high oil prices and bad weather during the peak of the driving season in July and August dampened gasoline

demand by 1.1 per cent in 2006. OECD Pacific demand in the fourth quarter is estimated to have fallen by 20,000 b/d y-o-y. In total, OECD fourth-quarter oil demand growth was revised down by 100,000 b/d to show a y-o-y decline of 90,000 b/d.

Developing countries

India's oil demand reached 2.85m b/d in December, representing a gain of 320,000 b/d over the previous month. This oil demand growth of 7.26 per cent was the highest recorded in 12 months. Hence, India's oil demand surged by 2.9 per cent to average 2.6m b/d for the whole of 2006. The boom in new car sales put gasoline demand at a high of 5.69 per cent y-o-y. In contrast, fuel oil was negatively affected by fuel switching in power plants and showed a decline of almost six per cent y-o-y. Diesel demand grew by 5.13 per cent for the year, as a result of strong agricultural and trucking activities in India.

Healthy oil demand growth in the Middle East came as expected. Fourth-quarter y-o-y oil demand growth is estimated at 350,000 b/d to average 6.2m b/d. As a result of the higher-than-expected oil demand in India, developing countries' oil demand in the fourth quarter was revised up by 180,000 b/d to average 23.30m b/d, representing growth of 820,000 b/d y-o-y.

Other regions

China's y-o-y crude imports in 2006 rose slightly above 17 per cent, or 510,000 b/d, compared with a 3.6 per cent decline in 2005. Some of China's 2006 oil imports, which averaged 2.68m b/d, were used to fill the country's new strategic storage at Zhenhai, which was commissioned in late 2006 and has a capacity of 32.7m b. China's oil demand growth in the fourth quarter is expected to reach 280,000 b/d y-o-y to average 6.83m b/d. Strong Chinese economic activity, along with an ambitious government plan to develop the rural areas, were the main factors behind China's stronger-than-expected oil demand growth for 2006, which yielded healthy growth of 600,000 b/d to average 7.12m b/d for the year. December Chinese

gasoline demand grew by six per cent to meet the large increase in new car sales, totaling 7.2 million units in 2006. The rural area development has affected diesel demand, which grew by five per cent in December. The warm winter also helped oil demand in China via an increase in agricultural and construction activities. One product that experienced a strong decline of 27 per cent as a result of the use of alternative energy is fuel oil.

Forecast for 2007 demand

Cold winter weather finally returned, especially in North America. Temperatures dropped to below normal in the third week of January in the US north-east, the main heating oil-consuming region. As a result of the weaker-than-expected oil demand in the OECD Pacific and China, oil demand growth in the first quarter of 2007 was revised down by 70,000 b/d to 1.06m b/d. World oil demand growth for 2007 is forecast to show an increase of 1.2m b/d, or 1.5 per cent, broadly unchanged from the estimate contained in the last report.

In the third week of January, EIA inventory data showed a decline in heating oil stocks. It is expected that heating oil inventories will decline, pending the continuation of cold weather, but not to a level that sustains normal product demand in the US.

The Clean Energy Act was passed in the US in January. The new bill will establish a 'clean energy fund' that will create incentives for and investments in technologies related to both renewable energy sources, such as wind and solar power generation facilities, and energy efficiency in buildings, appliances and vehicles.

Asia's strong oil consumption has shifted the oil demand growth pattern. Asia's economic boom is demanding higher oil growth than the US. OECD countries are no longer the driving factor behind oil demand growth, as this role has shifted to the developing countries. China, India and the Middle East are the main areas driving oil demand growth this year. This important switch is putting more weight on the second and third quarters, as far as seasonal consumption is concerned.

Alternative fuels

Natural gas (NG) has been the largest alternative energy source to oil so far. The recent warm weather, which saw NG prices fall, made it feasible for power plants to switch away from fuel oil use. Recent trends in the US showed a 30 per cent decline in fuel oil because of NG substitution. US politicians are gearing up to further support the heavily subsidized biofuel, in order to minimize oil use. The country already has an ambitious plan to reduce gasoline consumption by 20 per cent over ten years through the use of alternative fuels, such as ethanol, which is not made from food, but non-food products, such as grasses. The US will pursue this venture with the collaboration of other countries that are advanced in biofuel activities, such as Brazil. The US is already pushing for new alliances with various countries in the Americas to promote the use of biofuels. However, this new American venture is not limited to biofuels – it also extends to other types of alternative fuels, such as solar, wind and nuclear.

China's demand for coal is increasing. According to officials, the country's 2007 coal demand is estimated at 2.5 billion tonnes. Chinese coal consumption is estimated to grow by more than 13 per cent in comparison with 2005 figures. China's new coal-fueled power plants will see an 11 per cent expansion over the next three years to maintain a 70 per cent share in the nation's total power use. However, due to the high pollution levels in China, the country will close smaller coal-fired power plants, which supply ten per cent of total electricity. Another part of China's strategy to reduce the use of oil is to boost the production of biofuel. According to local media, China's plan is to develop the use of biofuel in the rural areas, in order to replace 10m b of oil products by 2020.

In Europe, biofuel use is also on the rise. Swedish auto owners have received various benefits for using biofuel-operated vehicles. This incentive is expected to triple consumption of biofuel in Sweden in 2007.

OECD

In North America, oil demand began the year with a decline, due to the above-normal

weather conditions. However, to some degree the picture changed in the last week of January when the US north-east experienced below-normal temperatures. Should the cold weather stay for the rest of the winter, then oil demand should come in as expected, with high demand for both heating and fuel oil. North America's oil demand in the first quarter of 2007 is forecast to grow by 200,000 b/d y-o-y to average 25.32m b/d. In Europe, not only has the warm winter had a negative impact on oil demand, but also transport fuel has failed to pick up. OECD Europe oil demand is expected to decline by 150,000 b/d y-o-y in the first quarter of 2007. In total, OECD countries' oil demand growth in the first quarter of 2007 is forecast at 100,000 b/d y-o-y to average 50.27m b/d.

Developing countries

Developing countries are expected to maintain strong oil demand in 2007. They will account for 92 per cent of global oil demand growth in the first quarter. Economic growth of 7.8 per cent in India is expected to yield moderate growth oil demand growth of 2.6 per cent. Expected strong new car sales, along with booming industrial and agricultural activities, are forecast to be the main drivers for oil growth.

Strong economic activities, including massive growth of petrochemical plants in the Middle East, are expected to increase demand for oil in this region in 2007. Middle East oil demand is expected to average 6.47m b/d in the year, representing y-o-y growth of 300,000 b/d.

Other regions

Along with other concerns, such as reducing pollution and increasing imported oil, China is trying to achieve the goal set in its five-year plan of reducing energy use by 20 per cent by the end of this decade. The country missed this goal in 2006 as oil demand grew by nine per cent. In 2007, China is expected to see strong oil demand growth of 6.25 per cent. Expected strong economic activity is the impulse behind the strong demand for energy. However, lower oil imports in January led to apparent demand being less than expected. Hence, China's first-quarter y-o-y oil demand growth was revised

down by 60,000 b/d to 300,000 b/d. On a different note, the long-awaited Chinese oil strategic storage is finally in operation. The Zhenhai facility already possesses 25m b of oil, which is almost 75 per cent of its designed capacity. The other 25 per cent is likely to be in place by May. According to Chinese officials, there are three more strategic oil storages with a capacity of 69.2m b that are under construction, for which commissioning will take place in 2007 and 2008. Encouraged by both a cut in import tariffs and the cold weather, China's diesel

In 2007, China is expected to see strong oil demand growth of 6.25 per cent.

imports surged in January. As for gasoline, the newly discounted price should have a positive effect on gasoline demand in the short term.

World oil supply

Non-OPEC

Estimate for 2006

Non-OPEC oil supply is estimated to average 49.47m b/d in 2006, an increase of 540,000 b/d over 2005 and a downward revision of 78,000 b/d from the last assessment. December's total non-OPEC supply averaged 50.21m b/d, up by 90,000 b/d from November. In the 2005 estimate, only Canada's 4Q supply has been revised down slightly, with almost no effect on the final figure for the year. Revisions to the full year 2006 estimate are mainly attributed to the 3Q and 4Q. Downward revisions in the US, Canada, Mexico, New Zealand, Russia

and Brazil were partly offset by upward revisions in Norway and the United Kingdom.

In 2006, the former Soviet Union (FSU) region continued its strong performance, followed by Latin America, North America, Africa, and China. All other regions remained flat, or experienced a drop. The FSU showed growth of 470,000 b/d; Azerbaijan posted a strong performance with 190,000 b/d, whilst Kazakhstan performed as expected. Russia's growth was soft in the 1Q, followed by a recovery in the other three quarters. Oil supply in the Latin American region increased by 180,000 b/d, driven by Brazil. All Latin American countries posted modest gains in production, compared with 2005. North America's production increased by 120,000 b/d, driven by Canada (140,000 b/d) and a 60,000 b/d recovery in the US Gulf of Mexico (GoM). Mexico's production dropped for the second consecutive year – by 80,000 b/d, compared to 2005. The African region posted an increase of 140,000 b/d. Most of the increase came from Sudan and Tunisia. China showed a

Non-OPEC oil supply is expected to average 50.7m b/d in 2007, an increase of 1.2m b/d over 2006.

modest output increase of around 60,000 b/d over 2005. the OECD Pacific, other Asia, and the Middle East remained broadly flat. OECD Europe production dropped by 410,000 b/d, with the UK showing a decline of 200,000 b/d, due to field declines and extensive maintenance. Norway experienced an output loss of 190,000 b/d, due to a combination of field decline at the largest crude oil fields, deep maintenance and unplanned shutdowns. Denmark witnessed a decline of around 40,000 b/d compared with the 2005 figure.

Revisions to the 2006 estimate, other historical

Minor historical revisions to 2005 production figures for Canada and the UK have been implemented. Additional adjustments have been made to the 2006 estimate, mostly to the 4Q, which have resulted in an overall downward adjustment. The estimate for the 4Q for the US has been adjusted downwards by 31,000 b/d and for Canada by 43,000 b/d. In Mexico, November and December production data came in even lower than expected. As a result, the estimate for the 4Q has been revised down by another 53,000 b/d. The sharp drop from 3.79m b/d in the 1Q to 3.51m b/d in the 4Q is partly due to the decline of the Cantarell field, but also to a reduction in supplies to the US market because of soft demand. In the North Sea, minor upward revisions were made to 4Q oil production – in Norway by 10,000 b/d and in the UK by 22,000 b/d. Other western Europe was revised down in the 4Q by 30,000 b/d, mainly as a result of the Netherlands. The Pohokura (25,000 b/d) project in New Zealand was delayed from the 4Q to early 2007. In Brazil, another 11,000 b/d has been incorporated to the 4Q estimate from last month's figure. The 4Q estimate for Russian production was revised down by around 13,000 b/d, with Kazakhstan witnessing a downward revision of around 12,000 b/d from last month's figure.

Forecast for 2007

Non-OPEC oil supply is expected to average 50.7m b/d in 2007, an increase of 1.2m b/d over 2006 and a downward revision of 170,000 b/d from the last assessment. On a quarterly basis, non-OPEC supply is expected to average 50.3m b/d, 50.4m b/d, 50.5m b/d, and 51.6m b/d, respectively. The revision to the outlook is principally due to lower supply expectations for Mexico, the US (delays in the Atlantis project until the end of 2007) and Canada. The Kazakhstan figure has been revised down due to new projects planned for the 3Q and 4Q, which are now expected to be onstream in early 2008. The Oman forecast was also revised down due to field maturity and slow investment. The outlook for Brazil has been revised slightly upward.

Upward adjustments are concentrated in Russia and Norway.

OECD

Total OECD oil supply is expected to average 20.4m b/d in the year, a downward revision of 96,000 b/d from the last assessment, but an increase of 220,000 b/d over the 2006 figure. On a quarterly basis, total oil supply is expected to average 20.4m b/d, 20.4m b/d, 20.1m b/d, and 20.7m b/d, respectively. December data put total oil supply in OECD countries at 20.44m b/d, an increase of 59,000 b/d over the November figure, most of which was due to the return from maintenance of Norway's refineries.

United States

Oil supply in the US is expected to average 7.59m b/d in 2007, representing an increase of 190,000 b/d versus last year and a downward revision of 36,000 b/d from the previous month. The Atlantis project in the US Gulf of Mexico (GoM) was delayed to the end of 2007. US onshore crude production is expected to perform well and may post some gains. Alaska's oil production is expected to drop again, but much of this will depend on the performance of Prudhoe Bay. Early indicators suggest that 2007 may not be a strong year for hurricane activity in the Atlantic Basin, which should allow stripper wells and high-cost wells to continue to contribute to total US production.

Mexico and Canada

The outlook for Mexico has been revised down following lower-than-expected output in 4Q06 and stronger expectations that production will remain near current levels over the next few months. Total Mexican oil supply is expected to average 3.6m b/d in 2007, producing around 3.5 to 3.6m b/d in the first half of 2007, before rising to 3.7m b/d in the second half when a new FPSO (20,000 b/d) at the extra-heavy KMZ field is brought onstream and assuming US oil demand recovers towards the 4Q. Mexico exports nearly 1.8m b/d of its production, or 50 per cent of total liquids, to the US and its exports face strong competition, especially from Canada. The outlook for 2007

will largely depend on these factors, as well as underlying decline rates.

Canadian oil supply is expected to average 3.3m b/d in 2007, representing an increase of 100,000 b/d over 2006, but 43,000 b/d less than last month's assessment. Downward revisions have been made to reflect adjustments to the baseline in 4Q06.

Western Europe

Oil supply in OECD Europe is expected to average 5.2m b/d in 2007, representing a drop of 150,000 b/d from the 2006 figure, but virtually unchanged compared with last month's assessment. On a quarterly basis, total oil supply is expected to average 5.3m b/d, 5.2m b/d, 5.0m b/d, and 5.3m b/d, respectively.

Norwegian oil supply is expected to average 2.7m b/d in 2007, a decline of 10,000 b/d from the previous year and an upward revision of 40,000 b/d from the previous month. A number of projects are expected to start through 2007, totaling output of some 300,000 b/d of crude and condensate. This is expected to offset a decline of around 140,000 b/d, as well as the impact of maintenance (another 130,000 b/d), but the phasing in of new field ramp-ups, slightly higher field declines and reduced output at some fields are all contributing to a larger drop in production in 2007. Having said that, Norway's production is characterized by high volatility and variable maintenance levels could change this forecast.

UK oil supply is expected to average 1.6m b/d in 2007, a drop of 40,000 b/d from last year, but virtually unchanged from last month's assessment.

Elsewhere, Danish oil supply is expected to average 310,000 b/d, around 30,000 b/d less than in 2006 and 9,000 b/d less than last month's assessment. One new project is expected in 2007 – the 190,000 b/d Bo/Valdemar field. Other Western Europe was revised down by 30,000 b/d, due to 4Q06 baseline adjustment.

Asia Pacific

Oil supply in the OECD Asia Pacific region is expected to average 670,000 b/d in 2007,

representing growth of 110,000 b/d over last year. On a quarterly basis, total oil supply is expected to average 640,000 b/d, 640,000 b/d, 710,000 b/d and 700,000 b/d, respectively. Oil production in New Zealand should also edge higher with the start of the Tui field, which is expected to double the country's oil production.

Developing countries

Oil supply in the developing countries is expected to average 11.84m b/d in 2007, representing an increase of 280,000 b/d over 2006 and 57,000 b/d less than last month's figure. On a quarterly basis, total oil supply is expected to average 11.68m b/d, 11.66m b/d, 11.87m b/d and 12.14m b/d, respectively. Historical revisions to the base and slight adjustments to new projects account for the bulk of the revision.

Downward revisions of 36,000 b/d and 20,000 b/d have been made to the outlook for Sudan and Oman, respectively. The adjustment for Sudan reflects a 4Q06 change to the baseline, while Oman's production has declined faster than expected. Sudan's production may reach 580,000 b/d in 2007, although risks remain.

Brazil's oil supply is expected to average 2.25m b/d in 2007, up slightly from last month's assessment. Still, over 500,000 b/d of new crude oil is expected to start in 2007, but the impact of this will be more evident in 2008 than in 2007, due to timing. Ecuador's oil supply is expected to average 530,000 b/d in 2007 and may witness a further drop compared with the 2006 figure, down 5,000 b/d versus last month's estimate. Recent events suggest that Ecuador's production may drop even more, driven by losses in PetroEcuador-operated fields.

FSU, other regions

Oil supply in the FSU in 2007 is expected to average 12.7m b/d, representing an increase of 680,000 b/d over 2006, following a downward revision of 12,000 b/d from last month. Minor downward revisions have been made to China, which now stands at 3.7m b/d in 2007, 20,000 b/d higher than in 2006. On a quarterly basis,

total oil supply in the FSU is expected to average 12.48m b/d, 12.66m b/d, 12.74m b/d and 12.91m b/d, respectively. Other Europe remains unchanged at 150,000 b/d compared with the 2006 figure.

Russia

Russian oil supply is expected to average 9.97m b/d in 2007, an increase of 320,000 b/d from 2006 and 37,000 b/d higher than last month's estimate. Russian oil supply performed better than expected in 4Q06 due to the mild winter, which allowed producers that depend on river barging to continue to produce, as well increases from the ExxonMobil-led Sakhalin I project. Looking ahead, growth will be driven by a handful of important projects, including Sakhalin, Salym and Priazlomnoye.

Crude export tariffs dropped in February to \$24.62/b because of the recent decline in Urals prices. Lower taxes encouraged producers to increase exports to countries outside the Commonwealth of Independent States (CIS).

Caspian

Azeri oil supply is expected to average 910,000 b/d in 2007, representing an increase of 280,000 b/d over last year. The latest production estimate puts the total oil supply average at 710,000 b/d in 4Q06. This report expects a strong performance in 2007 from the ACG field, although the start-up may be delayed to the 2Q.

Kazak oil production is expected to average 1.40m b/d in 2007, representing an increase of 100,000 b/d versus last year and 50,000 b/d more than last month's forecast. Data for 4Q06 puts Kazak oil supply at 1.37m b/d. Increases expected to come in 4Q07 from the expansion of the Tengiz field will be delayed to early 2008.

China

China's total oil supply is expected to average 3.7m b/d in 2007, representing an increase of 20,000 b/d over last year and a downward revision of 6,000 b/d versus last month's report. Figures for 4Q06 indicate that supply averaged 3.66m b/d. In 2007, the Peng Lai FPSO is expected to increase China's offshore production by 100,000–150,000 b/d to 800,000

b/d, as one of the largest offshore fields discovered in China is brought onstream, offsetting declines in other mature fields.

OPEC NGLs and non-conventional oils

In 2006, output of OPEC NGLs and non-conventional oils averaged 4.27m b/d, representing an increase of 220,000 b/d over the previous year. In 2007, expected growth for OPEC NGLs is 170,000 b/d to an average of 4.44m b/d.

OPEC crude oil production

Total crude oil production averaged 29.97m b/d in January, down by 270,000 b/d from the previous month, according to secondary sources. OPEC-10 production averaged 26.76m b/d, 110,000 b/d lower than in the previous month. Iraq's oil production averaged 1.70m b/d, while Angola produced 1.51m b/d. The 4Q06 figure for total OPEC output was an average of 30.48m b/d.

FSU net exports of crude and products

Total FSU net oil exports averaged 8.24m b/d in 2006, an increase of 550,000 b/d over the previous year. In 2007, total net oil exports are expected to average 8.91m b/d, 670,000 b/d more than in 2006 and driven by new sources of crude from the Caspian, along with Russian product exports. The forecast has been revised down slightly from the last assessment.

Current trends

Actual figures for the month of November indicate that total crude exports from the FSU amounted to 5.87m b/d. Preliminary figures for December show that total crude exports stood at 6.02m b/d. Crude exports increased primarily via the Baltic and Druzhba pipelines. Exports via the Georgian port of Supsa have been shut since late October and are likely to remain so until March 2007 according to some reports.

Oil trade

OECD

OECD crude oil imports, according to preliminary estimated data, fell in December by

around 1.0m b/d to average 29.5m b/d, while product imports rose by 121,000 b/d to average 12.6m b/d. The decline was spread across most of the OECD region with the US, Japan and Europe representing the largest portion. A weather-related decline in demand was among the factors causing such low imports in December.

Exports, on the other hand, were steady with crude oil flows increasing by one per cent to average 6.8m b/d. Similarly, product exports reached 10.2m b/d, inching up by around 100,000 b/d in December. Consequently, OECD total net crude and product imports decreased by 1.0m b/d to 25.0m b/d, mostly due to a drop in crude oil imports. Compared with a year earlier, OECD net crude oil imports were six per cent higher and net product imports around 23 per cent more.

Saudi Arabia remained the largest supplier of OECD crude oil in December, with around 21 per cent, followed by the FSU with 18 per cent. On the product side, imports were much diversified with the FSU and Saudi Arabia remaining the top product suppliers.

United States

US crude oil imports rose in January by around 600,000 b/d, or six per cent, to average 10.0m b/d, offsetting a December drop of 540,000 b/d. While prices provided some support for the increase, January crude oil imports were slightly lower than the 2006 average. According to the available data, US crude oil imports showed an annual increase of 323,000 b/d, or three per cent. Similarly, product imports increased by 320,000 b/d to average 3.4m b/d, again within the 2006 product import average, yet indicating a y-o-y decline of around 450,000 b/d, or 12 per cent. The increase came mainly from gasoline, kerosene and fuel oil, while distillate imports weakened as the month ended. Lower refinery utilization rate levels, coupled with various price-related arbitrage opportunities, helped support the import figures in January. Total US oil imports reached 13.4m b/d, an increase of 900,000 b/d over the previous month, marking the highest level since September.

On the export side, product flows remained steady with a slight decline of 36,000 b/d to an average of 1.2m b/d. Despite the three per cent drop from the previous month, US January product exports showed annual growth of about 17 per cent. In contrast, US net oil imports averaged 12.2m b/d, indicating an increase of 950,000 b/d, or 8.4 per cent, in the month. This represents a rebound for US net oil imports, which suffered a constant decline over the previous four months. Even with the January increase, US total oil imports indicate a y-o-y decline of 2.5 per cent.

Canada remained the top US crude oil supplier with around 21 per cent. Saudi Arabia and Mexico followed with around 15 per cent each, while Venezuela accounted for 11 per cent and Nigeria, Iraq and Angola with nine per cent, six per cent, and five per cent, respectively. On the product side, the ranking remained unchanged with Canada (17 per cent) and the Virgin Islands (12 per cent) continuing to be the main sources of US product imports.

Japan

According to preliminary estimated data, Japan's crude oil imports fell by 82,000 b/d, or 2.2 per cent, to average 3.7m b/d in January. Compared with a year earlier, Japanese crude oil imports experienced a significant decline of around 14 per cent. The mild winter, coupled with the OPEC cut and high petroleum stock levels, are among the reasons for the decline. In contrast, product imports remained steady, averaging 650,000 b/d in January and showing an annual decline of three per cent. Hence, total crude and product imports reached 4.4m b/d, indicating a y-o-y decline of around 12 per cent.

On the other hand, Japan's product exports remained steady at around 300,000 b/d, influenced by the weakening US west coast market for arbitrage cargoes, but still representing annual growth of about six per cent. Accordingly, total net oil imports dropped by 71,000 b/d to average 4.1m b/d.

Saudi Arabia's share of Japanese crude oil imports decreased to 29 per cent in January from 33 per cent the previous month. The UAE, with 26 per cent, remained in second place, fol-

lowed by Iran with 12 per cent. Kuwait saw its share increase from less than seven per cent in December to around ten per cent. On the product side, the UAE and Saudi Arabia remained the main suppliers with a share of around 25 per cent for both, followed by Korea, the US, and Indonesia with around six per cent each.

China

According to preliminary data, China's crude oil imports declined by 572,000 b/d, or 17 per cent, to average nearly 2.7m b/d in December, after an all-time record in November. The decrease, which marked the second-largest drop in crude oil imports in 2006, after October, counterbalanced the record of the previous month, yet it indicated annual growth of around three per cent. China's product imports also declined in December, averaging 770,000 b/d, 60,000 b/d less than in November. Fuel oil and jet imports dropped in December, while gasoil and naphtha imports increased by around 30 per cent from the previous month. Consequently, total oil imports dropped by 633,000 b/d to average 3.5m b/d in December, representing a y-o-y drop of 3.4 per cent.

In contrast, China's crude oil exports rebounded with a gain of 130,000 b/d to average 214,000 b/d. An increase in crude production supported exports. Product flows remained steady in December with the increase in fuel oil and gasoil exports offsetting the decline in naphtha, jet fuel and gasoline exports. China's product exports averaged 74,000 b/d.

As a result, China's net crude oil imports averaged 2.5m b/d, with a 700,000 b/d decline from the previous month, while net product imports averaged 400,000 b/d, down 50,000 b/d from November. Thus, total net oil imports stood at 2.9m b/d, the lowest level in 2006. Despite the drop in China's net oil imports in December, the 2006 average stood at 3.4m b/d, around 500,000 b/d, or 18 per cent, higher than in 2005. On an annual basis, net crude oil imports increased in 2006, while products fell compared with the previous year.

Angola and Saudi Arabia were China's top crude oil suppliers in December with a 16 per cent share each, followed by Iran with 12 per

cent. Russia came next with 11 per cent, followed by Oman with nine per cent.

India

After declining in November, preliminary data shows that India's crude oil imports rebounded slightly in December to reach 2.4m b/d for a gain of 70,000 b/d, marking the second-highest month in 2006 after October. Similarly, product imports increased by 11,000 b/d to average 340,000 b/d, bringing total oil imports to around 2.74m b/d. In contrast, India's total product exports increased by around 40,000 b/d in December, compared with the previous month, to reach 810,000 b/d, despite the slight decrease in naphtha exports. According to preliminary data, December product exports were the second-highest in volume terms in 2006 after October, indicating annual growth of around 50 per cent. Thus, India's net oil imports averaged 1.9m b/d, representing y-o-y growth of six per cent.

For the whole of 2006, India's crude oil imports increased by 220,000 b/d, or 11 per cent, to average 2.3m b/d. In contrast, product exports increased by 60 per cent, or 240,000 b/d, to average 640,000 b/d. As a result, total net oil imports maintained virtually the same level as in 2005, with a slight increase of one per cent to average 1.92m b/d. A comparison of average figures of 2005 and 2006 underlines India's emerging position in the market as a refinery hub, supported by increased naphtha exports backed by stronger NGL imports and the commissioning of new refining facilities, such as the Essar refinery at Vadinar.

Stock movements

United States

US total commercial onland oil stocks ended January at 1,033m b, which corresponds to growth of more than 6.0m b, compared with the previous month. This counter-seasonal build represented an average of 197,000 b/d, which reversed the draw displayed since September, leaving stocks at the same level as a year ago, but almost 62m b, or six per cent, above the

five-year average. The build was driven mainly by a 15m b surge in gasoline stocks.

Crude oil stocks rose by 7.0m b, or 226,000 b/d, to settle at 324.5m b by the end of the month, staying 700,000 b and 30m b above

For the whole of 2006, India's crude oil imports increased by 220,000 b/d, or 11 per cent, to average 2.3m b/d.

the year-earlier level and the five-year average, respectively. The build in crude oil inventories came as a result of a significant 591,000 b/d increase in crude oil imports, coupled with a drop in the refinery utilization rate. Crude oil imports averaged 11.8m b/d in the week ending January 12, the highest level since the end of August, while an early start to refinery maintenance reduced throughput by 800,000 b/d during the first three weeks of the month.

Gasoline was the main contributor to the build in total commercial stocks after a surge of 15m b, or 484,000 b/d, to 224.6m b, the highest level since last February and helped by strong imports and high yields from refineries. At nearly 225m b, gasoline stocks were 2.5m b above the figure for the corresponding month of the previous year and seven per cent higher than the five-year average.

In contrast to crude oil and gasoline, a decline in imports, combined with the recovery in heating oil demand as the weather turned colder in the north-east, the main heating-oil consuming region, left middle distillate stocks at 137m b, which corresponds to 1.0m b below the previous month and almost 2.0m b lower than a year earlier, but 10m b above the five-year average. Residual fuel oil stocks continued to hover at around 43m b, the same

level as last year and the five-year average. Similarly, jet fuel stocks remained stable at around 40m b, but were 4.4m b lower y-o-y.

In the week ending February 9, total US commercial crude oil stocks fell by 11.4m b from the previous week to average 1,020.40m b, but remained 57m b, or eight per cent, above the five-year average. The bulk of this draw came from the 10.7m b decrease in product inventories, while crude oil stocks experienced a slight draw of 600,000 b. The fall in crude oil stocks for the second consecutive week surprised the market which had expected a build of around 1.0m b. At 324m b, crude oil inventories were one per cent below the year-ago level, but still nine per cent above the five-year average. On the product side, gasoline stocks dropped by 2.1m b to 225.2m b, the first decline in nine weeks. This drop was mainly attributed to the decline in imports and production. As expected, distillate stocks fell by 3.0m b to 133.3m b, with the bulk of the draw resulting from the 2.7m b decrease in heating oil stocks, reflecting increased demand. However, distillate stocks remained 11 per cent above the five-year average.

Western Europe

Total commercial oil stocks in EU-16 (Eur-15 plus Norway) dropped for the second consecutive month to settle at 1,152m b at the end of January, driven by a strong decline in crude oil stocks. This drop of 4.4m b, or around 142,000 b/d, from the revised figure of 1,156m b left total oil stocks 10m b lower than a year earlier and 70m b above the five-year average.

Crude oil stocks ended the month below 474m b after the second consecutive decline. The substantial draw of 14m b, or 450,000 b/d, displayed in January left stocks at their lowest level since the end of 2005 and displayed a drop of 7.0m b from a year ago. The decline in crude oil stocks was due to a modest increase in refinery throughput and a decline in imports following tanker delays in the Turkish Strait and the temporary stoppage of crude flows from Russia's Druzhba pipeline.

Contrary to crude oil, product stocks increased by almost 10m b, with middle distillates contributing to 50 per cent of the build.

Middle distillate stocks rose by 4.2m b, or 135,000 b/d, to stand at 393.4m b at the end of the month, which was 1.2m b higher than a year earlier. The contra-seasonal build came as a result of an increase in heating oil stocks, due to weak demand because of the mild weather and increasing imports of diesel from Russia.

Gasoline stocks have risen since September, reaching nearly 137m b by the end of January. This represents a gain of almost 2.7m b over the previous month, but a decline of around 14m b, or nine per cent, from the same period last year. The continuous build in gasoline inventories is attributed to slowing demand and a lack of arbitrage opportunities to the US market. Fuel oil stocks rose by 1.9m b to hit a high level of almost 118m b, which corresponds to an increase of 5.4m b, or five per cent, above a year ago. Similarly, naphtha inventories edged up by 900,000 b to approach 30m b, leading to a y-o-y surplus of 3.0m b, or 14 per cent.

Japan

Total commercial onland oil stocks in Japan experienced a draw for the second consecutive month to stand at 198m b at the end of December. Despite the draw of 9.4m b, or 4.5 per cent, compared with the previous month, Japan's oil stocks remained almost 16m b above the level seen at the end of 2005. Most of the decline came from products, which accounted for 70 per cent of the total draw, while the remaining 30 per cent was from crude oil.

Crude oil inventories dropped by 2.8m, or 2.4 per cent, to stand at around 112m b. This was as a result of an increased refinery utilization rate, which averaged more than 90 per cent in December, the highest level recorded in the last nine months. However, compared with the same period last year, end of December crude oil stocks showed a y-o-y increase of 7.3m b and were 3.0m b above the five-year-average.

On the product side, middle distillates accounted for the bulk of the decline, falling by 5.6m b to stand below 42m b. This significant drop of nearly 12 per cent from the previous month, due essentially to kerosene, which declined for the third consecutive month, was supported by a substantial 65 per cent increase

in domestic sales, due to the cold weather. Kerosene stocks dropped by 14 per cent to around 27m b.

After remaining stable at around 13.6m b over the previous three months (September-November), gasoline stocks fell back to the August figure of 12.6m b as a consequence of healthy domestic sales. After July, Japan's gasoline stock levels were the lowest for the year. Similarly, naphtha stocks fell a further 900,000 b to settle below 11m b, the lowest end-month level in 2006. This was due to strong demand, driven by the return of petrochemical plants from seasonal maintenance. In contrast, ample supply contributed to the build in residual fuel oil stocks, which increased by 800,000 b to 20.8m b. Fuel Oil BC was the contributor to the build with 1.0m b, while Fuel Oil A dropped by 100,000 b. At the end of 2006, all stocks were higher than a year ago, except for naphtha, which stood 1.6m b, or 13 per cent, lower.

Preliminary data for January 2007 showed that crude oil stocks declined by around 4.0m b between the end of 2006 and the week ending January 27, while middle distillates and gasoline saw a build of 3.0m b and 600,000 b, respectively, leaving total onland stocks almost unchanged from the previous month.

Balance of supply/demand

Estimate for 2006

Demand for OPEC crude in 2006 is estimated to average 30.4m b/d. On a quarterly basis, the estimate shows OPEC demand at 31.3m b/d, 29.6m b/d, 30.1m b/d and 30.6m b/d, respectively. According to secondary sources, OPEC's total crude oil production capacity stood at 34.8m b/d at end of 2006, up from 33.8m b/d at the end of 2005.

Forecast for 2007

Demand for OPEC crude in 2007 is expected to average 30.25m b/d, a drop of 150,000 b/d from the 2006 figure. On a quarterly basis, the forecast shows OPEC demand at 31.14m b/d, 29.19m b/d, 30.31m b/d and 30.36m b/d, respectively.



Table E: World crude oil demand/supply balance m b/d

World demand	2002	2003	2004	2005	1Q06	2Q06	3Q06	4Q06	2006	1Q07	2Q07	3Q07	4Q07	2007
OECD	47.9	48.6	49.3	49.6	50.2	48.0	48.8	49.9	49.2	50.3	48.1	49.0	50.2	49.4
North America	24.1	24.5	25.4	25.5	25.1	25.1	25.5	25.4	25.3	25.3	25.2	25.6	25.7	25.4
Western Europe	15.3	15.4	15.5	15.5	15.8	15.0	15.4	15.7	15.5	15.6	15.1	15.5	15.7	15.5
Pacific	8.5	8.6	8.5	8.6	9.3	7.9	7.9	8.8	8.5	9.3	7.8	7.9	8.8	8.4
Developing countries	20.3	20.6	21.7	22.4	22.7	23.2	23.2	23.3	23.1	23.2	23.7	23.9	24.0	23.7
FSU	3.7	3.8	3.8	3.8	3.7	3.6	3.8	4.0	3.8	3.8	3.5	3.8	4.1	3.8
Other Europe	0.8	0.8	0.9	0.9	1.0	0.9	0.9	0.9	0.9	1.0	0.9	0.9	1.0	0.9
China	5.0	5.6	6.5	6.5	7.1	7.3	7.2	6.9	7.1	7.4	7.9	7.7	7.3	7.6
(a) Total world demand	77.8	79.3	82.3	83.3	84.7	83.0	83.9	85.0	84.1	85.7	84.0	85.3	86.5	85.4
Non-OPEC supply														
OECD	21.9	21.7	21.3	20.5	20.3	20.0	20.0	20.4	20.2	20.3	20.4	20.1	20.7	20.4
North America	14.5	14.6	14.6	14.1	14.1	14.1	14.3	14.4	14.3	14.4	14.5	14.4	14.7	14.5
Western Europe	6.7	6.4	6.2	5.8	5.7	5.3	5.1	5.3	5.4	5.3	5.2	5.0	5.3	5.2
Pacific	0.8	0.7	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7
Developing countries	10.6	10.7	11.0	11.3	11.4	11.5	11.6	11.7	11.6	11.7	11.7	11.9	12.1	11.8
FSU	9.3	10.3	11.1	11.5	11.7	12.0	12.1	12.3	12.0	12.5	12.7	12.7	12.9	12.7
Other Europe	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	3.4	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Processing gains	1.7	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Total non-OPEC supply	47.2	48.1	49.0	48.9	49.2	49.2	49.4	50.1	49.5	50.3	50.4	50.5	51.6	50.7
OPEC NGLS and non-conventionals	3.6	3.7	4.0	4.0	4.2	4.2	4.3	4.3	4.3	4.3	4.4	4.5	4.6	4.4
(b) Total non-OPEC supply and OPEC NGLS	50.8	51.8	53.0	53.0	53.4	53.4	53.8	54.4	53.7	54.6	54.8	55.0	56.2	55.1
OPEC crude supply and balance														
OPEC crude oil production¹	26.2	27.8	30.0	31.1	31.1	30.9	31.2	30.5	30.9					
Total supply	77.0	79.6	83.0	84.1	84.5	84.3	84.9	84.9	84.7					
Balance²	-0.8	0.3	0.7	0.8	-0.2	1.4	1.0	-0.1	0.5					
Stocks														
OECD closing stock level m b														
Commercial	2478	2517	2547	2595	2596	2654	2767	2674						
SPR	1347	1411	1450	1487	1487	1493	1495	1496						
Total	3825	3928	3998	4082	4083	4148	4262	4170						
Oil-on-water	815	882	905	961	964	975	969	na						
Days of forward consumption in OECD														
Commercial onland stocks	51	51	51	53	54	54	55	53						
SPR	28	29	29	30	31	31	30	30						
Total	79	80	81	83	85	85	85	83						
Memo items														
FSU net exports	5.6	6.5	7.3	7.7	8.0	8.4	8.3	8.2	8.2	8.7	9.2	9.0	8.8	8.9
[(a) – (b)]	27.0	27.6	29.3	30.3	31.3	29.6	30.1	30.6	30.4	31.1	29.2	30.3	30.4	30.2

1. Secondary sources.

Note: Totals may not add up due to independent rounding.

2. Stock change and miscellaneous.

Table E above, prepared by the Secretariat's Energy Studies Department, shows OPEC's current forecast of world supply and demand for oil and natural gas liquids.

The monthly evolution of spot prices for selected OPEC and non-OPEC crudes is presented in **Tables One and Two** on page 54 while **Graphs One and Two** (on page 55 show the evolution on a weekly basis. **Tables Three to Eight**, and the corresponding graphs on pages 56–57, show the evolution of monthly average spot prices for important products in six major markets. (Data for Tables 1–8 is provided by courtesy of Platt's Energy Services).

Table 1: OPEC Reference Basket crude oil prices, 2006–2007

\$/b

Crude/Member Country	2006												2007		Weeks 1–5 (week ending)				
	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Jan 5	Jan 12	Jan 19	Jan 26	Feb 2	
Arab Light – Saudi Arabia	58.43	56.56	57.54	63.85	64.83	65.03	69.06	68.76	59.72	55.64	55.53	57.70	50.85	54.37	50.63	48.55	50.22	52.18	
Basrah Light – Iraq	55.59	52.32	54.01	61.18	62.32	62.38	66.49	65.42	56.40	51.53	52.31	55.23	47.63	50.69	46.97	45.18	47.42	49.62	
BCF-17 – Venezuela	47.90	45.90	49.52	56.01	56.62	55.01	58.72	60.29	50.96	46.99	46.86	48.56	42.68	45.50	42.92	40.44	41.72	44.92	
Bonny Light – Nigeria	64.04	62.12	63.80	71.80	71.75	70.22	75.49	75.29	63.87	58.75	60.32	64.28	56.18	58.20	54.50	53.93	57.45	58.37	
Es Sider – SP Libyan AJ	61.77	59.12	60.22	67.03	67.25	66.62	71.42	70.72	61.54	56.20	57.32	60.73	52.08	54.10	50.40	49.83	53.35	54.41	
Iran Heavy – IR Iran	57.10	55.43	56.56	63.09	63.27	62.24	66.59	66.42	57.14	53.27	53.97	55.75	47.90	51.38	47.56	45.71	47.43	49.27	
Kuwait Export – Kuwait	56.52	55.01	55.80	62.20	62.80	62.37	66.35	66.02	56.75	53.02	53.56	55.69	48.42	52.03	48.30	46.18	47.74	49.77	
Marine – Qatar	59.85	59.06	59.39	65.62	66.29	66.16	70.21	70.05	60.90	57.15	57.33	59.25	52.58	56.19	52.53	50.30	51.88	53.73	
Minas – Indonesia	63.35	61.35	62.30	69.17	70.47	68.49	74.13	75.42	63.32	54.87	56.93	62.55	55.39	61.04	55.44	52.65	53.97	55.42	
Murban – UAE	62.72	61.77	62.33	68.46	69.84	69.66	73.70	73.66	65.01	61.04	60.94	63.12	56.42	60.38	56.46	54.20	55.52	57.23	
Saharan Blend – Algeria	64.06	61.59	62.98	70.21	70.31	69.15	74.37	74.50	63.27	58.55	59.77	63.55	55.78	57.80	54.10	53.53	57.05	58.13	
OPEC Reference Basket	58.48	56.62	57.87	64.44	65.11	64.60	68.89	68.81	59.34	54.97	55.42	57.95	50.73	53.99	50.27	48.45	50.42	52.28	

Table 2: Selected OPEC and non-OPEC spot crude oil prices, 2006–2007

\$/b

Crude/country	2006												2007		Weeks 1–5 (week ending)				
	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Jan 5	Jan 12	Jan 19	Jan 26	Feb 2	
Arab Heavy – Saudi Arabia	54.91	53.52	54.08	60.74	60.88	59.84	63.74	63.57	54.56	50.49	51.54	53.71	46.15	49.81	46.08	43.94	45.43	47.47	
Brent – North Sea	63.05	60.12	62.08	70.35	69.83	68.69	73.66	73.11	61.71	57.80	58.92	62.33	53.68	55.70	52.00	51.43	54.95	56.01	
Dubai – UAE	58.56	57.61	57.82	64.14	65.07	65.22	69.17	68.92	59.82	56.36	56.72	58.69	51.92	55.46	51.77	49.75	51.27	53.15	
Ekofisk – North Sea	63.34	60.36	62.53	70.32	69.88	68.45	73.74	73.09	62.24	58.17	59.14	62.17	53.93	55.72	52.39	52.08	54.96	56.17	
Iran Light – IR Iran	58.99	57.00	58.77	65.14	64.67	64.30	68.81	68.49	58.56	55.42	55.39	56.98	49.12	52.35	48.52	46.61	49.08	50.73	
Isthmus – Mexico	58.54	53.87	56.85	64.51	64.82	63.88	68.30	67.47	57.18	52.46	53.34	56.82	48.90	51.93	48.12	46.36	48.63	51.64	
Oman – Oman	59.35	58.61	59.19	65.54	66.39	66.17	70.22	70.12	61.01	57.32	57.36	59.34	52.38	56.17	52.40	50.12	51.60	53.39	
Suez Mix – Egypt	56.92	54.54	55.54	62.43	62.46	61.95	66.51	65.78	56.96	52.91	53.60	55.05	47.19	49.49	46.61	44.75	47.53	49.29	
Tia Juana Light ¹ – Venez.	54.27	50.97	52.32	58.77	58.66	56.98	60.93	60.99	52.35	48.05	51.63	54.89	47.83	50.78	47.06	45.34	47.56	50.51	
Urals – Russia	59.58	57.06	58.11	64.95	65.09	64.51	69.20	68.49	59.47	55.68	55.95	57.95	50.12	52.75	49.53	47.71	50.43	51.81	
WTI – North America	65.39	61.49	62.82	69.46	70.89	70.88	74.33	73.01	64.00	58.82	58.94	61.96	54.40	57.69	54.07	51.75	53.65	57.03	

Note: As of January 2006, monthly averages are based on daily quotations (as approved by the 105th Meeting of the Economic Commission Board). As of June 16, 2005 (ie 3W June), the OPEC Reference Basket has been calculated according to the new methodology as agreed by the 136th (Extraordinary) Meeting of the Conference.

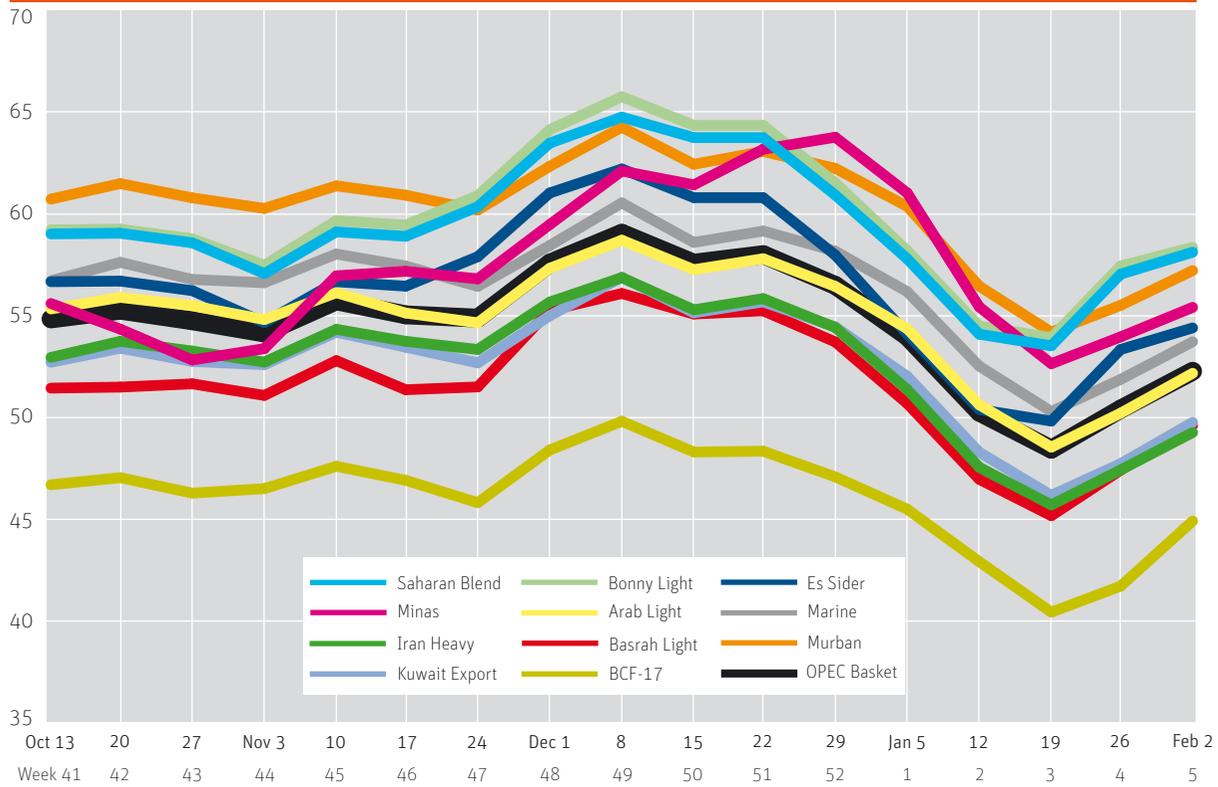
1. Tia Juana Light spot price = (TJL netback/Isthmus netback) x Isthmus spot price.

Brent for dated cargoes; Urals cif Mediterranean. All others fob loading port.

Sources: The netback values for TJL price calculations are taken from RVM; Platt's; Reuters; Secretariat's assessments.

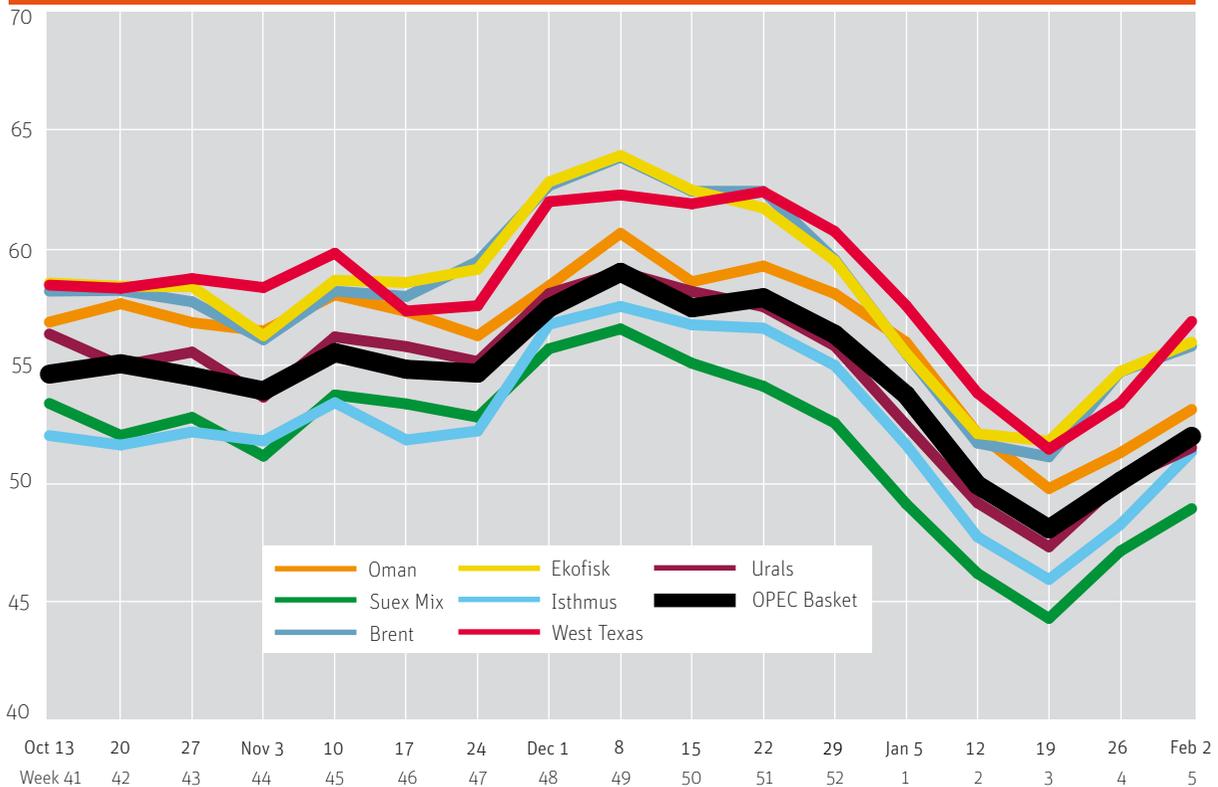
Graph 1: Evolution of the OPEC Reference Basket crudes, October 2006 to January 2007

\$/b



Graph 2: Evolution of spot prices for selected non-OPEC crudes, October 2006 to January 2007

\$/b



Note: As of January 2006, monthly averages are based on daily quotations (as approved by the 105th Meeting of the Economic Commission Board). As of June 16, 2005 (ie 3W June), the OPEC Reference Basket has been calculated according to the new methodology as agreed by the 136th (Extraordinary) Meeting of the Conference.

Table and Graph 3: North European market – spot barges, fob Rotterdam

\$/b

	naphtha	regular gasoline unleaded	premium gasoline 50ppm	diesel ultra light	jet kero	fuel oil 1%S	fuel oil 3.5%S
2006							
January	73.50	67.85	76.37	73.79	76.16	45.19	42.21
February	68.79	62.43	70.12	72.76	74.31	47.04	44.03
March	69.12	68.03	76.53	77.42	76.52	45.37	44.02
April	77.49	80.84	90.97	84.69	84.70	47.77	47.67
May	78.73	83.24	93.84	86.03	87.00	47.14	48.13
June	80.63	84.91	95.72	86.13	87.06	44.65	44.60
July	84.43	91.03	102.17	87.80	89.69	46.10	46.79
August	81.35	82.74	93.21	89.75	91.68	46.38	46.41
September	68.51	64.54	72.69	77.31	79.71	42.04	40.67
October	66.51	59.57	67.12	74.92	73.68	37.91	39.25
November	67.40	61.17	69.11	74.53	73.81	38.69	38.70
December	71.49	64.58	72.94	75.60	78.27	37.32	37.82
2007							
January	66.59	57.72	65.11	67.79	70.78	36.04	33.81

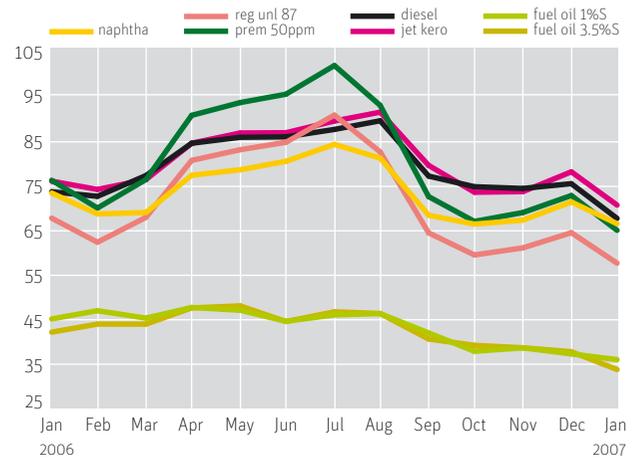


Table and Graph 4: South European market – spot cargoes, fob Italy

\$/b

	naphtha	premium gasoline 50ppm	diesel ultra light	fuel oil 1%S	fuel oil 3.5%S
2006					
January	59.23	75.71	74.58	47.98	39.62
February	56.42	68.48	74.41	51.10	42.56
March	57.70	77.70	77.59	47.73	43.29
April	64.78	90.10	84.93	47.66	46.28
May	65.85	94.46	87.09	48.89	46.44
June	67.45	95.00	85.85	46.95	44.47
July	70.21	102.69	88.92	49.59	46.80
August	67.81	93.24	89.83	49.86	44.99
September	56.94	71.74	77.33	40.94	39.72
October	55.46	67.91	73.68	38.41	37.96
November	56.16	70.33	74.31	38.29	37.49
December	59.44	73.54	75.64	38.42	37.37
2007					
January	54.77	64.62	66.93	34.63	34.49

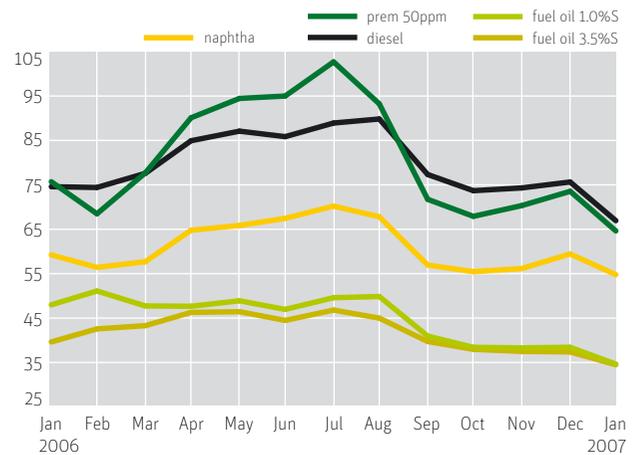
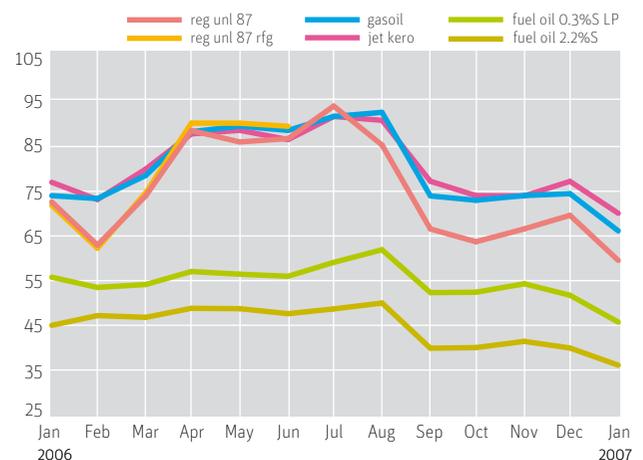


Table and Graph 5: US East Coast market – spot cargoes, New York

\$/b, duties and fees included

	regular gasoline unleaded 87	regular gasoline unt 87 rfg	gasoil	jet kero	fuel oil 0.3%S	fuel oil 2.2%S
2006						
January	72.61	71.85	74.01	77.00	55.77	44.99
February	62.95	62.25	73.36	73.15	53.47	47.17
March	73.97	74.67	78.53	79.97	54.13	46.78
April	88.59	90.25	88.32	87.84	57.04	48.80
May	86.03	90.23	89.57	88.63	56.44	48.72
June	86.79	89.54	88.62	86.56	55.98	47.60
July	94.07	na	91.74	91.74	59.09	48.67
August	85.35	na	92.66	90.87	61.91	49.98
September	66.56	na	73.96	77.24	52.32	39.88
October	63.69	na	72.98	74.03	52.40	40.01
November	66.58	na	74.04	73.96	54.29	41.40
December	69.62	na	74.46	77.21	51.73	39.92
2007						
January	59.52	na	66.13	70.07	45.71	36.07



na not available.

Source: Platts. Prices are average of available days.

Table and Graph 6: Caribbean market – spot cargoes, fob

\$/b

	naphtha	gasoil	jet kero	fuel oil 2%S	fuel oil 2.8%S
2006					
January	67.61	73.77	77.25	40.99	40.34
February	60.19	69.56	74.65	43.17	42.44
March	71.08	74.98	79.53	42.78	42.56
April	79.53	83.72	88.06	44.80	44.65
May	72.61	83.50	87.84	44.72	44.65
June	81.20	81.20	88.22	43.60	43.37
July	82.38	82.39	91.23	44.67	44.55
August	71.17	85.12	90.20	46.00	45.51
September	61.91	72.46	76.92	35.88	35.81
October	61.31	69.90	73.81	36.01	35.93
November	62.44	69.83	73.86	37.40	37.24
December	63.97	70.72	76.90	35.92	34.92
2007					
January	57.18	63.61	70.10	32.07	32.02

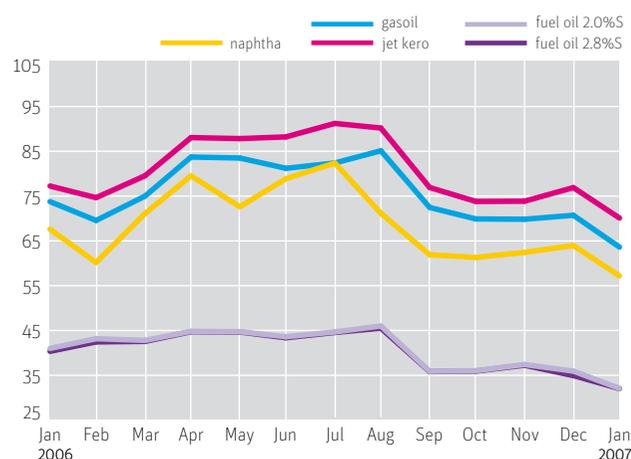


Table and Graph 7: Singapore market – spot cargoes, fob

\$/b

	naphtha	premium gasoline unl 95	premium gasoline unl 92	diesel ultra light	jet kero	fuel oil 180 Cst	fuel oil 380 Cst
2006							
January	58.26	66.78	65.42	77.61	77.02	46.72	45.33
February	56.65	65.02	64.20	79.36	74.96	49.18	47.95
March	59.82	69.64	69.05	82.11	75.66	49.43	48.89
April	64.45	81.13	80.15	90.68	85.55	51.81	51.32
May	65.59	86.80	86.17	92.78	85.55	52.02	51.32
June	68.06	82.76	82.21	89.13	86.18	49.68	48.46
July	70.55	85.50	84.47	88.17	87.57	52.28	50.72
August	66.59	81.22	80.36	88.19	89.47	50.16	47.61
September	57.32	65.86	65.18	77.75	80.55	43.25	42.24
October	56.03	61.83	61.21	73.12	74.02	42.46	42.40
November	57.66	62.89	62.14	72.04	73.63	40.53	39.84
December	60.54	68.16	67.03	74.14	77.42	41.47	40.34
2007							
January	56.79	61.59	60.31	69.71	69.66	41.23	40.24

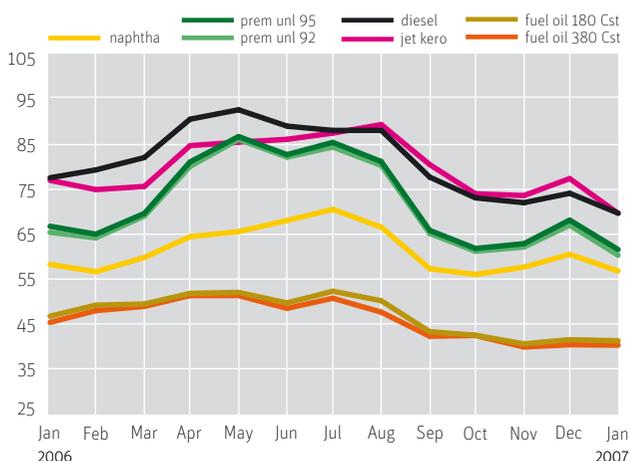
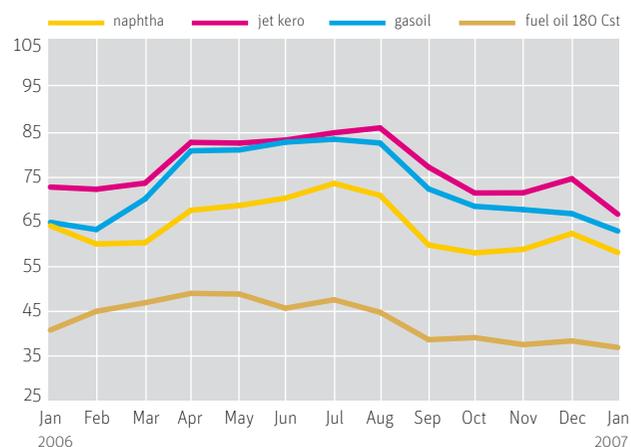


Table and Graph 8: Middle East Gulf market – spot cargoes, fob

\$/b

	naphtha	gasoil	jet kero	fuel oil 180 Cst
2006				
January	64.19	64.95	72.85	40.82
February	60.10	63.33	72.36	45.01
March	60.39	70.17	73.73	46.93
April	67.65	80.97	82.86	49.03
May	68.72	81.18	82.71	48.87
June	70.37	82.91	83.38	45.71
July	73.66	83.57	85.02	47.60
August	70.99	82.72	86.11	44.79
September	59.86	72.42	77.31	38.65
October	58.12	68.54	71.53	39.12
November	58.90	67.80	71.56	37.55
December	62.45	66.90	74.72	38.38
2007				
January	58.19	63.00	66.76	36.91



na not available.

Source: Platts. Prices are average of available days.

Forthcoming events

2nd MidEast Petroleum: briefing, March 19, 2007, Dubai, UAE. Details: Global Pacific Partners, Suite 7, 4 Montpelier Street, Knightsbridge, London SW7 1EE, UK. Tel: +44 207 589 7804; fax: +44 207 589 7814; e-mail: babette@glopac.com; website: www.petro21.com.

Essentials of gas trading, March 19–20, 2007, London, UK. Details: IFF, IIR Ltd, 29 Bressenden Place, London SW1E 5DR, UK. Tel: +44 207 017 7190; fax: +44 207 17 7802; e-mail: enquiries@iirltd.co.uk; website: www.iff-training.com.

Introduction to the natural gas industry ... from wellhead to burner-tip, March 19–20, 2007, Calgary, Canada. Details: Canadian Energy Research Institute, #150, 3512–33 Street NW, Calgary T2L 2A6, Canada. Tel: +1 403 282 1231; fax: +1 403 284 4181; e-mail: sjohnsgaard@ceri.ca; website: www.ceri.ca.

4th MidEast upstream 2007, March 20–21, 2007, Dubai, UAE. Details: Global Pacific Partners, Suite 7, 4 Montpelier Street, Knightsbridge, London SW7 1EE, UK. Tel: +44 207 589 7804; fax: +44 207 589 7814; e-mail: babette@glopac.com; website: www.petro21.com.

ARTC 10th annual meeting, Refining & petrochemical, March 20–22, 2007, Bangkok, Thailand. Details: Global Technology Forum, Highview House, Tottenham Crescent Epsom Downs, Surrey KT18 5QJ, UK. Tel: +44 1737 365100; fax: +44 1737 365101; e-mail: events@gtforum.com; website: www.gtforum.com.

Risk management in gas trading, March 21–22, 2007, London, UK. Details: IFF, IIR Ltd, 29 Bressenden Place, London SW1E 5DR, UK. Tel: +44 207 017 7190; fax: +44 207 17 7802; e-mail: enquiries@iirltd.co.uk; website: www.iff-training.com.

Spill 06, March 21–23, 2007, London, UK. Details: Spearhead Exhibitions Ltd, Oriol House, 26 The Quadrant, Richmond, Surrey TW9 1DL, UK. Tel: +44 208 439 8900; fax: +44 208 439 8901; e-mail: enquiries@spearhead.co.uk; website: www.smartregister.co.uk/events/spill06.

6th Georgian international oil, gas, energy and infrastructure conference, March 22–23, 2007, Tbilisi, Georgia. Details: ITE Group plc, 105 Salusbury Road, London NW6 6RG, UK. Tel: +44 207 596 5233; fax: +44 207 596 5106; e-mail: oilgas@ite-exhibitions.com; website: ite-exhibitions.com.

Fuel oils: understanding quality tests, March 24–25, 2007, Fujairah, UAE. Details: The Conference Connection Administrators Pte Ltd, 105 Cecil Street #07–02 The Octagon, 069534 Singapore. Tel: +65 622 202 30; fax: +65 622 201 21; e-mail: info@cconnection.org; website: www.cconnection.org.

Heavy oil recovery, March 25–28, 2007, Qingdao, China. Details: Society of Petroleum Engineers, Suite B-11-11, Level 11, Block B, Plaza Mont'Kiara, Jalan Bukit Kiara, Mont'Kiara, Kuala Lumpur 50480, Malaysia. Tel: +60 3 6201 2330; fax: +60 3 6201 3220; e-mail: spekl@spe.org; website: www.spe.org.

Advanced bunkering course, March 26, 2007, Fujairah, UAE. Details: The Conference Connection Administrators Pte Ltd, 105 Cecil Street #07–02 The Octagon, 069534 Singapore. Tel: +65 622 202 30; fax: +65 622 201 21; e-mail: info@cconnection.org; website: www.cconnection.org.

Rotating equipment Middle East 2007, March 26–27, 2007, Abu Dhabi, UAE. Details: IQPC Ltd, Anchor House, 15–19 Britten Street, London SW3 3QL, UK. Tel: +44 207 368 9300; fax: +44 207 368 9301; e-mail: enquire@iqpc.co.uk; website: www.iqpc.co.uk.

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202 30; fax: +65 622 201 21; e-mail: info@cconnection.org; website: www.cconnection.org.

African national oil companies, March 27, 2007, London, UK. Details: Global Pacific Partners, Suite 7, 4 Montpelier Street, Knightsbridge, London SW7 1EE, UK. Tel: +44 207 589 7804; fax: +44 207 589 7814; e-mail: babette@glopac.com; website: www.petro21.com.

6th TUROGE and Black Sea oil and gas exhibition & conference, March 27–29, 2007, Ankara, Turkey. Details: ITE Group plc, 105 Salusbury Road, London NW6 6RG, UK. Tel: +44 207 596 5233; fax: +44 207 596 5106; e-mail: oilgas@ite-exhibitions.com; website: ite-exhibitions.com.

4th PetroAfricanus forum, March 28–29, 2007, London, UK. Details: Global Pacific Partners, Suite 7, 4 Montpelier Street, Knightsbridge, London SW7 1EE, UK. Tel: +44 207 589 7804; fax: +44 207 589 7814; e-mail: babette@glopac.com; website: www.petro21.com.

Offshore Mediterranean conference & exhibition, March 28–30, 2007, Italy, Ravenna. Details: IES Srl Exhibition Organiser, Viale LC Farini 14, 48100 Ravenna, Italy. Tel: +39 0544 219418; fax: +39 0544 39347; e-mail: info@omc.it; website: www.omc.it.

14th PetroAfricanus dinner, March 29, 2007, London, UK. Details: Global Pacific Partners, Suite 7, 4 Montpelier Street, Knightsbridge, London SW7 1EE, UK. Tel: +44 207 589 7804; fax: +44 207 589 7814; e-mail: babette@glopac.com; website: www.petro21.com.

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Natural gas market fundamentals, March 29–30, 2007, Calgary, Canada. Details: Canadian Energy Research Institute, #150, 3512–33 Street NW, Calgary T2L 2A6, Canada. Tel: +1 403 282 1231; fax: +1 403 284 4181; e-mail: sjohnsgaard@ceri.ca; website: www.ceri.ca.

China international oil and gas conference, April 3–4, 2007, Beijing, China. Details: ITE Group plc, 105 Salusbury Road, London NW6 6RG, UK. Tel: +44 207 596 5237; fax: +44 207 7596 5106; e-mail: matthew.moss@ite-exhibitions.com; website: www.ite-exhibitions.com/og.

Asia gas conference 2007, April 10–11, 2007, Singapore. Details: Asia Business Forum Pte Ltd, 3 Raffles Place #09-01, 048617 Singapore. Tel: +65 6536 8676; fax: +65 6536 4356; e-mail: cindy.sze@abf.com.sg; website: www.af-asia.com.

6th North Caspian regional Atyrau oil and gas exhibition and conference, April 11–13, 2007, Atyrau, Uzbekistan. Details: ITE Group plc, 105 Salusbury Road, London NW6 6RG, UK. Tel: +44 207 596 5233; fax: +44 207 7596 5106; e-mail: oilgas@ite-exhibitions.com; website: www.ite-exhibitions.com/og.

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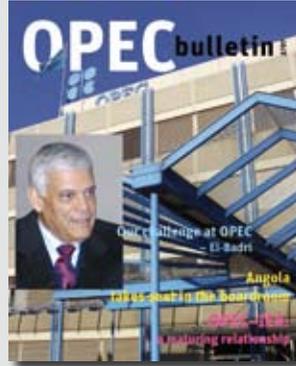
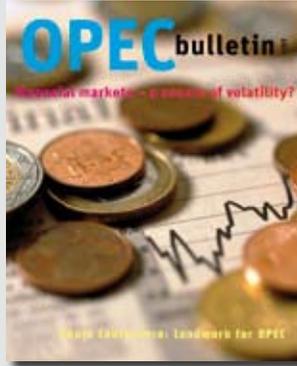
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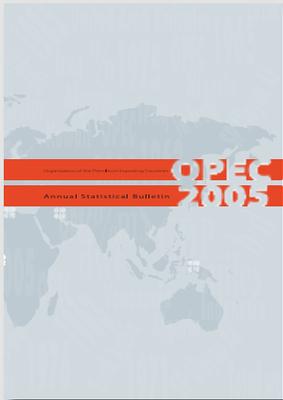


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