

This month's cover ...

shows Acehnese children carrying boxes of food aid in the town of Calang, in Aceh province, Indonesia (see p3, p28 and pp34-35).
AP Photo/Dita Alangkana



OPEC bulletin

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Reuters/George Estiri

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The Organization comprises the five Founding Members and six other Full Members: Qatar (joined in 1961); Indonesia (1962); SP Libyan AJ (1962); United Arab Emirates (Abu Dhabi, 1967); Algeria (1969); and Nigeria (1971). Ecuador joined the Organization in 1973 and left in 1992; Gabon joined in 1975 and left in 1995.

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OUR FRAGILE EARTH

Last month's devastating Indian Ocean tsunami reminds us that we should strive to do good on our common planet

The New Year is traditionally a time of hope, a time for making plans, a time when we look forward to the future, wondering what it may hold. This year, it was different. On December 26, an undersea earthquake in the Indian Ocean triggered a series of powerful tidal waves, or tsunami, that raced



Acehnese searching for their missing relatives look at a list of people being treated at a hospital in Banda Aceh, Indonesia

through the deep water and, when they hit land, caused unimaginable devastation and massive loss of life in the countries of the region, including OPEC Member Indonesia. At first, communications with many of the affected areas were cut off. Then the pictures of the tragedy began to arrive, first a trickle, and then in a flood of shocking images. New Year celebrations around the world were understandably muted as the scale of what had happened began to sink in.

With a disaster of this magnitude, it is impossible to know the precise number of those who died, although it is already more than 220,000 and will no doubt rise further. Nor do we know the exact cost of the damage. We do, however, know that the affected countries were developing nations who can ill afford to bear the cost of reconstruction, and that many of the victims were poor coastal residents who earned their living from fishing or tourism-related activities. As the recovery process begins, aid is now arriving from all around the world including, of course, from the OPEC Member Countries (governments and private citizens alike), the OPEC Fund for International Development and other organizations.

The power of modern communications technology such as satellite television and the Internet means that we are able to witness a devastating natural disaster like the Indian Ocean tsunami — which has caused so much economic damage and claimed so many innocent

lives — almost as if we were there ourselves. And that should give everyone cause to reflect for a moment. The scale of the tsunami tragedy and the international aid response has once again emphasized the universal theme that we all share the same planet, and that we share it not only with more than six billion of our fellow human beings, but also with forces of nature that are so powerful they can sweep away our lives and everything we hold dear in an instant.

We cannot, of course, control the power of nature, but we can all work towards creating a better, more harmonious world. The international aid effort has shown how people from the most diverse backgrounds around the world can work together as one to help the victims of the tsunami. Let us all be encouraged by this response, and let us aim to put aside all the differences in our daily lives which often prevent us from achieving a more harmonious world. As we remember the victims of the tsunami, their relatives and everyone affected by the disaster in our prayers, we should remember the importance of always trying to do good towards our fellow human beings, and we should continue to strive towards that goal.



UAE aims for greater efficiency in energy sector, says new Minister



The UAE's Minister of Energy, HE Mohamed Bin Dhaen Al Hamli (pictured), gave this interview to Editor Lizette Kilian of OPEC's PR & Information Department at the 133rd (Extraordinary) OPEC Conference in Cairo.

Photos: OPEC

Question: Congratulations on your appointment as the UAE's first Minister of Energy. First of all, can you tell us why the Ministries of Petroleum & Mineral Resources and Electricity & Water were merged? What benefits are foreseen from the merger?

Answer: Thank you for congratulating me on my appointment as Minister of Energy. Regarding your question about the merger between the Ministry of Petroleum & Mineral Resources and the Ministry of Electricity & Water, there is no doubt there are benefits from it. Power generation requires sources of energy such as natural gas, oil, coal and others such as nuclear and hydro.

The Gulf region's demand for fresh

water and electricity is sharply rising, hence more power generation and desalination plants are being constructed. Natural gas is widely used in power generation and desalination plants in the Gulf region. Therefore, the merging process between the two Ministries should lead to greater efficiency and more co-ordination between the various sectors within the Ministry of Energy.

Could you outline for us your country's future plans to further increase its level of crude oil production and its spare production capacity?

The UAE is the fourth-largest proven oil

reserves holder in the world and over the years it has developed its production capacity in line with the growth in world demand for oil. There are at present ongoing projects to expand the UAE's oil production capacity further in order to meet the world's rising need for energy.

Does the UAE have any plans to increase its refining capacity, either to meet growing domestic demand or to export the products to growing markets, such as Asia?

The UAE has recently expanded its refining sector to process condensate and it will take the proper action to expand it further, if needed.



Photo: OPEC

Can you give an update on the Dolphin natural gas project, which aims to link the gas infrastructure of your country with those of Qatar and Oman? How far has the Dolphin project progressed and what will the next steps be?

The Dolphin project is the first regional project of its type in the Gulf. It will carry natural gas via sub-sea pipeline from Qatar's North field to the UAE and Oman. The project is progressing as planned and the first phase should be completed in late 2006.

How much importance do you place on projects such as the Joint Oil Data Initiative, which aims to bring greater transparency and stability to the oil market by increasing the accuracy and reliability of oil data?

The UAE strongly supports the Joint Oil Data Initiative, as it aims to bring more transparency and stability to the oil market.

Both producing and consuming countries are participating in this Initiative, which has benefits for both sides, as it increases the accuracy and the reliability of oil data. The UAE is also actively participating in the Initiative and will continue to do so.

The UAE recently opened its first wind power plant. Given the UAE's enormous hydrocarbon reserves, can you tell us why the decision was taken to construct a wind power plant, and if there are plans to construct any more in the future?

The UAE's policy is to encourage research and development, not only in oil and gas but also in other energy sectors. The recent construction of a wind power plant is a step in that direction. There is a possibility that more wind power plants will be constructed, but their commercial use will be limited compared to conventional sources of energy.

Pictured above (l-r): Director, UAE Minister's Office, Mohamed Ahmed Al-Hosani; HE Al Hamli; Adviser on Petroleum and Economic Affairs, Dr Ibrahim Ismail; and Lizette Kilian.

EGYPT is “optimistic about co-operation” says country’s Minister of Petroleum



At the 133rd (Extraordinary) OPEC Conference in Cairo, Egypt’s Minister of Petroleum, HE Eng Amin Sameh Fahmy, discussed a broad variety of energy-related subjects in this interview with Media Relations Officer Dr Abdulrahman Al-Kheraigi and Editor Lizette Kilian of OPEC’s PR & Information Department.

Question: Your Excellency, you have been reported as saying that the Cabinet will soon discuss a proposal for Egypt to join OPEC. Has any progress been made on this?

Answer: It would be a great honour for Egypt to become a Member of OPEC. However, there is continuing discussion between myself and the Cabinet on whether Egypt would be best suited to join the Organization.

Q: You recently expressed the view that it would be crucial for African countries to co-operate in the field of oil production in order to create an integrated oil industry in Africa to attract capital for joint projects in the fields of producing and refining crude oil and natural gas and manufacturing petrochemicals. In your opinion, how realistic is this considering the current situation on the continent?

A: Egypt expresses the hope that the member countries of the African Petroleum Producers Association (APPA) will continue to seize the opportunity of meeting together to exchange ideas and share experiences and best practices that will result in stronger co-operation among producers on the African continent in order to encourage investment in upstream and downstream oil and gas, as well as petrochemical projects. Egypt is optimistic about co-operation among African countries and there is nothing to indicate that the facilitation of this union will not be possible. As an oil and gas producer, with years of experience to offer but with continued interest in learning from others in the industry, it can only benefit all members of the APPA to pursue dialogue and co-operation that will enable the objectives of the association to come true. And it must also be noted that the efforts of African countries themselves in the last few years will contribute to the APPA's progress.

Q: You recently held talks with the Secretary General of APPA on recent developments in the world oil market and their impact on African producing countries. Are you concerned about the impact of high oil prices on the Egyptian economy?

A: The Egyptian economy has not been greatly affected by high oil prices. End us-

ers are not negatively affected by rising oil prices, as local prices are fixed by the government. As for gas prices, the Ministry of Petroleum was successful in amending concession agreements setting a ceiling and a floor for gas prices. In addition, Egypt has a positive net export/import balance, which means that higher prices are finally in our favour.

Q: You recently announced a series of appointments in the country's energy sector — what were the reasons behind this?

A: There are a number of reasons that we have appointed new associates within the energy sector. The Ministry of Petroleum has recently joined forces with the mineral resources sector. We are trying to support this sector with the expertise of the petroleum sector. Another important aspect has been our concern with promoting the younger generation to take leading positions in all areas of the energy sector. This will contribute to the overall betterment of Egypt now and in the future.

Q: The recent rise in Egypt's gas reserves and production means that you are now looking at export options for this extra gas. Can you

give us an update on exports by pipeline? What are the quantities and to which countries will the gas be piped?

A: During the past few years, Egypt has been successful in making several major gas discoveries, adding to its proven gas reserves. By mid-2004, proven gas reserves had increased to reach 66 trillion cubic feet. Current proven gas reserves can comfortably satisfy local demand and provide a surplus for export without affecting economic development plans or future generations.

We have already started gas exports through the Arab Gas Pipeline. The first phase, inaugurated in July 2003, extends from El-Arish to Aqaba and exports gas from Egypt to Jordan at a rate of 1.1 billion cu metres/year. This will be increased gradually to approximately 3–4bn cu m/y by 2010.

The second phase, extending the pipeline from Aqaba to the Jordanian/Syrian border, is scheduled to be completed by the end of 2005, and will supply gas to different power stations and industrial zones along its path in Jordan. In future phases, the pipeline will extend to Europe across Syria and Turkey.



Photo: Ministry of Petroleum



Photo: Ministry of Petroleum

The Damietta gas facilities

Egypt has already signed two declarations of intent with Syria, Lebanon, Turkey, Jordan, Romania, Bulgaria, Hungary, and Austria to study the extension of the Arab Gas Pipeline and define a corridor across these countries to Central Europe using future planned pipelines, especially the Nabucco pipeline, which is currently being studied in detail by the concerned countries. Moreover, Egypt has recently signed a framework agreement with Turkey establishing a joint task force to finalize this issue.

Q: Your first LNG project, built by Union Fenosa at Damietta on the coast, is due to ship its first cargo soon. Can you give us an update on the progress of the project, and what markets will it supply?

A: The Damietta LNG plant is the biggest ever built worldwide. Its capacity is 7.5bn cu m/y and the project can accommodate up to three plants. The Egyptian petroleum sector has a 20 per cent share in the project.

The project is already in the start-up phase and the first shipment to Spain

Egypt's recent upstream international bidding

Second upstream bid round:

1. Egyptian General Petroleum Corporation (EGPC)

Closing date:	September 28, 2004
Number of blocks offered:	15
Blocks for which offers received:	11
Number of offers received:	34
Number of companies:	22 (10 newcomers)

2. Ganoub El Wadi Holding Co

Closing date:	November 15, 2004
Blocks for which offers received:	1
Number of offers received:	3

Previous upstream bid round (EGPC)

Closing date:	November 15, 2003
Number of blocks offered:	15
Blocks for which offers received:	10
Number of blocks awarded:	9

Summary for 2004

Number of concession agreements issued:	25
Agreements under processing:	28
Currently active bid rounds:	12

The Arab Gas Pipeline

Photo: Ministry of Petroleum

is scheduled for this month (December 2004). It will export LNG to Spain and Italy.

Q: Your second LNG project at Idku will be built by BGI/Petronas. Can you tell us how this is progressing and is it still on schedule to begin production in 2005 as planned?

A: The Idku LNG plant comprises two trains and can accommodate up to six trains, each with a capacity of 5.0bn cu m/y. The first train is scheduled to start up during 2Q05, and the second train is scheduled to start up by the fourth quarter of the year. Both trains are ahead of schedule. The shareholders — BG, Petronas, Gaz de France, EGAS and EGPC, together with Bechtel and their local subcontractors ENPPI and Petrojet — are all doing an excellent job. We believe that the Egyptian petroleum sector is setting a precedent for LNG project execution: six years from discovery to export.

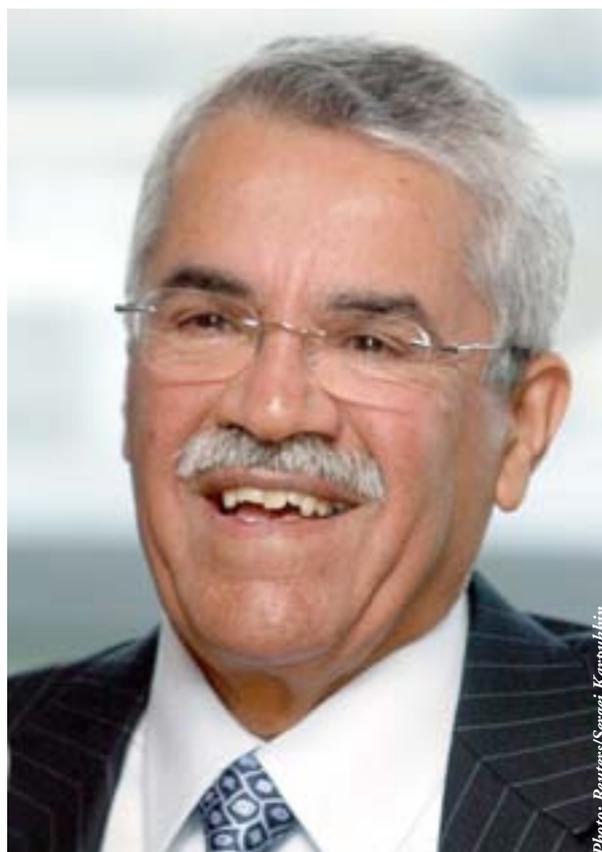
Excellency, thank you very much for your time and for hosting the 133rd OPEC Conference in Cairo. ❀

Below: HE Fahmy (c) with OPEC's Media Relations Officer, Dr Abdulrahman Al-Kheraigi (r) and Editor, Lizette Kilian



Photo: OPEC

Saudi Arabia could boost reserves by 200 billion barrels, says Minister



Saudi Arabia, the world's largest oil producer and exporter, could increase its huge reserves by another 200 billion barrels, according to the Kingdom's Minister of Petroleum and Mineral Resources, **HE Ali I Naimi*** (pictured above).

* Based on HE Naimi's speech at the inauguration by HRH Crown Prince Abdullah of the Qatif producing plants in Saudi Arabia, December 26, 2004.



Photo: Saudi Aramco

Inlet crude oil pipes leading to a low-pressure degassing tank at the Qatif gas-oil separation plant

About 65 years ago, the founder of the Kingdom of Saudi Arabia, His Majesty King Abd Al-Aziz ibn Abd Ar-Rahman Al Saud, announced the start of shipments of Saudi oil to world markets, marking the start of the Kingdom's role as an influential world oil power.

Now HRH Crown Prince Abdullah has inaugurated the Qatif mega-project, which will raise the Kingdom's productive capacity to unprecedented levels and support its present and future determination to play a vital pioneering role in the world oil industry.

Between these two periods, the King-

dom has taken sure and confident steps towards becoming the most important oil country in the world. This included the development of several other fields that allowed the Saudi economy, which is the most important and largest at the Middle East level, to become one of the top 25 economies worldwide.

The Qatif producing plants inaugurated by the Crown Prince are considered some of the most important petroleum projects at the national and international levels. They will contribute to the efforts to increase Saudi Arabia's production capacity and will enhance the Kingdom's ca-

pability to continue performing its unique leading role in both the oil market and the international oil industry.

Our success is due to the fact that our international oil policy is based on meticulous studies of the present and the future, and is drawn from the experiences that we have accumulated throughout the past decades. It also takes into account numerous international variable factors.

This policy seeks to strike a balance between the Kingdom's present interests of acquiring a profitable flow of oil income and its future interests in maintaining oil as the main source of energy for decades

to come, while preserving our position as the most important oil-producing and exporting country.

The Kingdom, being a positive and constructive member of the world community, contributes continuously to the stability and development of the world economy in a manner that agrees with its interests. This includes the Kingdom's interest in finding a balance between supply and demand in the world oil market and the stability of oil prices within a suitable range that benefits the producing countries without causing harm to consuming countries or the world economy or negatively affecting the oil industry and the role of oil as the main source of energy.

Vital commodity

This policy has proven to be successful. The 80 oil-producing countries have collected good revenues from their oil resources. The Kingdom has been recognized and sincerely praised by all countries of the world, producers, consumers and especially the developing countries for having a policy based on guaranteeing market stability and the fulfilment of the world's need for this vital commodity. That policy has also contributed to the prosperity of the oil industry at the local, regional and international levels.

Undoubtedly, what supports this policy is the fact that the Kingdom's established producible reserves of oil now amount to about 261 billion barrels, representing around a quarter of world reserves.

During the past 20 years, the Kingdom has been able to replace previously produced oil through the discovery and development of additional reserves. What calls for more optimism in the future is that there are great opportunities to increase the Kingdom's producible oil reserve by about 200bn b, either through new discoveries or increasing the percentage of extractible oil from known reserves.

It is certain that our ability to produce and increase our productive capacity is the most important issue for us that closely relates to the Kingdom's role and policy. Through the years, we have proven that we have this ability as, during the past 30 years, the Kingdom has been able to increase its production whenever needed.

That happened during the first Gulf Crisis in the early 1980s, during the sec-



Engineers at the offshore Abu Sa'fah project

ond Gulf Crisis in the early 1990s, in 2003 when several production crises occurred in some countries, and in 2004 when demand for oil increased unexpectedly.

At present, the Kingdom's maximum production capacity amounts to 11 million barrels/day of oil, including a surplus production capacity of around 2.0m b/d that could be used for the benefit of the Kingdom and the peoples of the world when needed.

Without doubt, what has helped in increasing this production capacity is the completion of a number of giant production projects in major oil fields in South Riyadh, Shaybah and Haradh, in addition to the Qatif producing plants.

There are also plans to develop other fields in the coming years, the most important of which are the development projects at the Abu Hadriya, Fadhili and Khursaniyah fields and the production project at the Khurais field, among others. These fields are characterized by their low sulphur, light crude oil. With these development projects, we aim to satisfy the demand expected for the Kingdom's oil on the one hand and to expand the base of our oil production on the other.

For the past five years, the Kingdom of Saudi Arabia has witnessed increasing economic growth. The actual gross domestic product has increased during that period by about 30 per cent and the per capita income has increased by about 20 per cent. Opportunities are made available to national and international investors and suitable job opportunities are offered to citizens.

Without doubt, the increase in oil prices and the rise in production have played a role in realizing these achievements. However, the most important contributor is the economic and oil policy followed by the Kingdom under the directions of the Custodian of the Two Holy Mosques, King Fahd, and the Crown Prince, which concentrate on open economy, increased transparency, reorganization of productive enterprises and the reduction of bureaucracy.

In the oil, gas and mining sector, we have benefited greatly from these policies. The Qatif project and the previous ones

were the result of this wise policy. The gas initiative opened the way for international companies to invest in the exploration and production of gas in the Kingdom and we expect that this initiative will lead to great results.

The approval of the oil and gas strategies has also contributed to the accurate formulation, determination and clarity of the goals of this vital industry, and to the enhancement of the Kingdom's capabilities to process and use natural gas. In this respect, it should be mentioned that the Gas Supply and Pricing Regulations and the Natural Gas Tax Regulations have also been issued.

In the mining sector, the Kingdom has established the Saudi Geology Survey Bureau and the Ma'adin Company and approved the Mining Regulations, which are characterized by transparency and can attract investment into this important industry.

The Kingdom's goal of exploiting and developing oil and gas goes far beyond merely obtaining revenues from this exhaustible natural resource. Our goal is to exploit this natural resource to achieve better and more continuous economic growth, as well as welfare and satisfaction for this and the coming generations. This requires a strong economic structure that relies on several integrated bases while refraining from dependence on a single source of income, no matter how important it is.

We should, therefore, not look at oil as a main source of income. We should strive to benefit from the Kingdom's relative advantage of the availability of large cost-effective quantities of oil and gas to expand the base of the national economy.

In this context, current activities include the attraction of foreign and national investments to construct oil refineries in the Kingdom for export and local consumption. At present, national and foreign investments are being localized and attracted in the fields of energy services such as drilling, engineering, equipment manufacturing and the like. Sufficient supplies of oil and gas are also being made available to produce enough quantities of electricity, desalinated water and to provide fuel

and raw materials for petrochemical industries, which will all contribute to the expansion and diversification of the Saudi economy.

In addition to the foregoing, within the coming few years, the Kingdom will become a leading producer in the fertilizer and aluminium industries, due to the use of bauxite and phosphate raw materials which are available in large quantities in the north of the country. By linking these with the abundant resources of gas, oil and sulphur, the Kingdom will get added value from investment in this field and benefit from the relative advantage which goes beyond the exportation of raw materials of these major resources.

Educational revival

It must be stressed that it is important that all these efforts are accompanied by a qualitative educational revival that provides training programmes to enable citizens to obtain qualifications and play an effective role in all fields of work and development. This is what we are actually doing in the oil and mining sector. When we express our pride in construction projects like Qatif, we express our pride in the young citizens who have achieved them, and who are masterfully doing their work all over our country in a spirit of real citizenship.

Sincere congratulations are due to all employees of the oil industry in the Kingdom for achieving this great feat within record time, and for the efforts they exerted in making this a reality. Thanks are also due to all those who have contributed to the work on Qatif, including international and national contractors, and to all the government departments that have joined hands with the oil sector by expediting many of the steps and overcoming many of the obstacles in the execution of this project, in order to make it part of our national economy.

Finally, particular thanks are due to the Crown Prince for his continuous attention to the Kingdom's oil industry, and his interest in following the sector's activities and achievements, which has contributed to the continued progress and prosperity of the industry.

Is natural gas threatening
the future of oil?



Natural gas has enjoyed a remarkable rate of expansion in recent years, writes **Dr Naji Abi-Aad***, but will this success continue, and for how long? The many and varied factors on which this depends are explored in this article.

Although oil continues to dominate the global energy scene, still accounting for around 37 per cent of the world's primary consumption, its position of primacy has been eroded considerably since the early 1970s. One of the principal beneficiaries of the decline in oil's dominance has been natural gas, which is likely to continue to be the only fuel to gain a greater share in the global energy market, at least in the foreseeable future. This is helped by the obvious similarities between oil and natural gas as fuels, which suggest a wide range of possibilities for inter-fuel substitution.

The share of natural gas in the world energy demand has grown substantially since the mid-1960s, clearly affecting the market for other sources of primary energy, if not by taking existing markets from them, then certainly by depriving them of much of the potential for further growth.

Between 1980 and 2003, annual world demand for natural gas increased on average by three and a half times the percentage growth rate of oil consumption, and more than twice that of total primary energy. In fact, demand for natural gas during that period increased by an average annual rate of around 2.8 per cent, compared to some 0.8 per cent for oil, and nearly 1.2 per cent for total world consumption of primary energy. In 2003, international demand for natural gas reached a record of 2,332 million tons of oil equivalent, representing some 23.9 per cent of world primary energy demand.

Dr Abi-Aad is Managing Director of Beirut-based economic and energy consultants Econergy. This article is based on the author's paper delivered at the Middle East Gas Summit in Dubai, United Arab Emirates, November 27–30, 2004.



Reuters/George Esiri

An LNG tanker is loaded at Bonny in Rivers State, Nigeria

Why has gas been so successful?

A wide range of reasons have been behind the success of natural gas in its rapid and increasing penetration of the global energy market and its capture of a growing share from oil and other fuels.

Natural gas has been helped by a fundamental evolution of its transportation economics. It is clear that the obvious disadvantage of gas is the high cost of moving it, due principally to the high pressure of gas per unit of volume, which requires much more steel in a pipeline or storage tank. The physical characteristics of natural gas also mean that much more horsepower is needed to transmit by pipeline the same quantity of energy compared with oil. It costs about four times as much to transport gas by overland pipeline as it does to move an equivalent amount (in energy content) of crude oil. Submarine pipeline gas transmission costs are higher still by a factor of three to four, and it costs 12 times as much to move gas by carrier (in liquefied form) as it does to transport oil in tankers.

These issues have been aggravated by the fact that more than 70 per cent of gas reserves and many sources of gas supply are located in areas far from their poten-

tial markets, and in regions with hostile environments. The resulting difficulties led to the development of distinctive regional markets for natural gas (Western Europe, North America), in addition to which natural gas discoveries were written off in other parts of the world where, if gas happened to be produced with oil, it was either flared or re-injected.

Then came the period of high oil prices in the 1970s and early 1980s, which transformed the whole economics of natural gas. Higher oil prices meant higher burner-tip values for gas, and those higher values meant the extension of the economic reach of gas. They justified huge capital investments in transporting natural gas by pipeline to Europe from North Africa and the former Soviet Union (FSU). These higher oil prices also substantially improved the economics of transporting natural gas in liquefied form, which — together with technological advances — have made additional markets accessible for gas, especially in South-East Asia, notably Japan.

The boost to gas due to the development of liquefied natural gas technology and the improvement of its economics can be inferred from the statistics of LNG trade over the past twenty-eight years. By 1975,

The enormous Arun natural gas fields at Lhokseumawe in the Indonesian province of Aceh



AP Photo/Ed Wiley



Reuters/Morazan Nisombaal

Two Iranians working on phase one of the South Pars gas field at Asalouyeh seaport, 900 km south-west of Tehran

LNG was already firmly established as a recognisable segment of the international gas industry, with shipments in that year totalling some 10 billion cubic metres. By 2003, the total had reached around 169bn cu m, representing an average annual increase of about 10 per cent over the 28-year period. During that year, about 80bn cu m of LNG, or some 47 per cent of the world total, were imported by Japan alone. Without the technological advances in the liquefaction and subsequent transportation of natural gas that occurred over this period, Japan would likely have consumed only negligible quantities of indigenous gas.

In addition, natural gas was stimulated — and will continue to be stimulated — by a symbiotic effect related to high oil prices. This is the spill-over impact upon gas exploration of higher oil prices. As oil-targeted drilling increased, more gas was discovered collaterally. Gas production benefited significantly when higher prices, through the mid-1980s, catalysed an upsurge in oil drilling. Much gas is still found as the incidental result of oil exploration, even though improved seismic techniques and much advanced digital analytical methods have made the selective identification of gas vis-à-vis oil targets more accurate. None-

theless, more oil drilling has led to more gas discoveries.

The use of natural gas has also been boosted by the rapid expansion in the demand for electricity, which in turn creates a growing market for those fuels used to power electricity-generating plants. For some years now, the fuel of choice to satisfy this incremental demand has been natural gas, burned in both gas turbines and combined-cycle gas turbines (CCGT).

Established infrastructure

Indeed, the inherent characteristics of natural gas and the relatively high oil prices have enabled gas to make great inroads into the electric power sector in many countries. Where natural gas is easily available at an acceptable price and the infrastructure well established, it has been able to dominate the power market and become oil's fiercest competitor. In this role, natural gas has been helped by the easing in some countries, such as those of the European Union (EU), of the highly restrictive policy on gas combustion for power generation.

Natural gas has also been helped by improvements in both gas-turbine and combined-cycle technologies, which are mak-

ing the economics of natural gas use in power generation very attractive indeed. In the CCGT sector, the net efficiency has recently reached a high 60–65 per cent, compared with the typical 33 per cent efficiency of conventional thermal plants. A related development currently gaining momentum, especially in Western Europe, is the trend towards combined heat and power plants: these mostly gas-fired stations, which use waste heat for space heating or further industrial processes, rather than venting it into the atmosphere, can achieve efficiencies between 70–90 per cent. Each percentage point improvement in efficiency results in a significant reduction in unit costs and a concomitant shortening of the capital recovery period, which is very important for capital-intensive projects like power stations.

Furthermore, CCGT plants have lower capital costs and can be built much more quickly, which helps generators to keep pace with the rapidly-rising demand for electricity and thus avoid power cuts and brown-outs. Although the direct fuel costs

Facilities of Russia's biggest independent gas producer Novatek in the Yamalo-Nenets autonomous region

of a gas plant may be relatively higher, the initial capital investment and construction lead-time are both considerably lower. For a private company, whose discount rates are likely to be significantly higher than those used by a public firm, this is enough to swing the balance in favour of gas.

Gas-fired power plants are not only highly efficient, but also pollute less, a boon in an era of heightened concern about atmospheric pollution and environmental issues. The burning of oil and coal is regarded, rightly or wrongly, as the real culprit behind climate change and is held responsible for the so-called global warming by raising the level of carbon dioxide in the atmosphere. Increasing pressures stemming from those concerns have led to the adoption of the Kyoto Protocol, which is aimed at a drastic reduction in oil

and coal consumption in favour of 'friendlier' sources of energy like natural gas.

Indeed, the use of natural gas in CCGT plants, compared with conventional oil- or coal-fired units, results in a halving of carbon dioxide emissions, a cut of two-thirds in nitrogen oxide emissions and the virtual elimination of sulphur dioxide and particulate emissions. This environmental aspect ought to work in favour of natural gas, not only in the power industry but in many other energy-using economic sectors, helping this energy source to be clearly positioned as the cleanest of fossil fuels, ideally suited to coping with increasing environmental pressures.

The success of natural gas owes a lot not just to the pull of consumer demand, high oil prices, technology and environmental concerns, but also to the push of



Reuters/Novatek Press Service

policy, with many gas producers making great efforts to expand the export of their most abundant resources. The assiduous promotion of ever greater exports of natural gas is exemplified by countries like Russia, Algeria and Qatar, which have huge gas reserves and somewhat fewer oil resources. The opening of those countries' gas reserves for foreign investors is aimed at ensuring the continued growth of their gas industries.

Huge proven reserves

The proven reserves of natural gas in the Russian Federation, estimated at the beginning of 2004 at 47,000bn cu m, are equivalent to nearly 300bn barrels of oil, or 4.3 times larger than its reserves of oil. Algeria's reserves of natural gas, at 4,520bn cu m, are equivalent to around 28.8bn b

of oil, more than 2.5 times its proved oil reserves of 11.3bn b. Qatar's gas reserves lie mostly in the giant North field — the world's largest single gas field — and are believed to exceed 25,770bn cu m, or the equivalent of some 164bn b of oil. This vast quantity of gas is almost eleven times that of Qatar's own reserves of crude, and is equal to the total oil reserves of all the countries in North and South America.

With such large gas reserves, it is not surprising to find that gas exports have been extremely important for these three countries. Indeed, the gas exports of Russia (nearly 2.3 million barrels/day of oil equivalent in 2003) are more than 37 per cent of its oil exports (some 6.0m b/d), while Algeria's exports of natural gas (at around 1.05m boe/d in 2003) are almost 42 per cent larger than its oil exports (about

740,000 b/d in the same year). The gas exports of Qatar, the newcomer in the international gas arena, already represent around 28 per cent of its total petroleum exports (some 1.2m boe/d in 2003).

These three gas giants are pushing hard to expand their market share. Whereas Qatar has been aggressively promoting its gas mainly in south-east Asia, the Indian sub-continent, southern Europe and the regional markets (the Gulf and eastern Mediterranean), Russia and Algeria have been concentrating particularly on western Europe. Russia's Gazprom has created a host of downstream affiliates jointly with national gas companies in its target markets, while Algeria's Sonatrach recently announced integrated gas exploration, production and marketing agreements with several gas firms there.

While these countries, among many others, are trying to foster ever-greater gas exports, several gas-producing states are actively pursuing the enhanced use of indigenous gas, either to release more oil for export or to reduce the prospective need for oil imports. This is exemplified in the Middle East by Egypt, Syria and Saudi Arabia.

The other policy-oriented issue with positive influence on natural gas demand is the reawakened anxiety among the governments of the main energy-consuming countries about their dependence on oil from the Middle East and the need to diversify both the sources and supplies of energy. Several conflicts in the region have periodically served to remind the major consuming nations of the relative instability of the Middle East on which they depend for the bulk of their oil imports, and have strengthened their resolve to reduce their dependence on the area's crude.

Although the Middle East accounts for a large proportion of the world's natural gas reserves (around 41 per cent at the beginning of 2004), its position is far less dominant in gas than it is in crude (Middle East oil reserves accounted for more than 63 per cent of the world total at the beginning of the same year). This allows a greater possibility of supply diversification over the years, which, together with the provision of adequate storage facilities in the consuming countries, ought to help buying greater security of energy supplies.

Recently, a major evolution in the US



Photos: ENI

The Mellitah gas plant on the Libyan coast, from where gas is piped to Europe



regulatory controls that has heightened competition in all corners of the gas industry has been also helping natural gas. In 1993–94, open-access pipeline policies were fully implemented there, creating full gas-to-gas competition, resulting in sharp price reductions and subsequent demand growth.

This unbundling of gas supply companies and the consequent decline of gas prices in the USA has so far been fully enforced in Europe only in England. But similarly, when the European Commission fully establishes open access to gas supplies in the EU as part of its planned and adopted internal energy market policy, this will result in lower end-user gas prices, which will have a major effect in spurring growth in European gas consumption.

Will the success of gas continue?

The future of natural gas, this clean, efficient and environmentally-friendly fossil fuel, mostly depends on the trends that lie ahead for certain factors: expansion in established demand sectors, inroads in new consuming domains, the level of oil prices, and technological developments affecting the comparative transport costs of the different energy sources.

What are the expansion prospects for gas demand and for its incursion into new sectors? The use of natural gas has been confined almost exclusively to the boiler fuel sector, where there are no such barriers to the expansion of its use. While the

prospects are certainly bright for a much higher use of natural gas in power generation in the industrialised countries, they are likely to be even brighter in regions where rapidly-growing demand for electricity requires new power plants to be built — and quickly. This will probably be the case in the emerging economies of Asia-Pacific, Latin America and many other regions of the world.

In the residential sector of most industrialised countries, the penetration of natural gas may have almost reached saturation point in terms of its traditional role as fuel for space heating and cooking. There, the market for oil is restricted either to areas that are too remote from existing natural gas infrastructure for it to be economical for fuel substitution to take place, or to countries without a gas grid. Unless there is a large enough shift in the relative price of natural gas with respect to domestic heating oil to offset the initial cost to the consumer of getting connected to an established or a new gas supply network, the remaining share of oil in the residential sector is unlikely to face a serious threat from gas.

A switch to natural gas by existing industrial consumers of oil is as unlikely as it is in the residential sector, while the fuel choices of new users will continue to be based on relative prices and the requirements of the industrial processes under consideration. Moreover, the use of natural gas for steam production in industri-

al processes will continue to come under pressure from other fuels, while gas is not expected to be under threat in the production of ammonia and methanol.

In the transportation sector, the volume of natural gas used is still insignificant. The sector is dominated by gasoline and diesel, as well as aviation fuels and other oil products. Nevertheless, concerns over the level of pollution from exhaust emissions have already prompted a number of vehicle manufacturers throughout the industrialised countries to investigate the potential of alternative fuels, including electricity, biomass, hydrogen and natural gas.

Natural gas can be used as an automotive fuel either in compressed form (CNG) or in liquefied form, as LNG. Neither form of natural gas can compare though with the energy output per unit of volume offered by gasoline or diesel. The characteristics of natural gas as an automotive fuel therefore favour its use in larger utility-type cars, trucks and buses, which can accommodate more easily the larger fuel tanks required and have relatively short operating ranges. However, this may not always be the case.

Nevertheless, environmental concerns have also made oil refiners look at ways of reformulating gasoline and diesel in order to meet very stringent emission regulations. This is the most likely route to be taken in meeting auto emission targets in the short and medium terms. The most economic, ecological fuel additive

is methyl tertiary butyl ether (MTBE), an oxygenate with 25 per cent of methanol, which has to be added to gasoline with a minimum concentration of 11 per cent. To produce 1,000 barrels of MTBE, around 56,700 cu m of natural gas are required. This suggests that the use of natural gas in the transportation sector in the foreseeable future is likely to be as part of the production of fuel additives, the demand for which will grow to meet clean air legislation in many consuming countries.

Natural gas will therefore find an immediate niche in the transportation sector, but — initially at least — it will help oil to retain its domination in the sector rather than pose a threat to it. In the long term, the ability of natural gas to make serious inroads into the transportation sector will depend critically on the ease with which it can be made available to potential consumers. Until natural gas filling stations appear on every street corner (which will need huge investments) to rival the existing gasoline infrastructure, oil will not be seriously threatened as the fuel for the vehicle transportation sector.

Environmental responsibility

However, major inroads into the transportation sector could be brought about by government edict. Legislation in the name of environmental responsibility may at some time in the future either directly prohibit the use of certain fuels, or alter their relative prices so as to make substitution a viable proposition.

On other hand, natural gas being in fierce direct competition with oil, future price trends of the latter will surely have a bearing on gas consumption. In fact, the future success of gas in capturing more of oil's share is also related to the level of oil prices, which directly influence those of gas.

Although the transport disadvantage of gas is large, the higher the oil price, the farther out gas is able to reach, either by pipeline or by tanker, because the energy-related costs of shipping are relatively small in relation to the fixed costs. Thus, each dollar increase in the price of oil adds to the marketable distance for gas. Many

believe that each incremental dollar added to the price of a barrel of oil adds between 380–420 km to the competitive range of pipeline gas and 920–1,000 km to that of LNG shipments.

In contrast, weaker oil prices do not favour natural gas. Low oil prices discourage the production and consumption of gas, especially as a large portion of the world's reserves is found in the FSU and the Middle East, far from the consuming areas and thus burdened with relatively high costs of transportation. All of this indicates that the major chances and opportunities for natural gas lie in high oil prices.

In the case of LNG, what is required is an oil price that is not only high, but that remains stable at a high level for a relatively long period of time. Obviously, price volatility can adversely affect the long-term economic feasibility of LNG investments, jeopardizing the capital recovery. Nevertheless, technological progress, which can reduce the cost of transporting liquefied gas, might well alter LNG economics positively.

The alternative of transporting gas through pipelines has to contend not only with the high cost of construction, which can be covered only when oil is highly priced, but also — and perhaps more importantly — with geopolitical problems. In this instance, investment in piped gas can be justified only in terms of a high premium that covers both the economic and the political risks. Technological innovations, allowing pipelines to be built in very deep waters and thus to surmount land borders and political and other barriers, could definitely be a plus in encouraging consumers to rely more and more on natural gas.

Another price-related topic is related to the emergence of gas-to-liquids (GTL) technology. The higher the oil price, the more viable and feasible GTL becomes, which allows the holders of large natural gas resources to adopt a wider portfolio approach to the monetisation of their reserves. By producing high quality products, the GTL industry will surely have some impact on the oil market. However, that impact will remain of minor importance, considering

that products from GTL, which is still in its infancy, will represent less than one per cent of the world's oil production in the early years of the next decade, even if all the planned units see the light of day.

If real oil prices were to fall to low levels and remain there, is there a floor below which the price of natural gas could not go, in which case gas would eventually lose out to oil? In the light of the discussion above, it seems unlikely that there will be such a floor. Rather, it will be a matter of comparative transport costs, as has been the case in the past. The comparative costs of moving oil and natural gas from wellhead to consumer will be the key factor governing which fuel obtains the largest share of the business. Any technological advance affecting the economics of transporting any of those energy sources will therefore have real impacts on the markets.

Two important qualifications must be appended to this statement. One is that it leaves out of the reckoning political issues (frequently blended with environmental factors), which often over-ride economic considerations — especially regarding the Middle East. The other is that where governments are involved in the ownership and supply of energy sources, there is almost unlimited scope for them to distort economic decisions, either by fiscal intervention or by direct or indirect subsidies.

But are there enough reserves of natural gas to cope with any growth in demand? There is no doubt that natural gas resources are abundant, with global proven reserves today sufficient to cover more than 67 years of current consumption, and cope with anticipated increases in demand for at least the period to 2030. Add to those proved reserves a similar level of undiscovered conventional gas resources, and the prospects for gas production growth through to the mid-21st century can be achieved.

Beyond that, if need be, there remain the prospects for the growth of the industry related to exploiting non-conventional reserves from coal-bed methane, tight formation gas, geo-pressured gas, and gas from fractured shales, as well as ultra-deep gas.



Saudi Arabia inaugurates Qatif producing plants

Photos: Saudi Aramco



A night view of the Abu Sa'fah stabilization columns

Saudi Arabia's Crown Prince Abdullah, the Kingdom's First Deputy Prime Minister and Head of the National Guard, officially inaugurated state oil and gas firm Saudi Aramco's Qatif producing plants mega-project at the end of December.

The inauguration ceremony marked the completion of the 800,000 barrels/day crude oil field development programme, said Saudi Aramco in a statement. As well as the 800,000 b/d of crude, the plants have the capacity to provide 370 million cubic feet/day of associated gas.

The Qatif producing plants programme was completed just two years after construction began in August 2002. The giant project required 1.8m work hours to design and 70m work hours to construct.

It incorporates numerous technological advances to increase operational efficiency and environmental safety, including an onshore smokeless flare system and a new sulphur recovery system at the Berri gas plant, which has an efficiency rate of 99 per cent.

The project required a workforce of about 15,000 labourers, craftsmen and professionals of various nationalities, who were employed at various different sites both within and outside the Kingdom.

Speaking at the ceremony, Saudi Arabia's Minister of Petroleum and Mineral Resources, Ali I Naimi, said that the country's petroleum industry was making steady progress while sustaining its leading role both domestically and internationally, in accordance with the directives of the Custodian of the Two Holy Mosques, King Fahd, and the Crown Prince.

The Qatif producing plants project, said the Minister, would boost the Kingdom's capacity and contribute to expanding and promoting the national economy.

He pointed out that Qatif was just one of several mega-projects in the petroleum





Photo: Saudi Aramco

A drilling rig at the offshore Abu Sa'fah field

sector that had been implemented recently, and there were other major projects currently being planned which would be carried out over the coming years (see *Forum section for details of the Minister's speech*).

The President and Chief Executive Officer of Saudi Aramco, Abdallah S Jum'ah, said that the Qatif project had provided the firm with an opportunity to demonstrate its unique capabilities by implementing many advanced technologies that increased Qatif's efficiency and made it economically advantageous.

"Such technologies include, but are not limited to, drilling horizontal extended-reach and multi-lateral fishbone wells; applying the Fieldbus technology, which allows the connection of many observation, measurement and control instruments in a single cable system; using the latest advance acid recipe to improve well performance; installing improved gas turbines and smokeless flares; and using one of the world's most advanced and efficient sulphur recovery systems, where the recovery rate reaches 99 per cent," Jum'ah said.

The Qatif producing plants programme utilizes crude from two main fields: the onshore Qatif field and the offshore Abu Sa'fah field.

Qatif, which is located north of Saudi Aramco's headquarters at Dhahran in the Eastern Province, covers an area of more than 195 square miles, including the northern and southern dome structures. This component of the project has the capacity to produce 500,000 b/d of Arabian Light crude.

The offshore Abu Sa'fah field contains an estimated 6.1 billion barrels of oil reserves below more than 65 square miles of seafloor. It was discovered in 1963 and has been in operation since 1966. The recent development of the field boosted its capacity from 150,000 b/d to 300,000 b/d of Arabian Medium crude.

In addition to the dozens of wells that have been drilled both onshore and

offshore, new gas-oil separation plants (known as GOSPs) have been built to accommodate the new production. The existing Berri gas plant has also been modernized so that it complies with the Kingdom's sulphur dioxide emission requirements.

The 300,000 b/d of Arabian Medium crude from Abu Sa'fah is shipped through a new 42-inch submarine pipeline extending 60 km to the new onshore GOSP for further processing and stabilization. The stabilized Abu Sa'fah crude is then shipped to the terminal at Ras Tanura for export.

The work also included building a network of pipelines linking facilities to each other and the Ras Tanura and Ju'aymah terminals, the construction of a communications network consisting of a 90-metre communications tower, 250 km of fibre-optic cable linking all facilities, and a digital infrastructure that links the Qatif facilities to Saudi Aramco's communications network.

The Qatif producing facilities, added the Saudi Aramco statement, mark another milestone because they are the first to be self-sufficient in power and steam, through the construction of an on-site cogeneration plant. Exhaust from the power station is harnessed to produce steam for the plant, which not only achieves cost savings but also results in reduced emissions.

Prior to the ceremony at the Qatif fa-

ilities, the Crown Prince also inaugurated several mega-projects at Jubail Industrial City and laid the foundation stone of Jubail Industrial City II, according to a statement from the Saudi Embassy in Washington.

According to the Royal Commission for Jubail, these mega-projects include those of the Power and Water Utility Company for Jubail and Yanbu (Marafiq) and several affiliates of the Saudi Basic Industries Corporation (SABIC).

Total investment in these projects is estimated at more than 224 billion Saudi riyals (about \$59.7bn), most of which will be generated by the private sector and foreign investors, said the statement.

The planned expansion of Jubail Industrial City — to be known as Jubail Industrial City II — is situated north of the original facilities and will consist of 19 primary industries, in addition to several secondary and support industries, which will mainly be owned by local and foreign investors.

The development of the new industrial city at Jubail has been divided into four phases, with the first phase expected to be operational by 2008. The entire project is expected to be completed by 2022.

The SABIC projects include the expansion of several petrochemical, fertilizer, gas, iron and steel plants, as well as a number of industries in the private sector.



A console operator at the Abu Sa'fah gas-oil separation plant control room

In brief

Market volatility persists, says IEA

PARIS — Crude oil prices were extremely volatile at the turn of the year, according to the International Energy Agency (IEA) in the latest edition of its *Oil Market Report*, published on January 18. Benchmark NYMEX light crude fell by \$10/b in early December to \$40.25/b, but a rally in January has since pushed prices back up over \$48/b. Non-OPEC supply problems, OPEC production cuts and forecasts of colder weather have underpinned prices, said the Paris-based IEA. OECD industry total oil stocks rose by about 42m b (or 1.4m b/d) in November 2004, closing 81m b above year-ago levels. Crude stocks increased 22m b while gains in products, led by distillate fuels, came to 18m b. World oil supply averaged 84.4m b/d in December, down by 45,000 b/d from November. Non-OPEC output fell 165,000 b/d due to disruptions in Norway and Canada and lower Russian output, while OPEC crude supply was level at 29.5m b/d.

ExxonMobil, Syntroleum sign accord

FAIRFAX, VIRGINIA — ExxonMobil's Research & Engineering Company has announced the signing of a deal with synthetic fuels specialist Syntroleum Corporation which grants the latter a worldwide license under ExxonMobil's gas to liquids (GTL) patents to produce and sell fuels from natural gas or coal. ExxonMobil holds a large number of patents related to GTL technology and has been offering to license over 3,500 of them worldwide to ensure that other firms are not blocked from introducing GTL products into countries in which the US giant holds such patents. Meanwhile, Syntroleum has also developed its own proprietary patented air-based GTL process which it is utilizing in its Catoosa demonstration facility, located near Tulsa, Oklahoma.

EnCana closes North Sea asset sale

CALGARY, ALBERTA — Canada's largest energy firm, EnCana, has closed the previously-announced sale of its UK assets to another Canadian company, Nexen, for approximately \$2.1 billion. The interests of EnCana (UK) include a 43.2 per cent stake in the Buzzard oil field, a 41.0 per cent stake in the Scott oil field and a 54.3 per cent stake in the Telford oil field, plus interests in other satellite discoveries and exploration licences covering more than 740,000 acres in the North Sea. EnCana said in a statement that it expects to record an earnings gain for accounting purposes in excess of \$1.0 billion on the asset sale, while the after-tax proceeds will be approximately \$2.1bn. The company has also announced that it is to sell its non-core assets in Ecuador and the Gulf of Mexico.

Qatar and ExxonMobil announce developments on QatarGas II LNG project

Irving, Texas — State oil and gas firm Qatar Petroleum and US giant ExxonMobil have announced that they are commencing a number of activities related to the \$12 billion QatarGas II project, which will supply LNG from Qatar to the United Kingdom by the winter of 2007–08.

Making the announcement at a press conference in the Qatari capital Doha last month were the country's Second Deputy Prime Minister and Minister of Energy & Industry, Abdullah bin Hamad Al Attiyah, and ExxonMobil Director and Executive Vice-President, Harry Longwell.

The new developments are very important for the implementation of the QatarGas II project, a joint venture between Qatar Petroleum (70 per cent) and ExxonMobil (30 per cent), which is the largest integrated LNG project ever undertaken.

Letters of authorization have been signed with engineering, procurement and construction (EPC) contractors for the building of platform topsides, pipelines and two 7.8 million tonnes/year LNG trains at Ras Laffan Industrial City in Qatar. The value of the associated contracts is approximately \$4.5bn.

QatarGas II and South Hook LNG Terminal Co have signed financing documents securing funds to execute the project. QatarGas II entered into funding agreements totalling \$6.5bn of debt and South Hook LNG Terminal Co entered into funding agreements totalling £600 million.

In total, \$7.6bn was raised from 57 institutions, the largest energy project financing ever, and the first-ever financing on a full LNG chain-integrated basis.

Two new companies have been formed to manage the LNG importation, terminal operations and sales of natural gas to ExxonMobil Gas Marketing Europe (which is 100 per cent owned by ExxonMobil) for sale, in turn, to UK markets.

Qatar Petroleum or its affiliates own 70 per cent of the new companies, with ExxonMobil or its affiliates holding the remaining 30 per cent. Sales and purchase agreements have already been signed.

The recent agreements follow those previously announced, which include a \$700m EPC award to Chicago Bridge & Iron to construct the first phase of the receiving terminal at Milford Haven in South Wales.

In addition, 25-year time charters for eight LNG tankers have been signed with two consortiums, ProNav-Commerzbank-QatarGas Transport Company and Overseas Shipholding Group-Anglo Eastern-QatarGas Transport Company.

The new state-of-the-art vessels will have a capacity of 209,000–216,000 cubic metres, which is 50 per cent larger than conventional LNG ships, providing further project economies.

Speaking at the press conference, Al Attiyah said: "The QatarGas II project is a major achievement that will provide the UK with a significant additional source of natural gas and strengthen the ties between Qatar and the UK.

"Working together with ExxonMobil, we have been able to significantly reduce the costs of delivering LNG to the UK, and so create a financially strong project.

"A project of this size and complexity is only possible through the combined strengths of two world class companies, the excellent working relationship that exists between the two companies and the hard work of their staff.

"I would like to extend our sincere thanks to all the staff of QatarGas II project companies and Qatar Petroleum Gas Development Group, as well as the staff in the parent companies, who have worked so hard to bring this exciting day to fruition," said the Minister.

ExxonMobil's Longwell added that his company was "extremely proud of our partnership with Qatar Petroleum. We believe the proprietary technologies we have jointly developed for this project, alongside our project management expertise and the sound underlying commercial arrangements create the foundations of a very strong project."

The latest agreements build on a framework agreement signed in 2002 between Qatar Petroleum and ExxonMobil for the development of two LNG trains to supply gas to the UK.

The feed gas for these trains will be sourced from Qatar's giant North field, which has estimated recoverable resources in excess of 900 trillion cubic feet.

US engineering firm to design new refinery and olefins plant in Kuwait

Aliso Viejo, California — US engineering giant Fluor Corporation has announced that it has been selected to provide front-end engineering and design (FEED) services for the Kuwait National Petroleum Company's (KNPC) new refinery.

The multi-billion dollar refinery will be located in Shuaiba, approximately 31 miles south of Kuwait City. When complete, it will provide low-sulphur fuel to be used as feedstock for Kuwait's existing and new power plants, and will have an initial capacity of about 450,000 barrels/day.

"This refinery is the first major grassroots refinery to be constructed in the world for many years," said Fluor's Group President of Energy & Chemicals, Jeff Faulk.

"This award is a testament to Fluor's extensive grassroots refinery experience. To date, Fluor has worked on 20 such refineries, more than any other contractor in the world. We're pleased to have been chosen for this work and to continue our relationship with KNPC," he added.

KNPC is the downstream subsidiary of the state-owned Kuwait Petroleum Corporation, and is responsible for all refining activity in the country.

Employees at Fluor's offices in Houston, Texas, began work on the FEED project in December last year. The work is scheduled for completion in early 2009.

In a related development, Fluor has also announced that it has signed a memorandum of understanding with a joint venture between Dow Chemical Company and the Petrochemical Industries Company to provide utility and infrastructure front-end engineering and overall project management consultancy services for a major petrochemical project in Kuwait.

The one billion-plus dollar integrated petrochemical complex, known as the olefins II programme, will also be located in Shuaiba. The completed facility will double the capacity at the existing olefins complex.

It will include construction of an 850,000 tonnes/year cracker, a 600,000

t/y ethylene glycol unit, a 50,000 t/y ethyl benzene and styrene monomer unit, and a debottlenecking expansion of an additional 225,000 t/y of polyethylene capacity at the existing facilities.

"Our entire organization is pleased to undertake such an important project and we look forward to working with our clients to help them meet the programme's goals," said a senior Fluor official responsible for chemicals projects, Henry Van Dyke.

The work will be carried out by employees in Fluor's offices in Haarlem, The Netherlands, who will work closely with personnel from various technology licensor offices. Ground-breaking is scheduled for early 2005, with completion expected in 2007.

West Africa pipeline will commence gas deliveries from 2006

Abuja — The West Africa Gas Pipeline (WAGP) will begin delivering gas to end-users in December 2006, according to the Chairman of the scheme, Funsho Kupolokun.

Kupolokun, who is also Group Managing Director of the state-run Nigerian National Petroleum Corporation (NNPC), told the OPEC News Agency that the final investment decision for the project had now been signed by all stakeholders.

The scheme involves piping Nigerian gas to industries in three neighbouring countries: the Republic of Benin, Togo and Ghana. The four West African countries are stakeholders in the project, with Royal Dutch/Shell and Chevron/Texaco serving as technical partners.

The total cost of the WAGP project is estimated at about \$590 million. The project will benefit from a loan of \$125m from the World Bank, while the four states involved will fund the balance of \$465m.

Nigeria is expected to earn about \$1.359 billion during the 20-year lifespan of the project in the form of revenue, taxes and tariffs.

The 678-km pipeline, which will run from the Nigerian city of Lagos to the other three countries would, said

In brief

Russia's Rosneft acquires Yukos unit

MOSCOW — Russian state oil firm Rosneft has taken control of the main producing unit of embattled giant Yukos in a move that many analysts say will ultimately amount to a renationalization of the Russian oil industry. Last year, the government slapped Yukos with a multi-billion dollar tax bill (believed to be a punishment for the political activities of the firm's boss Mikhail Khodorkovsky) and, when the company could not pay, arrested Khodorkovsky on charges of fraud and tax evasion, and put Yukos's main oil-producing unit Yuganskneftegas up for sale. That auction was expected to be won by state oil and gas giant Gazprom, but instead the surprise top bidder was Baikal Finance Group, a hitherto totally unknown company. Just a few days later, Baikal was bought by Rosneft, which itself is merging with Gazprom. The end result of these machinations will, say analysts, be the creation of a giant national oil and gas company comprised of Gazprom, Rosneft and Yuganskneftegas (and eventually other firms as well) that will dominate the Russian energy sector and have enormous financial and political clout.

BP gets okay for new field

LONDON — UK oil and gas giant BP has announced that it has received approval from the Department of Trade and Industry for the \$130 million development of the Farragon oil discovery. The three partners in this new development are BP (the operator with a 50 per cent stake), Italy's ENI (30 per cent) and Canada's Nexen (20 per cent). The Farragon field is located 140 miles north-east of Aberdeen in BP-operated block 16/28 in the central North Sea, in water depths of 350 feet. The development of the field will involve the drilling of two horizontal wells and the installation of a sub-sea manifold which will be tied back to the existing Cyrus sub-sea manifold. First oil from Farragon is expected at the end of this year.

Marathon finds gas off Equatorial Guinea

HOUSTON — US firm Marathon Oil has announced that its subsidiary in Equatorial Guinea has made an offshore natural gas and condensate discovery in sub-area B of the Alba block. The Gardenia discovery well is located approximately 11 miles south-west of the Alba field in 320 feet of water. The well was drilled to a total measured depth of 15,175 ft and encountered 150 ft of net gas and condensate pay in the Upper Isongo section. A 60 ft net pay interval was tested at a stabilized rate of 18.6 million cubic ft/day of gas and 1,300 b/d of condensate on a 40/64 inch choke.

In brief

Shell welcomes Omani concession renewal

LONDON — Royal Dutch/Shell has welcomed the signing of agreements with the Omani government extending the term of the block 6 concession held by Petroleum Development Oman (PDO) for another 40 years until 2044. Block 6 is PDO's sole oil concession and is located in central and southern Oman. The company produces oil from around 100 fields in the concession area, which covers nearly 114,000 sq km. The shareholders in PDO are the Omani government with 60 per cent, Shell (which is also the technical adviser) with 34 per cent, France's Total with four per cent and Partex Oman holds two per cent. A Shell statement noted that although PDO's current concession for block 6 does not expire until 2012, the parties considered it prudent to extend the term of the concession now due to the long-term nature of investments that will be required in the coming years to increase production, particularly relating to water injection and enhanced oil recovery.

Statoil finds oil near Gullfaks

OSLO — Norway's Statoil has announced that a well drilled from Gullfaks C platform in the North Sea has discovered oil in the Topas prospect, which lies between Gullfaks and Visund. Statoil's Exploration Manager for the area, Bengt Beskow, said that the new find was important for exploiting existing installations and other infrastructure. "It shows that more oil is available in a mature region. We're committing substantial resources to exploring around the major fields we operate," he said. Statoil operates production licence 120, which covers Visund, with a 30.07 per cent stake. Its partners are Norwegian firms Norsk Hydro (29 per cent) and Petoro (16.93 per cent), plus France's Total (11 per cent) and US giant ConocoPhillips (13 per cent). Statoil is also operator for Gullfaks licence PL 050, where it has 61 per cent, while Norsk Hydro holds nine per cent and Petoro 30 per cent.

Total buys Puerto Rico service stations

PARIS — French major Total has finalized an agreement to acquire one hundred service stations on the island of Puerto Rico in the Caribbean. The retail outlets, which are spread widely across the island, are currently branded in the colours of GPR and Citgo (the US subsidiary of Venezuelan state oil firm PDVSA), but will be re-branded in the Total colours by the end of 2005. The French company said in a statement that the acquisition would reinforce its development strategy in the Caribbean, an area of rapidly growing consumption. With this agreement, Total has acquired six per cent of the retail market in Puerto Rico.

Kupolokun, "provide cheap, efficient and environmentally friendly fuel to the consuming nations."

He expressed optimism that the project would lower the cost of power in the consuming nations and improve the competitiveness of goods and services.

Sales agreements for the gas have already been signed with the Takoradi power plant which is located in Ghana, SoToGas of Togo, and SoBeGas of the Republic of Benin.

The shareholders in the project are ChevronTexaco WAGP (38.2 per cent), the NNPC (26 per cent), Shell Overseas Holdings (18.8 per cent), and the Takoradi Power Company (17 per cent).

Indonesian gas output unaffected by tsunami, but some facilities hit

Jakarta — The undersea earthquake off Indonesia on December 26 last year and the subsequent deadly tsunami devastated the coastal areas of countries in the region, causing massive loss of life and enormous damage to infrastructure.

However, for geographical reasons, several natural gas and LNG plants and other installations around the coastline were undamaged, according to reports in the local *Jakarta Post* newspaper.



Photo: Reuters/Tarvisy Harva

These Acehese boys will be paid by Pertamina for helping with the clean-up at the firm's Krueg Raya depot, which was hit by the tsunami in December

In brief

ChevTex boosts 2005 C&E budget

SAN RAMON, CALIFORNIA — US major ChevronTexaco has announced a \$10 billion capital and exploratory (C&E) spending programme for 2005, which includes \$1.8bn for the company's share of affiliate expenditures. C&E expenditures for 2004 are estimated to be in the range of the budgeted amount of \$8.5bn. "Our capital programme continues to target our strategies to focus on high-return upstream growth projects, to commercialize our company's large natural gas resource base and to enhance the financial returns in our downstream business. These are the right strategies at the right time and continue to yield very strong results," said ChevronTexaco Chairman and CEO, Dave O'Reilly.

Unocal Philippines gets new President

MANILA — Unocal Philippines Inc (UPI) has announced that Antonio F Yee has been appointed as the company's new President and General Manager, effective January 1 this year. Yee, who is 47, is a Filipino national who began his career with UPI in 1979 as a warehouseman. He has held a series of positions with increasing responsibility at Unocal geothermal facilities in Indonesia and the USA, including serving most recently as UPI's Senior Vice-President and General Manager. Current UPI President Barry Andrews will assume the position of Chief Executive Officer. The company said in a statement that the move "affirms Unocal's commitment to advancing national employees in its global operations. Currently, 10 out of 13 UPI's senior managers and 98 per cent of its 416-person workforce are Filipino nationals." UPI's current projects in the Philippines include managing a \$26 million capital project to enhance the steam field capabilities in both Tiwi and Mak-Ban.

ConocoPhillips okays Bohai Bay plan

HOUSTON — US major ConocoPhillips has approved in the investment of about \$1.8 billion for the multi-year second development phase of the company's PL 19-3 field in block 11/05 in China's Bohai Bay. The project is subject to approval of the overall development plan by the Chinese National Development and Reform Commission. Phase one of the PL 19-3 development began production in December 2002, and the field is currently producing about 20,000 b/d. The phase one facilities include a 24-slot wellhead platform and a floating production, storage and offloading facility. The US firm signed a contract with CNOOC in December 1994 granting it the right to explore block 11/05, a 1.6 million-acre area which is located in Bohai Bay.

The province of Aceh, where the 4.2 million tonnes/year Arun LNG plant and several gas fields are located, was closest to the epicentre of the earthquake, but the plant remained unscathed.

The operator of the Arun LNG facilities, state oil and gas firm Pertamina, said that loading of LNG shipments was suspended for a day, but apart from that, there was no other impact at the plant.

Sources at Pertamina were quoted as saying that, after some initial problems, they had managed to deliver the scheduled three shiploads of LNG to Japan and South Korea by the end of the year.

However, some Pertamina facilities were hit by the tsunami, including the company's fuel depots in Meulaboh and Krueng Raya. The latter is about 35 km north-east of the provincial capital Banda Aceh, which suffered very severe damage.

US giant ExxonMobil, which operates the three onshore gas fields feeding the Arun plant and an onshore field in Aceh which produces about one billion cubic feet/day of gas, said that production had been normal.

Meanwhile, ChevronTexaco also said its oil and gas production facilities and operations in Indonesia and Thailand were unaffected.

A massive international aid operation is now under way to help the victims of the earthquake and tsunami disaster in Indonesia and other countries in the region (*see Member Country Focus section for details*).

ENOC commissions Dubai Drydocks to build four new tankers

Dubai — The Emirates National Oil Company (ENOC) has commissioned Dubai Drydocks to build four 6,200 dwt tankers for its subsidiary, the Dubai Shipping Company (DSC), according to a company statement.

The \$40 million deal is the first time that ENOC has ordered new vessels from a local shipbuilder. The new tankers will be the first large double-hulled ships to be constructed in the UAE, said the ENOC statement.

The project is being managed by Gulf Energy Maritime (GEM) on behalf

of DSC. ENOC is one of the shareholders in GEM, which has experience of 11 new tanker building contracts to date.

The 102-metre modern petroleum product carriers will be double-hulled and have twin propulsion. The vessels will join the DSC fleet and will be on a 10-year time charter to D&K Holdings, which operates the ENOC Bunkering (Fu-jairah) joint venture.

The contract for the project was signed by the Chief Executives of the ENOC Group, Hussain Sultan, and Dubai Drydocks, Geoff Taylor, at a ceremony at ENOC's headquarters in Dubai.

"This is a major new-build programme for our bunkering operations and it is appropriate that these state-of-the-art vessels will be built here in the UAE," Sultan said.

"These are highly environmentally friendly vessels and will replace older bunkering tankers that were built in the 1980s. They will help meet growing re-fuelling demand at the world's third largest bunkering port," he added.

Construction of the first vessel will begin in April 2005, with delivery scheduled for the first quarter of 2006. The second and third vessels will be completed at two-monthly intervals.

Iran's NIOC signs deal with France's Total for new Pars LNG project

Paris — French oil and gas giant Total has announced that it has concluded an agreement with the National Iranian Oil Company (NIOC) setting out the framework and main commercial terms of the future Pars liquefied natural gas project.

Under the agreement, Pars LNG will be in charge of liquefaction activities, while the gas to supply the LNG plant will come from block 11 of South Pars (SP11), which is allocated to Total (60 per cent) and Malaysia's Petronas (40 per cent). The accord is subject to approval by the Iranian authorities.

The Pars LNG joint venture is a partnership between NIOC (50 per cent), Total (30 per cent) and Petronas (20 per cent). The project has an initial design capacity of two trains, each producing five million tonnes/year of LNG.

In brief

Sleipner reserves boosted by 350m b

IRVING, TEXAS — US giant has announced that its Norwegian subsidiary has participated in an extensive upgrade programme at the Sleipner West field that will boost the estimated recoverable resources by around 350 million barrels of oil equivalent. The programme will help keep Sleipner West's gas production at its plateau level of around 775 million standard cubic feet/day said ExxonMobil in a statement. Kathy Pepper, ExxonMobil's Production Manager for Norway, commented: "A key part of this upgrade is the Sleipner West Alpha North satellite development, which includes the installation of a sub-sea template and the drilling of four wells. We are pleased with improvements and upgrades at Sleipner West that have contributed to maintaining a high production level."

Repsol YPF wins engineering award

MADRID — Spain's Repsol YPF has won an award from Platts in recognition of its project to recover the fuel from the wreck of the tanker *Prestige*, which sank off the coast of Galicia, Spain in late 2002, badly affecting the local fishing industry. Commenting on the winning project, the Platts judges said, "You don't get many more exciting engineering challenges than trying to recover the oil from a tanker that has sunk in 3,850 metres (almost two and a half miles) of cold Atlantic Ocean. Excitement aside, Repsol's highly innovative and successful approach to the recovery of 12,500 tonnes of fuel from the seabed wreck of the *Prestige* tanker off the coast of Spain earned the judges' respect and admiration. This was no routine project." Besides the technological aspects, the Platts judges were also impressed by the altruistic nature of the project, as Repsol YPF had no connection with the sunken tanker.

BP makes gas find offshore Trinidad

LONDON — BP Trinidad and Tobago (bpTT) has announced a significant new gas discovery 50 miles off the east coast of Trinidad. The well, which reached a total depth of 15,632 feet sub-sea, is located in East Mayaro licence area, seven miles south-east of bpTT's Mahogany field, and penetrated 1,400 ft of gas-bearing sands in four main reservoirs. The Chairman and Chief Executive Officer of bpTT, Robert Riley, commented: "This is a world class discovery which continues to demonstrate our deep understanding of the Columbus basin and underpins our confidence in its prospectivity." BP Trinidad and Tobago is owned by a holding company in which UK oil giant BP has a 70 per cent share holding and Spain's Repsol YPF holds the other 30 per cent.

This agreement allows the start of engineering studies for both the LNG plant and the SP11 development. These studies will be carried out during 2005 and should lead to the decision to launch the project at the end of 2005 or early 2006.

Total said in a statement that its expertise in the LNG industry, coupled with that of Petronas and NIOC, would contribute to building a successful international project to meet the needs of the growing worldwide gas market.

In a separate development, Iran's Soroush oil field was due to start production in late December, while the Norouz oil field was due to begin pumping in February 2005, according to a report by the National Iranian Oil Engineering and Development Company.

The report noted that the project was more than 93 per cent complete and pre-commissioning activities were going on at six fields related to Soroush and Norouz, according to Petroenergy Information Network.

Anglo-Dutch giant Royal Dutch/Shell is the main contractor for the development of the Soroush and Norouz oil fields, which will have a combined output of around 190,000 barrels/day.

Production from Soroush will hit 100,000 b/d after drilling 10 oil and two water depletion wells, while production from Norouz will reach 90,000 b/d after drilling 17 new wells.

Studies have shown that Soroush has 7.5 billion b of reserves, of which 500m b are recoverable, rising to as much as 4.0bn b after gas injection. The Norouz field's total reserves have been estimated at 2.0bn b.

France's Total makes another natural gas discovery in Algeria

Paris — France's Total has announced that it has made a natural gas discovery on the Timimoun permit in Algeria, around 500 km south of Hassi R'Mel.

The Iraharen 5 well was drilled to a depth of 2,067 metres and tested at a rate of 17.5 million cubic feet/day of gas. The size of the accumulation and the potential of the Iraharen well are currently be-

ing studied, said the French company in a statement.

Total operates the Timimoun permit, which it was awarded in January 2003, with a 63.75 per cent stake. Its partners are Algerian state oil and gas firm Sonatrach (25 per cent) and Spain's Cepsa (11.25 per cent).

In another partnership with Cepsa, Total has been awarded an 80 per cent stake in the Bechar exploration permit, north-west of Timimoun.

Total's equity production in Algeria was 115,000 barrels/day of oil equivalent in 2003, mainly from the Hamra and Tin Fouyé Tabenkort fields, as well as from the group's participation with Cepsa in the RKF and Ourhoud fields.

In a separate development, the Minister of Energy and Mines, Dr Chakib Khelil, has told the state-run Algerian Press Service (APS) that the country is discussing the acquisition of interests in US gas import terminals.

The talks involved possible Algerian stakes of 5–15 per cent in four terminals, of which three were already operational and the fourth was under construction in the Gulf of Mexico, Khelil told APS following his recent US visit.

The limited number of gas terminals in the USA constituted a bottleneck that was slowing down the import of LNG into the country, said Khelil, adding that any new measures taken by the US government to accelerate the opening of new terminals would be welcome.

During his trip to Washington, Khelil met with the US Energy Secretary, Spencer Abraham, to discuss the latest developments in the international oil market, joint LNG projects and the activities of US oil firms in Algeria.

Right: Iraqi Prime Minister, Iyad Allawi (left), and Russian President, Vladimir Putin, at the Kremlin in December

Russian reiterates its support for Iraq's reconstruction efforts

Moscow — Russia has expressed its support for Iraqi reconstruction efforts, but is still concerned over the security situation in the country, according to a report by the Russian news agency Interfax.

Russian Foreign Minister Sergei Lavrov was quoted by Interfax as saying that his country supports a broad dialogue within Iraqi society, aimed at achieving a national agreement leading to stability.

In December, Russian President Vladimir Putin said that Russia had written off about 92 per cent of Iraq's debt, even though he believed that Iraq was in fact capable of paying off its debt.

"Iraq is not an economically underdeveloped country. It is by no means a heavily indebted poor country, but we agreed with our partners and accepted their wishes and those of the Iraqi leadership," Putin said.

The Russian President expressed doubts over the fairness of Iraqi elections, which are due to be held at the end of

January, while the country was still under occupation by foreign troops.

"I have serious doubts about whether democratic elections can be held in a country that is being occupied," Putin told a news conference in the Kremlin.

Following the decision by Moscow to write off the Iraqi debt, it is expected that Russia could play a larger role in the Iraqi reconstruction efforts. Russia is also insisting that major oil deals it signed with the former Iraqi regime are still valid.

Earlier last month, Putin told the visiting Iraqi Prime Minister, Iyad Allawi: "We assume that your administration and the future Iraqi government would respect the interests of Russian companies.

"Russia, for its part, will continue extending humanitarian aid to the Iraqi people and strengthening mutually advantageous business contacts," the Russian President said, urging the world community to "pay more attention to Iraq's economic revival."

In brief

Shell announces gas find in Alberta

CALGARY, ALBERTA — Shell Canada has announced a major natural gas discovery on a previously untested structure located 30 km south-west of Rocky Mountain House in central Alberta. The exploration well was drilled to a depth of 5,100 metres and encountered approximately 140 m of net pay. A Shell statement noted that test data indicated the well would be capable of a restricted flow rate of 30 million cubic feet/day through existing 3.5 inch tubing. Based on seismic evaluation, pressure and well data, the new discovery feature could contain in the range of 500–800 billion cu ft of original raw gas in place, although additional drilling and production information will be required to confirm the amount of gas.

ChevTex makes UK oil discovery

SAN RAMON, CALIFORNIA — US major ChevronTexaco has announced that its UK subsidiary and its partners have made a significant oil and gas discovery at the Rosebank-Lochnagar well in the Faroe-Sherland channel, off the coast of Scotland. The well, located in 3,600 feet of water, encountered two oil and gas accumulations for a total net pay of 169 ft with oil quality ranging from 27–36° API. Non-associated gas was also encountered in the shallower reservoir, said ChevronTexaco in a statement. The well has now been plugged at a total depth of 12,153 ft, and further drilling will be carried out to fully appraise the find. The President of ChevronTexaco Overseas Petroleum, George Kirkland, commented that the discovery "positions the company for continued growth in the region." The partners in the project are ChevronTexaco (the operator with 40 per cent), Norway's Statoil (30 per cent), Austria's OMV (20 per cent) and Denmark's DONG (10 per cent).

Russia's Lukoil cuts gasoline prices

MOSCOW — Russia's Lukoil has announced an immediate five per cent reduction in the price of gasoline and diesel fuel at all of its domestic service stations. The company said in a statement that the decision to cut prices was a result of two factors: the seasonal change in the supply/demand balance, and the approval by the company's management committee of its refining and distribution plan for the period until 2014. Under the plan, Lukoil will boost its output of high-octane gasoline from 3.0 million tons in 2005 to 6.6m t in 2014. Lukoil, which owns four refineries and around 1,500 service stations in Russia, is planning to increase its presence in the domestic retail market from the current seven per cent up to ten per cent by 2014.



Photo: Reuters/Sergey Ponomarev

In brief

Total acquires LNG capacity in USA

PARIS — French oil and gas giant Total has announced that its subsidiary Total LNG USA has acquired liquefied natural gas regasification capacity rights for the Sabine Pass LNG terminal, which is scheduled to be built in Louisiana by a subsidiary of Cheniere Energy. Under the terms of the agreement, Total will have the right to one billion cubic feet/day (around 10bn cu metres/year) of regasification capacity for a period of 20 years beginning in 2009. The agreement is pending approval by the Federal Energy Regulatory Commission to build the Sabine Pass terminal. The LNG will come from the French company's interests in several projects worldwide, notably from the Middle East and West Africa.

North Slope fields to be developed

HOUSTON — US firms ConocoPhillips and Anadarko Petroleum have announced that they have approved the development of two Alpine satellite oil fields on Alaska's North Slope. The project was sanctioned following recent favourable rulings from the US Bureau of Land Management and the Corps of Engineers on the environmental impact of the development. The project will include two satellite drill sites, CD3 on the Fiord oil field, and CD4 on the Nanuq oil field. Both will be located within an eight mile radius from the ConocoPhillips-operated Alpine oil field on the border of the National Petroleum Reserve, Alaska. Plans call for the drilling of approximately 40 wells, with first production scheduled for late 2006 and peak production of approximately 35,000 barrels/day of oil in 2008.

Burlington to invest \$2.0bn in 2005

HOUSTON — Burlington Resources has announced plans for capital investment of approximately \$2.0 billion during 2005, compared to estimated expenditure of \$1.8bn last year. The 2005 budget anticipates higher activity levels in all major operating areas and includes adjustments for expected industry service cost increases and shifts in foreign currency exchange rates, particularly the rising strength of the Canadian dollar, said Burlington in a statement. Geographically, 88 per cent of the budget is planned for investment in the USA and Canada, continuing the company's strategic focus on North America, while the remaining 12 per cent is allocated to the international sector. The North American portion of the budget includes an allocation of approximately \$170 million for discretionary land acquisitions and drilling associated with potential unconventional resource exploration.

ChevronTexaco, Repsol YPF announce further natural gas discoveries in Venezuela

San Ramon, California — Two international oil majors, ChevronTexaco of the USA and Repsol YPF of Spain, have announced further gas discoveries in Venezuela.

ChevronTexaco's Venezuelan unit confirmed last month that its offshore Plataforma Deltana Loran 3X exploration well in block 2 has encountered significant amounts of natural gas. Loran 3X is ChevronTexaco's second well in this block, south-east of the Loran 1X discovery drilled in 1982 by state oil firm Petróleos de Venezuela (PDVSA).

The Loran 3X well extended the five shallow gas sands already discovered in Loran 1X and 2X to the southern portion of the field. In addition, a previously unproven, deeper exploratory sand also was targeted by this well and was gas-filled.

The well encountered six gas sand intervals for a total gross thickness of 755 feet. It was tested at a rate in excess of 55 million cubic feet/day from two intervals, while the new gas sand on its own tested at a rate of 35m cu ft/d. Both tests were equipment-restricted.

The President of ChevronTexaco Overseas Petroleum, George Kirkland, commented: "The successes of both the Loran 2X and now 3X further confirm our initial assessment of this test area in the Plataforma Deltana region as a potential source of new and significant natural gas reserves."

He further noted that ChevronTexaco had long looked at the area as a key element of the company's strategy to grow an integrated global gas business.

The President of ChevronTexaco Latin America Upstream, Ali Moshiri, added: "With our primary exploration target being successful, we believe we understand the geological framework, and after our final exploration well, we will be positioned to carry the project forward into the next evaluation phase."

ChevronTexaco holds 60 per cent of block 2 and operates it in partnership with ConocoPhillips (40 per cent). The Venezuelan Ministry of Energy and Petro-

leum recently awarded ChevronTexaco and PDVSA the exploration license for Plataforma Deltana block 3, which is on trend with block 2.

In a separate development, Spain's Repsol YPF has discovered gas at the Sipororo 2X exploration well in the Barrancas project, which covers the states of Barinas, Portuguesa and Trujillo in south-west Venezuela.

The well is the first of eleven to be drilled in the Barrancas project, which was awarded to Repsol YPF in 2001 under a concession for the exploration and exploitation of non-associated gaseous hydrocarbons.

Gas was discovered at a depth of approximately 3,000 metres. A flow of approximately one million cu metres/day was registered in production tests, which is much higher than initially estimated.

Gas from this well will initially feed an 80-megawatt power station in the state of Portuguesa, which is scheduled to go into operation during 2Q05.

Production from the Barrancas block is expected to reach 2.0m cu m/d by 2006, and will be used to supply a thermo-electric power station of up to 450 mw that is to be installed in the Obispos municipality, in the state of Barinas. This project will help reduce the power and gas deficit in the region, providing a competitive alternative in terms of price, thus benefiting western Venezuela.

Additionally, Repsol YPF has reached an agreement with the Venezuelan Ministry of Energy and Petroleum and PDVSA to increase natural gas production at the Quiriquire block in the state of Monagas by 20,000 barrels/day of oil equivalent, which represents 20 per cent of its total hydrocarbon production in the country.

The agreement, signed by Repsol YPF's Chief Operating Officer, Ramon Blanco, and the Minister of Energy and Petroleum and Chairman of PDVSA, Rafael Ramirez, will allow Repsol YPF to increase natural gas production to 350m cu ft/d, up from the current 240m cu ft/d, plus a further 17,700 b/d of crude and condensate.

The Quiriquire block, covering an area of 802 sq km, is operated by Repsol YPF under a contract signed in 1994. Production at the block is currently 16,300 b/d of oil and condensate, and 280m cu ft/d of natural gas.

Investment in Quiriquire for the period 2005–13 is forecast at \$100m, mainly in work on wells, geophysical studies of the fields, enhancement of facilities for the handling, processing and transport of oil and gas, and environmental and social development work.

The estimated total production from the Quiriquire block is around 724 billion

cu ft of natural gas and 24.55m b of oil and condensate, said the Spanish company in a statement.

Repsol YPF is one of the leading private gas companies in Venezuela, where it currently produces about 100,000 boe/d, mainly from the Quiriquire, Quiamare-La Ceiba, Guárico Occidental and Mene Grande fields.

Libya to set up oil stabilization fund to spur economic growth

Dubai — Libya is considering the establishment of an oil fund as part of a strategy to diversify its economic base and spur growth, according to the country's Prime Minister, Dr Shokri Ghanem (*pictured below*).

"Libya is looking at creating funds with oil revenue that could be used to generate more economic activity and growth, as

well as build new infrastructure," Ghanem told a session of the Arab Strategy Forum in Dubai, United Arab Emirates.

This fund, he said, could also support the development of ideas into business projects and thereby become an engine of growth, he was quoted as saying by the OPEC News Agency.

"Libya, realizing that oil won't last forever, is now seeking to find alternative sources and develop new industries, as well as utilize oil resources in the most profitable way," said Ghanem, who is also a former Director of OPEC's Research Division.

The Prime Minister also told the gathering in Dubai that there was a need for the Libyan economy to reduce its dependence on oil revenues.

"Oil revenues should be used to provide a reserve for the economy. The government must find ways to stop depending on oil as the main source of income and look for alternative sources. We believe that oil revenue should not support the whole economy," he said.

Libya is seeking to liberalize its banking industry by first opening up the sector to Arab investors and privatizing two major government banks.

"The Libyan market is now in a position to absorb competition from international banking companies. We will first start with Arab banks, while at the same time privatizing two major banks," added Ghanem.

In brief

Petro-Canada resumes Terra Nova output

ST JOHN'S, NEWFOUNDLAND — Petro-Canada has restarted production from its Terra Nova floating, production, storage and offloading platform off the east coast of Canada, after a shutdown that began in November 2004 following a discharge of oily water from the platform. The Canadian firm said in a statement that it had received approval to resume production from the authorities and output would swiftly be restored to its pre-shutdown levels of 160,000 barrels/day. Petro-Canada's Vice-President for the region, Gordon Carrick, commented: "Our top priority is safe and environmentally responsible operations. We have a comprehensive maintenance management system in place that has been reviewed and found acceptable by the independent certifying authority, Lloyd's Register of Shipping."

Anadarko announces budget for 2005

HOUSTON — US firm Anadarko Petroleum has announced that its board of directors has approved a 2005 budget in the range of \$2.9–3.1 billion. The programme is expected to deliver production volume growth of 7–11 per cent in 2005, or 160–165 million barrels of oil equivalent, said Anadarko in a statement. It also includes increased spending on exploration to sustain volume growth beyond the next five years. About 64 per cent of the total budget is planned for development activities, 25 per cent will go to exploration and the remaining 11 per cent is set aside for capitalized interest, overhead and other items. "Anadarko expects to achieve sustainable, profitable growth by leveraging our skill sets on the things we do well — developing unconventional resources and exploring in high-potential basins, while regularly high-grading our portfolio and maintaining financial discipline," commented Anadarko's President and Chief Executive Officer, Jim Hackett.

Brindisi LNG awards terminal contract

LONDON — Italy's Brindisi LNG has announced that it has awarded the engineering, procurement and construction contract for the construction of a liquefied natural gas regasification terminal at the port of Brindisi, in the area of Capo Bianco, to a consortium led by Tecnimont. The other members of the winning group are Grandi Lavori Fincosit, Consorzio Cooperativa Costruttori, Sofregaz, Vinci Construction Grands Projets and Mitsubishi Heavy Industries. The planned facility, which will cost about €390 million, will have a send-out capacity of 8.0 billion cubic metres/year of regasified LNG and will be operational in 2008.



Photo: Reuters/Stephen Hird



OPEC Member Countries pledge over \$140m for tsunami relief



Photos: Reuters/Dadang Tri

by Philippa Webb-Muegge

Vienna — OPEC Member Countries and the OPEC Fund for International Development have joined the international effort to raise over \$140 million so far to help the hundreds of thousands affected by the Indian Ocean tsunami after the region suffered the strongest earthquake in the world for 40 years which triggered massive sea surges.

Indonesia's Aceh province suffered some of the worst damage and experienced the highest number of fatalities from the earthquake, which first wreaked havoc on the island of Sumatra on December 26. The effects of the tsunami were then felt in several other countries in the region where villages and seaside resorts were obliterated, claiming more than 220,000 lives and leaving many others injured. The fatality rate is expected to climb much higher as many people are still missing and unaccounted for.



Photo: Reuters/Choo Yoon-Kong



Photo: Reuters/Sultan Al-Fahed

Above: A Saudi Arabian man holds up his son to donate to the Asian tsunami disaster fund in Riyadh.

Left: An aerial shot of part of the damaged coastline of Aceh, Indonesia, shows the havoc wreaked on the island from the tsunami. Left inset: Indonesian Red Cross staff in Jakarta prepare supplies to be sent to Aceh.

The OPEC Fund for International Development was quick to respond to the disaster by pledging a humanitarian grant of \$1.2 million three days after the event to aid relief efforts in south-east Asia.

The Fund said that in the wake of the disaster, widely regarded as one of the largest humanitarian crises in living memory, concerns were growing over the risk of disease that could see the death toll double. Resources from the Fund's grant would be divided among the worst affected countries of India, Indonesia, the Maldives, Sri Lanka and Thailand, a statement said at the time of the announcement.

Meanwhile, the organizers of a marathon fundraising event on Saudi Arabian TV said they had raised more than \$80m to help the victims of the tsunami, the BBC reported.

The total included a \$5.0m donation from King Fahd. The Saudi Arabian government had already promised \$30m, and Saudi Aramco \$2.0m.

Saudi Aramco's President and Chief Executive Officer, Abdallah S Jum'ah, said in a statement that the donation was part of the company's tradition of social responsibility.

"The Saudi Aramco family is deeply saddened by this tragic event, as it has destroyed the lives of so many fellow humans, and the challenges faced by the survivors touch us all," Jum'ah said.

"Our prayers are with those who lost loved ones in this tragedy, as well as with those who were injured or lost their homes. May God ease the heavy burden on the victims and their families, and may He grant them the power of patience to cope with the difficult days ahead."

Separately, OPEC Members Qatar, the United Arab Emirates and Kuwait have pledged \$25m, \$20m and \$10m respectively.

Nigeria's President, Olusegun Obasanjo, has also joined the relief efforts and set up a national committee to raise funds for the disaster, apart from the \$1.0m it had already contributed to the United Nations fund.

Meanwhile, OPEC Members Algeria and Libya have both pledged \$2.0m.

To date, nearly \$6 billion has been promised by governments, individuals and corporations in an unprecedented global response to the disaster.

But the UN Secretary General, Kofi Annan, has called on world leaders to honour their pledges of aid, citing the failure of nations to fully deliver on promised help after previous disasters, such as the earthquake which hit the Iranian city of Bam a year ago.

On the ground, relief efforts after the tsunami have been slow to take off, especially in Sumatra, due to the infrastructural damage to roads, bridges, airports, flooding and a lack of fuel supplies, amongst other things.

Aid agencies have said that survivors in Aceh were still desperately short of basic necessities, such as drinking water.

The health system was also in a precarious state, as many doctors and medical staff were either dead or too traumatised to work because they had lost family members.

Foreign troops from the United States, Singapore, Australia and Japan have arrived or are due to arrive in Aceh to join the relief effort, the BBC said.

Their helicopters are enabling aid to reach remote communities on Aceh's west coast which were worst hit by the tsunami.

The Indonesian government has made it clear that the troops would only be able to stay for three months because it said the army needed to regain control of Aceh where it has been fighting separatist rebels who want the establishment of a free Islamic state.

Journalists and aid workers have been requested to register their travel plans to protect them against possible attacks by the separatist Free Aceh Movement (GAM), according to the Indonesian army Chief of Staff, General Endriartono Sutarto.

The army and GAM have accused each other of breaking a temporary ceasefire imposed after the tsunami hit. The military has also said the rebels have been stealing aid, although aid agencies have not reported any problems.

Before December 26, Aceh had been under emergency rule since 1991 and was closed both to aid agencies and the international media, as Indonesia's military launched an offensive against the rebels, who are estimated to have lost more than 2,000 fighters over the past two years.

Canadian PM visits Libya for trade talks

Vienna — Canadian Prime Minister, Paul Martin (*pictured below*), made a first-ever visit by a Canadian leader to Libya in December last year to meet with the Libyan leader, Colonel Moammer El Qaddafi (*pictured right*), and the Prime Minister, Shokri Ghanem, to discuss trade and business opportunities.

Martin's visit to Libya coincided with the one year anniversary of Libya's decision to end its weapons of mass destruction development programme which included full access to the country by the relevant international inspection bodies.

At the time the visit was announced, Martin issued a statement in Ottawa saying that Libya had undertaken significant reforms over the past five years.

"This visit is an opportunity to encourage the country's leadership to continue along this path," Martin said.

He said he would also raise a number of topics of mutual

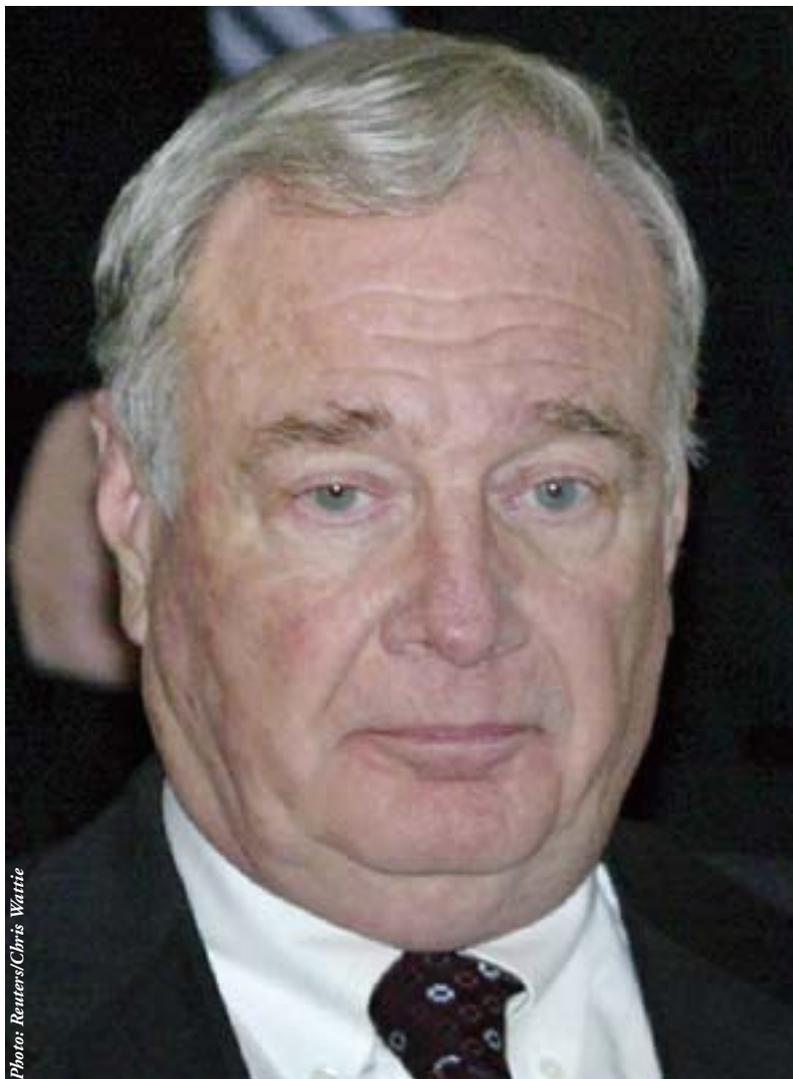


Photo: Reuters/Chris Wattie

interest, including the resolution of regional conflicts in Africa, the situation of human rights in Libya and trade issues.

The Canadian Prime Minister was due to meet with officials in charge of one of the largest engineering projects in the world, the Great Man-Made River Project. Canadian firm, SNC-Lavalin, is involved in this mega-project, a pipeline system that will provide water from artesian wells in the Sahara Desert to the coastal population of Libya. By the time the project is completed, its pipe network will cover a distance of nearly 4,000 kilometres.

The Prime Minister was also due to attend a roundtable discussion with 17 Canadian companies involved in the civil engineering, aerospace, oil and gas and telecommunications sectors in Libya.

The Canadian Foreign Affairs Minister, Bill Graham, applauded the critical role played by the governments of the United States and the United Kingdom in the decision by the government of Libya to give up its weapons programmes.

“What they have achieved together marks a significant step forward for global non-proliferation and disarmament, and sets an important example for other states to follow,” Graham said.

“This is very good news, and constitutes an important step toward Libya’s full reintegration into the international community.

“Canada looks forward to continuing to enhance its relationship with Libya as this process is implemented,” he said.

Canada ranks Libya as its 66th most important trading partner out of 100.

Last year, it exported goods worth \$67m to Libya, and imported almost \$9.0m worth of oil products.

Libya’s US assets of \$1.0bn recovered

Tripoli — Libya has recovered one billion dollars in frozen assets in the United States and transferred the funds to other countries, the Central Bank said last month.

“The funds frozen in the United States have been transferred from American banks to accounts in other countries,” the bank’s Vice-President, Farhat Ben Kidara, told reporters, without naming the countries.

“The initial amount (frozen) was \$400 million, but it reached \$1.0bn with interest,” he said.

He said the transfer of funds, which were believed to have included equity holdings in banks, started immediately after the lifting of the sanctions imposed by the USA on Libya.

The official stressed that the move did not signal a cut in ties with US banks.

“We are preparing to open other accounts in American banks after economic relations are developed between the two countries,” he said.

In September 2004, the US President, George W Bush, removed most economic sanctions against Libya as part of a

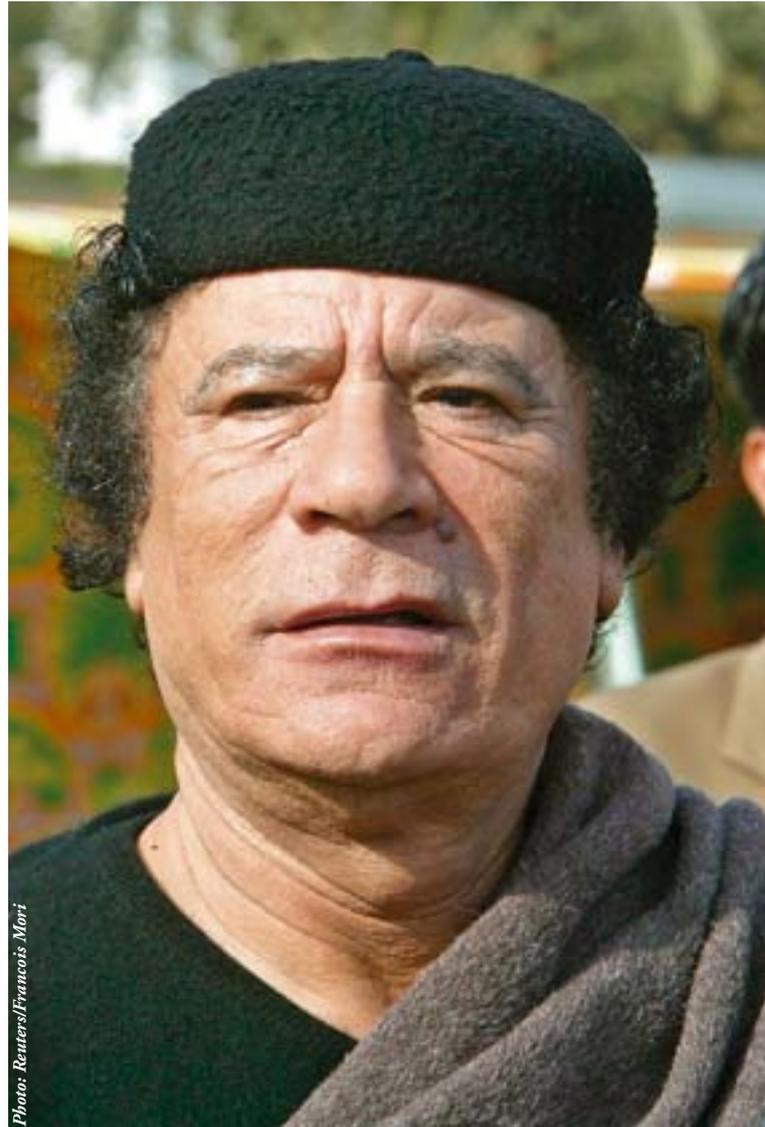


Photo: Reuters/Francois Mori

normalisation process after the Libyan leader, Colonel Moammer El Qaddafi, pledged in December 2003 to renounce weapons of mass destruction.

The US ban on trade and economic activity with Tripoli — imposed by the then President Ronald Regan in 1986 after a series of what the US deemed terrorist acts — was suspended in April 2004.

Tripoli and Washington resumed diplomatic relations in June, after a break of 24 years. However, Washington has only opened a liaison office in the Libyan capital.

Libya still appears on a US State Department list of countries allegedly supporting international terrorism.

Iraqi elections will go ahead as planned — Allawi

Baghdad — The interim Iraqi Prime Minister, Iyad Allawi, has vowed that national elections will take place on January 30 as scheduled, in spite of violent, daily attacks being carried out by insurgents aimed at disrupting the polls.

At a recent press conference held in the Iraqi capital, Allawi warned that postponing the elections would only increase the attacks against those who support establishing democracy in Iraq. He urged all Iraqis to defy the insurgents and vote on January 30, according to Voice of America broadcasting service.

“We are encouraging them to participate in this process,” he said.

“And I believe this is a great opportunity for the Iraqi people to express their belief in the unity of Iraq and to take this process to a successful end.”

For the past several weeks, escalating violence and a series of setbacks, including the withdrawal of the country’s largest Sunni Muslim party, the Iraqi Islamic Party, from the election process has put enormous pressure on the Iraqi interim leader to postpone the elections for at least six months.

The Iraqi Islamic Party leader, Mohsen Abdul Hamid, said the move was motivated by the authorities’ refusal to delay elections so that all parts of Iraq could vote, the BBC reported.

“We said we would take part if certain conditions were met, and they have not been,” Hamid told reporters in Baghdad.

The party had fielded a list of candidates for the election earlier in December.

“Our party asked on December 5 that elections be delayed for six months using reasonable arguments,” Mr Hamid said.

Even though it appears Allawi will not be swayed off course, his own Cabinet has hinted that the elections may be delayed to ensure greater participation by Sunni Arabs. Many Sunni Arabs have said that they will boycott the elections because rising violence and insecurity in Sunni-dominated areas of the country would make voting too dangerous and difficult.

Such a situation has not been helped by the resignation of the entire 13-member electoral commission in the volatile province

of Anbar, west of the capital, after members of the commission were threatened by insurgents, a regional newspaper reported, according to the *Washington Post*.

The head of the commission, Saad Abdul-Aziz Rawi, told the Anbar newspaper that it was “impossible to hold elections” in the province, which is dominated by Sunni Muslims and where insurgent attacks already have prevented voter registration. The province includes the cities of Fallujah and Ramadi.

“They are kidding themselves,” Rawi said about officials who were hopeful that the elections could take place in Anbar.

An Iraqi at the commission’s office in Anbar said the members had resigned and had gone into hiding.

Both Iraqi and US officials have said Sunni participation in the elections is necessary for the vote to be considered legitimate.

Iraqi officials blame much of the on-going violence on Sunni Arab followers of ousted dictator Saddam Hussein, who fear losing long-held political power to the country’s majority Shiite Muslims, and on Sunni Muslim extremists allied with Al-Qaida-related terrorist groups, who have condemned the concept of democracy as being “un-Islamic”.

Iraq’s intelligence service General Muhammad Shahwani puts the number of insurgents at 200,000, of which 40,000 are said to be the hard core and the rest active supporters, the BBC reported.

According to Voice of America, the insurgents have killed around 1,300 Iraqi policemen and countless paramilitary Iraqi National Guardsmen in the past four months through car bombings and ambushes designed to frighten Iraqis.

Insurgents have also assassinated or have tried to assassinate high-level government officials and political party leaders.

To counter the growing instability, Prime Minister Allawi, who will also lead a secular political party in the election, says his government has decided to merge the country’s National Guard units into the regular army to give the army a much bigger role in domestic security.

“We will try to expand these forces and equip them with

armed vehicles,” Prime Minister Allawi said. “And all of this is to secure the situation here in Iraq,” he added.

Despite looming uncertainties, President Bush is also holding firm on elections taking place at the end of January. The White House says Prime Minister Allawi spoke to Bush recently to

discuss Iraq’s security situation and other problems facing the country ahead of the elections.

US and Iraqi officials say neither the Prime Minister nor President Bush suggested that those problems could not be overcome in time.

An Iraqi father carries his daughter as he looks at an advertisement urging Iraqis to take part in the country’s upcoming national elections.



Photo: Reuters/Falil Kberber

EU, Iran resume political dialogue

Brussels—European Union and Iranian officials have resumed political negotiations in the Belgian capital after the Trade and Co-operation Agreement (TCA) between the two sides was stalled in 2003 after the fourth round due to concerns over Iran's nuclear programme, the Islamic Republic News Agency (IRNA) reported recently.

The decision to resume TCA negotiations in January followed the Paris agreement between Iran and the United Kingdom, France and Germany, and the subsequent verification of the suspension of Iran's enrichment and reprocessing activities which was confirmed by the International Atomic Energy Agency (IAEA) resolution of November 2004.

The fifth round of negotiations on the TCA in Brussels covered issues such as market access, rules and regulations related to trade matters and co-operation. The topics are similar to the agreements of the World Trade Organization (WTO).

The Director General of Economic Affairs at the Iranian Foreign Ministry, Kia Tabatabai, led the Iranian side to the TCA negotiations.

The EU team to the TCA was led by the Head of the Middle East and North Africa Department at the European Commission, Christian Leffler, who drew on the importance of Iran's economic and political standing in the Middle East.

"We wish to help Iran find its place in the region to re-engage with the international community," he said.

An Iranian spokesperson for the talks, Efsandiar Omidbakhsh, told IRNA: "The EU expects that we comply all our trade regime to the WTO rules and regulations. This is both an important, but a difficult process."

The completion of this process would take a long time, because it was very technical and complicated, he noted.

"What is important in these negotiations is the exchange of concessions. In the next round we will enter into this very important part of our negotiations," the Iranian official added.

The two sides have decided to hold the sixth round of TCA negotiations in Tehran in March.

The negotiation and conclusion of the trade agreement will help develop economic exchanges and co-operation between the EU and Iran.

US to forgive Iraq's \$4.0bn debt

Washington — The administration of the United States President, George W Bush, has agreed to write off 100 per cent of Iraq's debts of \$4.1 billion owed to Washington, going further than the 80 per cent agreed at the Paris Club, Agence France Press reported last month.

The United States Secretary of State, Colin Powell, Treasury Secretary, John Snow, and Iraq's Minister of Finance, Adel Abdel Mahdi, signed the agreement in a ceremony at the Department of State in Washington in December.

Powell said at the ceremony that the cancellation was important for Iraq's "new beginning".

"This is a tremendous victory ... for the Iraqi people," the Secretary of State said.

"We urge other nations who are not Paris Club members to reach comparable agreements on Iraqi debt relief," he added. Iraq's Minister of Finance described the debt relief as a "second liberation".

A statement released at the time said: "The signing of the debt cancellation agreement is the bilateral agreement that implements the United States' part of the Paris Club debt-reduction agreement reached on November 21, 2004."

"In fact the United States will go beyond the 80 per cent reduction agreed at the Paris Club and forgive 100 per cent of the \$4.1bn Iraq owes the United States from the Saddam era," it said.

In late November, the Paris Club of 19 creditor countries, including the United States, Japan, Russia and EU nations, said its members had agreed to wipe out 80 per cent of the money it is owed by Iraq over three years, the BBC said.

Iraq owes the Paris Club around \$40bn (€30bn), about one-third of the country's foreign debt.

But the country still owes over \$80bn to countries outside the Paris Club and is now appealing to them to show similar forgiveness.

Chávez issues land reform decree

Caracas — Venezuelan President, Hugo Chávez, has signed executive orders that pave the way for the government to seize private properties it considers unused, and to distribute them to poor farmers and homeless families, according to Bloomberg.

The orders implemented in January establish the legal framework for a government commission to assess the ownership and productivity of private farms and urban buildings to determine whether they should be confiscated.

"We're going to check the titles of every property, to the most remote corner of Venezuela," Chávez said in a televised speech to thousands of supporters in Caracas.

"Justice for the countryside, horror for the oligarchy," he said, standing before a banner about 13 metres high that read 'Free men and land. War on large land holdings'.

The seizure of private property would undermine investor confidence in Venezuela, one of seven Central Bank directors, Domingo Maza, said.

Chávez, who speaks often of his admiration for Cuban President, Fidel Castro, said in August that Venezuela should move away from capitalism and adopt a "humanist" economic model.

A 1998 census found that 60 per cent of Venezuelan farmland was owned by less than one per cent of the population. It also said 90 per cent of farmland given to the poor under a 1960 agrarian reform had since returned to large landholders, AP reported.

The new commission adds to agrarian reforms spelled out in a 2001 law that allows the government to expropriate and

grant to the poor “idle” farmlands that are not put to adequate use, or properties that owners are unable to show they obtained legally.

Chávez says land reform is needed to help bridge the gap between Venezuela’s poor majority and its rich minority. Opponents argue the law is unconstitutional because it violates private property rights.

A round of inspections began shortly after the announcement when officials in the central state of Cojedes arrived at El Charcote Ranch, which is owned by a subsidiary of the British-owned Vestey Group.

Government officials say some of those lands were obtained

illegally and belong to the state, but the owners of the ranch say they can prove legitimate ownership as far back as 1830.

Chávez said the new commission of officials and farming leaders would be in charge of inspecting lands all over the country. The military would participate in the inspections, Chávez said, although he did not say what their task would be.

Chávez said the new commission would be a “leap forward” in Venezuela’s “revolution” for the poor. He said government studies showed that five per cent of the population controlled 80 per cent of the lands, which he called an “injustice”.

Chávez has said that many large farming estates were obtained through illegal dealings before he became President in 1999.

Khatami outlines draft bill for 2005

Tehran — The Iranian President, Mohammad Khatami (*pictured below*), has unveiled a budget designed to expand public spending by 30 per cent and loosen the country’s dependence on oil, the Islamic Republic News Agency (IRNA) reported in January.

The budget for the beginning of the fiscal year, due to start March 21, 2005, focuses on privatising 20 per cent of the public sector, with an emphasis on the development of investment to create new job opportunities.

Also on the draft bill for 2005 was the development of tourism and the restructuring of relief organizations, especially targeting non-governmental women’s organizations (NGOs).

But opposition from Members of Parliament (MPs) who have attacked previous privatizations and investment could block Khatami’s plans, the BBC said.

Late last year, MPs backed a law which would give parliament a veto over foreign investment.

The ruling was a response to the involvement in telecom and airport projects by Turkish companies, which hardliners accused of doing business with Israel.

It came not long after the Expediency Council — Iran’s ultimate decision-making body — endorsed Khatami’s policy of selling stakes in sectors protected by the constitution, such as energy, transport and telecoms.

Continued obstruction of foreign investment could get in the way not only of privatisation plans, but also of Khatami’s hope of modestly reducing the government’s reliance on oil revenues.

Khatami predicted economic growth of 7.1 per cent for fiscal 2005, up from 6.7 per cent in the current year, the BBC said.

He said he wanted to increase the 2005 budget to 1,546 trillion rials (\$175.6 billion) from the previous year’s 1,070tr rials.

Within that figure, taxation would rise to \$14.3bn, a rise of over 40 per cent from what is expected from the current year. In contrast, oil revenues were expected to fall to \$14.1bn from \$16bn in the year to March 2005.

“Current government expenditure should come from tax revenues ... oil revenues should be used for productive investment,” Khatami said.

Petrochemical production will increase to 27 million tons, showing a rise of 37 per cent as compared to this year’s figure, he said, adding that exports of petrochemical products would also increase.

The Iranian President also told the Majlis deputies that phases of 1, 4 and 5 of the South Pars gas field would become operational next year.

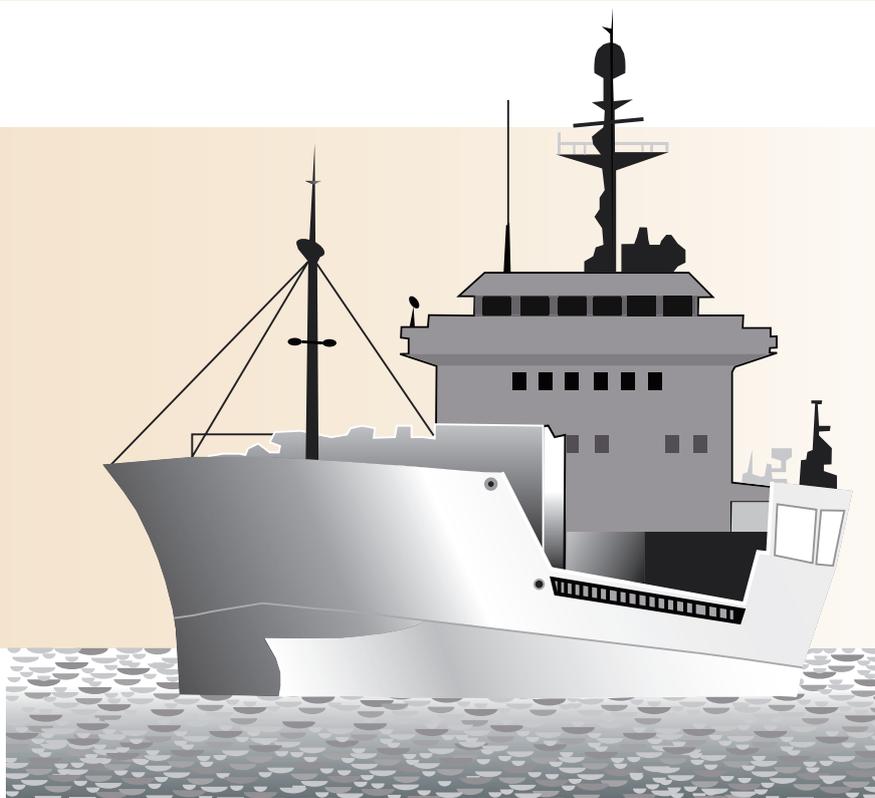
This is Khatami’s last budget as he prepares to step down after his second term as President on August 1.

Photo: Reuters/Ruhob Homayandi



November

This section is based on the OPEC Monthly Oil Market Report published in mid-December 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 Basket

Prices in the industry trended down in November on easing concern over winter fuels despite a potential strike in Nigeria which threatened to halt supplies and continuing developments in the Yukos case. In the first week of November, the market awaited the results of the US election. The OPEC Reference Basket¹ (ORB) slipped from a high of \$43.31/barrel on November 1 to end the week at \$38.56/b, for a weekly average at \$42.14/b amid a hefty rise in US crude oil stocks (see **Table A**).

The perception that supplies were ample ahead of winter added a bearish tone to the market, as did increased OPEC production amid a return of Iraqi northern output. As the threatened strike in Nigeria was called off, prices slipped further, with the ORB average dropping to \$38.81/b in the second week. Downward price movement continued in the third week as ample supplies of Mideast crudes, healthy refining margins for sour

grades and recovering output from the US Gulf Coast kept the bears intact. Although previously considered a bullish factor, high freight rates turned bearish as they trapped crudes in their regional markets. OPEC expectation of lower demand amid a surge in stockpiling kept the market calm. Despite revived concerns over winter heating fuels in the third week, the Basket's weekly average continued to drop, settling at \$36.83/b. Disruption to Iraq's oil supplies amid restored fear of tight winter fuels in the eastern and northern hemisphere triggered a price surge, putting an end to three weeks of downward price movement. The Basket jumped \$1.69 to \$38.52/b in the fourth week of November. In the final two days of the month, the price surged momentarily on an interruption of around 200,000 b/d of North Sea production amid continued high freight rates limiting the outflow of arbitrage barrels.

The OPEC Reference Basket stood at \$38.96/b in November, down 14 per cent or \$6.41 from the month before, the lowest monthly average since last July. While the previous month saw the sharpest increase, November now holds the record for the deepest price drop. Ample supplies of Mideast crude amid healthy refining margins and the closure of arbitrage opportunities keep the market bears overall.

However, as of month's end, the Basket's yearly average stood at \$36.07/b, which was still \$8.12 or 29 per cent over the previous year's level. Prices continued to deteriorate in December as the Basket dropped below the \$34/b level. As of December 14, the Basket's year-to-date average remained a strong \$35.97/b with the month-to-date average at \$34.21/b.

US market

The month began with the US market distracted by the presidential election. Concern over a threatened strike in Nigeria supported WTI strength amid tight supply of light sweet grades amid high freight rates. However, with the strike called off, fears diminished over the winter fuel supply, which exerted pressure on the petroleum complex. Accordingly, WTI slipped from a high of \$50.14/b. Ample supply of Mideast sour crude attracted refiner buying as the sweet/sour spread between WTI/WTS remained wide, but narrower from October to average at around \$6.50/b during the first week of the month. Despite concern over tight winter fuel ahead of seasonal demand in the US north-east region, a hefty build in crude oil stocks of some 6.3 million barrels to approach 290m b pressured prices and helped WTI to tumble around four per cent in the first week to \$49.58/b.

1. An average of Sabayan Blend, Minas, Bonny Light, Arabian Light, Dubai, Tia Juana Light and Isthmus.

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

Reference Basket	Oct 04	Nov 04	Year-to-date average	
			2003	2004
Arabian Light	39.00	35.56	27.53	34.52
Dubai	37.61	34.87	26.63	33.61
Bonny Light	49.91	43.60	28.67	38.20
Saharan Blend	50.48	42.97	28.62	38.24
Minas	49.68	37.25	29.25	37.02
Tia Juana Light	43.55	37.37	26.90	33.77
Isthmus	47.40	41.10	28.09	37.15
Other crudes				
Brent	49.74	42.80	28.70	38.13
WTI	53.32	48.22	30.97	41.30
Differentials				
WTI/Brent	3.58	5.42	2.27	3.17
Brent/Dubai	12.13	7.93	2.07	4.52

The slide continued in the second week on the prospect that supplies were sufficient to meet needs during the US north-east winter. This bearish trend was furthered on another build in US crude oil stocks. WTI lost another 4.3 per cent for a drop of \$4.26/b over a two week period and WTI/ WTS spread narrowed to \$5/b.

However, the market turned bullish on fears that OPEC might scale back production at its upcoming Cairo Meeting. A refinery outage in Venezuela at a time of falling distillate stocks sent WTI soaring nearly three per cent in the third week. Accordingly, the sweet/sour spread for WTI/WTS widened to \$5.70/b on fears of a shortage of light-end winter products. These concerns continued in the fourth week helping prices to rise with the premium of sweet to sour grades widening further to nearly \$6/b while WTI hovered around the \$50/b level towards month end. However, the bullish trend proved short-lived, as the bears returned driven by mild weather in the USA and building petroleum stocks. The market remained in contango throughout the month.

European market

Ample supplies of North Sea crude amid aggressive selling pushed the differentials lower amid competing sour

crudes. Costly freight rates preventing shipment out of Europe and tax incentives to minimize year-end oil inventories supported the moderating price trend. This helped the market flip into contango in the first week of the month. However, a return of some refineries from turnaround amid ample supply further weakened the forward structure, and by the second week of November the contango incentive was so strong that it made sense to store crude. Continued high freight rates amid ample supply of December barrels over the previous month pressured the North Sea crude to a discount.

In the second decade of the month, freight costs eased and the pressure came off of arbitrage sales of sour grade to Asia and the USA. Moreover, as the gasoil crack spread narrowed, prices fell further into discount. Nonetheless, an interruption in Statoil supply, caused by a gas leak on the Snorre A platform and the Vigdis satellite, helped differentials to firm towards the end of the month.

In the Mediterranean, Russia's Urals sour crude was under pressure from a slip in Mideast differentials. Conversely, delays at the Bosphorus Strait amid high freight rates and healthy refining margins bolstered the grades in the first decade. Differentials continued to firm on healthy buying inter-

est in the second half as refiners continued to pick up lucrative sour grades. Sentiment improved on the outflow of some arbitrage cargoes eastward and westward. However, by the end of the month, sentiment turned somewhat bearish on ample supplies amid the new December programme.

Far East market

The Mideast market began the month digesting Oman retroactive October OSP, which was hiked up \$2.45/b or 96¢/b over Dubai, while Abu Dhabi raised its Murban to \$5.26/b over Dubai. Hence, trade for these grades fetched lower premiums due to high freight rates. January Oman was discussed at a 2–9¢/b premium over MOG. Murban was assessed at 10–20¢/b premium to ADNOC's official selling price (OSP) in the first week amid limited interest for middle distillates. Despite high freight rates, the bearish sentiment remained for Mideast crudes on the inflow of western crude to the east. January Oman traded at a weaker premium of 2¢/b in the third week amid thin interest. The continued outlook for warmer weather in the east amid high outright prices pushed the differential into discounts for Abu Dhabi Murban which for the first time in seven months traded at 15–18¢/b below the OSP. In contrast, Oman was assessed at a 9¢/b premium.

Chinese buying of West African crudes exerted downward pressure on the high outright price of regional crudes. In Asian regional markets, activities were subdued for light sweet grades amid high absolute prices, which began to eat into Asian demand.

Accordingly, Malaysia's Petronas lowered its offer for December Penara Blend and Kidurong crude which sold at a premium of 50¢/b after an initial offer in the first week of 95¢/b to Tapis APPI as Chinese buying of West African crudes pressured the Asia/Pacific market once again. Although price declines gave hope to sellers that they might achieve higher premiums amid robust freight rates, soaring flat prices maintained downward pressure, with Malaysia's Petronas offering January Tapis at a 10¢/b premium to Tapis APPI.

Product markets and refinery operations

Mild weather across the globe and contra-seasonal middle distillate stock-builds over the last two weeks eased earlier concern about a possible shortage of heating oil in the winter. This situation has triggered a bearish sentiment since early December and is still weighing on the market. Despite these developments and a dramatic drop in prices for all products, the middle of the barrel remained the major market driver, and a cold spell may recuperate part of the recent losses in heating oil prices. In November, the relative weakness of sweet benchmark crude oils, coupled with the strong performance of the light-medium products, resulted in a recovery in refinery margins in the Atlantic basin from the previous month.

However, product cracks in early December tumbled along with crude prices, reversing the upward trend of refinery operating profits. Given the slowing demand for most products, refinery margins are expected to contract further by the end of December.

Meanwhile, with the end of the refinery maintenance schedule, the refinery utilization rate increased in November compared to the previous month as refiners stepped up efforts to meet winter fuel demand and switched the middle distillate pool in favour

	Sept 04	Oct 04	Nov 04	Change Nov/Oct
US Gulf (cargoes)				
Naphtha	51.33	56.86	52.19	-4.67
Premium gasoline (unleaded 93)	55.59	58.45	53.16	-5.29
Regular gasoline (unleaded 87)	52.25	56.89	52.29	-4.60
Jet/kerosene	57.46	64.19	56.60	-7.59
Gasoil (0.2% S)	52.38	61.54	55.61	-5.93
Fuel oil (1.0% S)	29.63	34.51	31.19	-3.32
Fuel oil (3.0% S)	26.07	31.47	21.80	-9.67
Rotterdam (barges fob)				
Naphtha	54.88	61.21	56.49	-4.72
Premium gasoline (unleaded 95)	50.77	55.72	50.62	-5.10
Regular gasoline (unleaded)	50.73	55.81	50.64	-5.17
Jet/kerosene	58.49	65.91	60.31	-5.60
Gasoil (0.2% S)	53.02	63.06	56.89	-6.17
Fuel oil (1.0% S)	23.40	28.10	25.23	-2.87
Fuel oil (3.5% S)	24.12	25.88	21.49	-4.39
Mediterranean (cargoes)				
Naphtha	45.90	50.76	45.68	-5.08
Premium unleaded (0.15g/l)	49.87	54.39	48.74	-5.65
Premium gasoline (unleaded 95)	49.84	54.43	48.70	-5.73
Jet/kerosene	56.28	62.82	57.18	-5.64
Gasoil (0.5% S)	53.12	60.78	56.47	-4.31
Fuel oil (1.0% S)	25.66	29.03	26.72	-2.31
Fuel oil (3.5% S)	22.81	24.20	18.65	-5.55
Singapore (cargoes)				
Naphtha	43.95	48.81	47.46	-1.35
Premium gasoline (unleaded 95)	49.06	54.73	52.45	-2.28
Regular gasoline (unleaded 92)	48.20	53.68	51.74	-1.94
Jet/kerosene	55.30	61.25	57.64	-3.61
Gasoil (0.5% S)	54.29	58.40	56.82	-1.58
Fuel oil (180 cst 2.0% S)	27.84	30.96	29.40	-1.56
Fuel oil (380 cst 3.5% S)	27.18	29.95	27.99	-1.96

of heating oil. The refinery utilization rate in the USA increased to 95.2 per cent in November, up four per cent from the previous month. At 87.4 per cent, the refinery utilization rate in Europe was almost the same as in October. However, in an effort to build kerosene stocks, the refinery utilization rate in Japan soared to 93.9 per cent from 80.3 per cent in October (see **Table B**).

US market

Concern over US heating fuel stocks outweighed other market developments and bolstered the premiums of middle

distillates versus WTI in November. As of December 3, 2004, the four-week average demand for middle distillates in the USA increased by nearly six per cent compared with the same period last year. Similarly, production of middle distillates increased by seven per cent, easing winter supply fears, although distillate stocks for the entire USA were still ten per cent lower than in the same period last year. Recent developments in distillate stocks have turned the short-term outlook for heating oil bearish. Nevertheless, demand was seasonally strong, and the potential for a bullish rebound remained high.

Table C: Refinery operations in selected OECD countries

	Refinery throughput (m b/d)				Refinery utilization (%) ¹			
	Sept 04	Oct 04	Nov 04	Nov 04/03	Sept 04	Oct 04	Nov 04	Nov 04/03
USA	15.39	15.23	15.89	0.40	92.2	91.2	95.2	2.0
France	1.77 ^R	1.72	1.73	-0.13	90.7 ^R	88.1	88.6	-9.1
Germany	2.29 ^R	2.34 ^R	2.19	-0.15	100.0 ^R	102.3 ^R	95.7	-7.7
Italy	1.93 ^R	1.79	1.68	-0.26	83.6 ^R	77.4	72.6	-11.8
UK	1.66	1.66	1.66	0.06	91.1	91.3	91.1	1.9
Eur-16	12.46 ^R	12.15 ^R	12.06	-0.52	90.3 ^R	88.0 ^R	87.4	-4.2
Japan	3.82	3.77 ^R	4.41	0.32	81.2	80.3 ^R	93.9	7.9

1. Refinery capacities used are in barrels per calendar day.

R Revised since last issue.

Sources:

OPEC statistics, Argus, Euroilstock Inventory Report/IEA.

While demand for gasoline over the last four weeks was a slight one per cent higher than in the same period last year, the gasoline crack made significant gains in November due to the decline in crude prices. However, this situation has changed more recently due to higher gasoline output levels and imports, which have led to a stock-build and put pressure on gasoline prices and crack values.

Despite the good performance of the top and middle of the barrel in the US market, sentiment for fuel oil remains disappointing. Mild temperatures have undermined utility demand for low-sulphur fuel oil, causing PADD 1 (US East Coast) stocks to rise to over 16m b, for a gain of nearly 2m b in four weeks. Demand for high-sulphur fuel oil was also sluggish, and its discounted crack against WTI dropped nearly a substantial \$10/b from late October, reaching minus \$30/b (see **Table C**).

European market

Robust demand ahead of the change in EU specifications along with refinery glitches in Europe boosted the gasoil crack spread against Brent to nearly \$18/b in November. This situation changed in early December, driven mainly by rising US inventories, which caused refinery margins in both Europe and the rest of the world to plummet. The decrease in the diesel crack was especially spectacular.

European gasoline cracks were mixed in November, increasing in NW Europe due to heavy buying from Statoil, but remained relatively constant from the

previous month in the Mediterranean. However, due to unfavourable arbitrage to the US market and high regional supplies, gasoline market fundamentals remained weak in both NW Europe and the Mediterranean.

The performance of naphtha in Europe was not as successful as that of other products in November. This was attributed to weak demand and poor arbitrage opportunities to both Asia and the USA in the face of high freight rates for shipping.

The sentiment for the jet market was also bearish because of sluggish seasonal demand, increased output following the end of maintenance and an influx of arbitrage cargoes from the Middle East. Despite improved performance in November, the fuel oil market continued to suffer from the high availability of prompt cargoes. The crack value for fuel oil stood at about minus \$22/b compared with its corresponding Dated Brent benchmark crude (see **Table C**).

Asian market

Middle distillate products extended their impressive performance versus Dubai crude in November before weakening in early December. In late November, the Asian gasoil crack spread against the Dubai benchmark crude oil reached \$23.21/b compared to \$22.76/b in late October 2004. The main driving force behind this good showing was Chinese demand, which rose to 450,000 tonnes in November from about 200,000 t in October. Despite the recent weakness, the outlook for the gasoil market over the next few months

appears bullish. However, the forecast for mild weather in north Asia should help the sentiment for jet kerosene to remain relatively bearish in the next months, despite Japanese kerosene stocks remaining at about seven per cent below last year's level.

In addition to middle distillates, naphtha's performance against the Dubai crude was excellent. The product received support from a drop in exports from India and strong Japanese demand. Due to the strength in naphtha prices versus gasoline prices, reforming margins narrowed in Asia. Moreover, strong demand for naphtha in Asia may encourage market players to divert unsold cargoes from Europe to Eastern markets.

Meanwhile, the fuel oil price continued its late October recovery into the end of November before being dragged down by the influx of arbitrage cargoes and a sharp decline of crude oil prices on December 2. The fuel oil crack spread versus Dubai widened a further \$2/b compared to minus \$6.77/b in late November (see **Table C**).

The oil futures market

Crude oil futures fell in November from October highs on hefty selling by non-commercial speculative funds. In the first week of November, the net non-commercial long position was down some 16,000 contracts to 5,000 as speculators liquidated long positions. The NYMEX WTI December contract slipped from \$55.17/b on October 26 to \$49.62/b on

November 2 as concerns eased over heating oil supplies. The slide continued in the third week on strong OPEC production amid a slowdown in demand growth which helped crude inventories to grow to comfortable levels ahead of the northern hemisphere winter. This encouraged speculative funds to move money out of the oil market on hefty funds sell-offs for profit-taking.

The NYMEX WTI contract slimmed further to \$46.11/b on November 16. Hence, the ratio of long vs short positions for non-commercials started to flatten with the contract moving toward equilibrium in the second and third week. However, winter fuel concerns revived ahead of the winter season, which helped crude oil futures to rise to \$50/b in volatile trading in New York for the first time in three weeks.

Still, the increase in net longs was mostly due to funds liquidating short positions at a higher pace than longs. Concern at month end on a disrupted Norwegian platform added some nervousness to the market. However, this was balanced by a mild Thanksgiving Day holiday in the USA which triggered an early fund sell-off. Nonetheless, despite the continued sharp drop in speculation by non-commercial funds, open interest remained high after falling from a peak of 715,000 lots early in November to 690,000 contracts at the end of the month as commercials increased long positions.

The forward curve flipped in slight contango for the 1st/2nd month spread on November 4 before steepening further while the 2nd/3rd month slipped into contango in the first decade. This was mainly due to ample supplies and rising crude oil stocks in the USA along with the easing of concerns over heating oil supplies ahead of the peak winter season. Cheaper oil prices for Mideast sour crude also helped calm the market.

Crude oil stocks saw a build of 3.6m b to 293m b between October 29 and November 26 and have increased nearly 24m b since September 17, when oil inventories dropped below the perceived minimum operational level due to supply disruption in the Gulf of Mexico due to Hurricane Ivan. Hence, the contango continued although the 1st/2nd month spread narrowed from peak of minus 45¢/b to a month average of minus 11¢/b amid persistent uncertainty over winter fuels.

Tanker markets

In November, OPEC area spot chartering erased the previous month's gain of 15 per cent, dropping to 13.19m b/d for a loss of 1.93m b/d compared to October and 1.68m b/d below last year. This considerable decline in OPEC spot fixtures was due to a reported fall of about 420,000 b/d in OPEC oil production and also because of refiners' lack of interest in buying expensive barrels at a time when oil demand is starting to show some slowdown in the wake of mild weather in the north hemisphere. OPEC's share of global spot chartering fell by about three per cent to stand at 64.5 per cent compared with the October level and slightly below last year's figure. About 95 per cent of the fall in OPEC spot fixtures occurred on the Middle East/East long-haul route which plunged by 1.84m b/d to 4.42m b/d due to the lower level of requirement for sour and heavy grades which are the main stream of this region.

Middle East/West long-haul spot fixtures moved in different directions, increasing by 630,000 b/d to 2.85m b/d as relatively attractive price differentials attracted Atlantic Basin refineries to absorb more than their counterparts in the East. Compared with last year's level, eastbound long-haul spot fixtures were down 960,000 b/d, while fixtures on the westbound long-haul route were up 540,000 b/d. Together, these routes accounted for about 55 per cent of total spot-chartering in the OPEC area, which was one per cent less than last month's level, but six per cent higher than that registered a year ago. Non-OPEC spot fixtures remained almost unchanged at the previous month's level of 7.26m b/d, which is 1.33m b/d below last year's level. Despite stable movement, the non-OPEC share rose to about 36 per cent from 32 per cent in October but remained at exactly the same level as last year. Therefore, global spot fixtures retreated by 1.94m b or nine per cent to 20.46m b/d compared with last month, which was 3.78m b/d or about 18 per cent below the year-ago level.

According to preliminary estimates, sailings out of the OPEC area in November moved slightly down by 430,000 b/d to a monthly average of 24.40m b/d. Sailings out of the Middle East moved in the opposite direction, increasing a marginal 110,000 b/d to a monthly average of

17.44m b/d. This was equivalent to about 71 per cent of total OPEC area sailings, or about two per cent above last month's average. Preliminary estimates of arrivals in the Atlantic basin area displayed small increases while the US Gulf and US East Coasts and the Caribbean area rose 470,000 b/d to 11.24m b/d and NW Europe increased by 350,000 b/d to 7.43m b/d. Euro-Med and Japan arrivals dropped, losing 20,000 b/d to 4.53m b/d and 740,000 b/d to 4.12m b/d, respectively.

Crude oil freight rates continued to head upward for the third consecutive month, touching all-time highs on all main routes. Ship-owners remained in a bullish mood for most of November as tonnage was tight and oil producers, especially within OPEC, continued to pump more barrels to abate very high oil prices. Estimated record volumes of oil in transit bolstered crude oil freight rates as charterers scrambled to make bookings amid little tonnage availability. Very large crude carrier (VLCC) freight rates on the Middle East eastbound and westbound long-haul routes increased a further 30 per cent and 28 per cent, respectively, in November to stand at a monthly average of Worldscale 306 and W210 for a rise of 92 and 59 points, respectively.

VLCC rates touched their highest levels in the second week of November, hovering around W340 eastbound and W230 westbound before easing off in the second half due to lower activity because of some holidays in the main consuming regions. Suezmax freight rates secured an increase of about 15 per cent on the West Africa/US Gulf Coast route and the NW Europe/US East-US Gulf Coast route, standing at a monthly average of W336 and W342 for an increase of 49 and 53 points, respectively. The Thanksgiving holiday in the USA had a noticeable impact on Suezmax rates, pulling them down from W400 in the third week to close to their monthly average.

Tight tonnage availability was the main driver behind the rise of about 26 per cent in Aframax freight rates on the Indonesia/US West Coast route, lifting the monthly average to W366 for an increase of 95 points over last month. In the Caribbean, Aframax freight rates managed to gain about 13 per cent or 50 points to stand at a monthly average of W387 in a fluctuating market

where rates moved sharply up and down on barrel and tonnage availability. Aframax freight rates from the Mediterranean to NW Europe showed a slight rise of six per cent, lifting the monthly average by 22 points to W364 as activity supported rates during some time of the month while rates started to ease downward when slower demand forced owners to ask less by the end of the month. The only exception in crude oil freight rates was within the Mediterranean basin where rates lost on average two points to stand at W390 on the back of a drop in activity.

Product freight rates remained firm for the fourth consecutive month in November, fuelled by very healthy demand along all main routes, especially within the Mediterranean and from there to NW Europe. They registered a rise of 28 per cent and 24 per cent on these two routes, lifting the monthly average by 103 points to W365 and 85 points to W350, respectively. Tight tonnage availability and increasing demand especially for distillates encouraged owners to seek higher rates in a very tight market. Rates along NW Europe/US East-US Gulf Coast also gained heavily, rising by 24 per cent or 92 points to stand at a monthly average of W380 on the back of higher demand.

In the Caribbean, rates followed the same trend, benefiting from strong demand for heating oil in the US market. They rose on average by about 16 per cent or 56 points to W351. In the East, freight rates along the Middle East/East and Singapore/East routes stayed high, rising a moderate six per cent and eight per cent, respectively, on steady activity.

World oil demand

Revision to historical figures (2002–03)

World oil demand data for 2003 underwent a new marginal upward revision of 20,000 b/d with the new yearly average at 79.26m b/d. The adjustments were widespread among both non-OECD and OECD countries, with North America and Other Europe revised up by 10,000 b/d and 40,000 b/d, respectively. In contrast, two regions in the developing countries, namely the Middle East and Africa, were revised down by 10,000 b/d and 30,000 b/d, respectively.

Forecast for 2004

World

As we approach the end of 2004, the latest projections indicate that total world oil demand will grow by 3.17 per cent which in volume terms represents a y-o-y gain of 2.51m b/d — a level not seen since 1977. In absolute terms, world oil demand is estimated to average 81.77m b/d for the year. Although still subject to further minor adjustments, preliminary data for the first three quarters of 2004 indicates that demand rose 2.22 per cent or 1.77m b/d in 1Q2004, followed by an astonishing 3.85m b/d or five per cent rise in 2Q of the year. The latest demand figures for 3Q, shown completed here for the first time, indicate that world oil demand grew by 3.13 per cent or 2.47m b/d. The 4Q world oil demand is projected to rise 2.40 per cent or 1.95m b/d to average 83.11m b/d.

OECD

Total OECD demand has been revised upwardly a marginal 30,000 b/d from the last report. Latest projections call for a 630,000 b/d or 1.29 per cent growth in crude oil and petroleum product deliveries to average 49.37m b/d. The lion's share of the rise in consumption originates in North America. However, Western European demand was also increased for the year as new data from 3Q points to stronger consumption. OECD Pacific demand is expected to shrink by 130,000 b/d or 1.42 per cent to average 8.65m b/d for the year. With preliminary data for the first three quarters of the year indicating growth of 470,000 b/d, 710,000 b/d and 910,000 b/d, respectively, 4Q projections call for a 410,000 b/d rise. Latest figures show that US oil demand was up significantly in November following a meagre rise in October. In OECD Asia, Japan's consumption of crude oil and petroleum products appears to have recovered in November following a pronounced contraction in October. Despite mild temperatures so far this year, consumption growth in OECD countries seems to have arrested the drop in October with preliminary data showing a robust increase in November.

The breakdown of total OECD oil requirements by products for the period January-September 2004 shows that inland

deliveries of gasoil/diesel, LPG and gasoline grew by 210,000 b/d, 140,000 b/d and 140,000 b/d, with respect to the same period last year. In contrast, residual fuel oil requirements continued to decline falling by almost 8.7 per cent or 280,000 b/d during the first nine months of this year. Total oil requirements registered a gain of 710,000 b/d or 1.45 per cent in the period January-September. A more detailed look shows that inland deliveries rose 510,000 b/d or 1.14 per cent while marine bunkers grew by 130,000 b/d or 8.9 per cent. The two other components, namely refinery own use and backflows, rose 40,000 b/d or 1.62 per cent and 50,000 b/d or 9.76 per cent, respectively. Direct use of crude oil for burning in thermal plants fell 30,000 b/d or 18.1 per cent during the period.

Developing countries

Oil demand in developing countries is projected to rise 900,000 b/d or 4.5 per cent to average 21.18m b/d for the present year. Almost 50 per cent of the growth will take place in Other Asia underpinned by the strength in demand for transportation fuel in India. Preliminary figures for the first three quarters of this year indicate that India's demand grew by 9.3 per cent, 10.2 per cent and three per cent, respectively. The income effect arising from record high oil prices, solid rates of economic growth currently estimated at 5.94 per cent, and the heavily subsidized energy prices in the Middle East lead us to believe that consumption of petroleum products will increase by around 5.5 per cent this year. In the other two regions, oil demand is projected to rise at a more moderate pace, with Latin America showing a 3.12 per cent growth, while Africa's oil demand will rise by around two per cent.

Other regions

With three full quarters of preliminary data at hand, apparent demand in the group Other Regions is projected to rise by almost 1.0m b/d, which translates into a y-o-y change of 9.6 per cent. China will account for four-fifths of the total rise in apparent demand with the remaining 20 per cent split between the former Soviet Union (FSU) with 120,000 b/d and Eastern European countries which added 60,000 b/d. Production and trade data for China shows that apparent demand grew by

winter temperatures for the next weeks in the USA and winter season temperatures are expected to be below average. Thirdly, the Chinese economy, which has been the major engine behind the abnormally high growth in oil demand this year, is projected to expand in 2005, albeit at a slower pace. Finally, economic expansion in the USA, the other economy that has experienced a substantial growth in oil demand during the present year, is forecast to decelerate from the current 4.2 per cent to a more moderate 3.2 per cent in 2005.

Thus, average world oil demand is projected at 83.28m b/d, implying a gain of 1.51m b/d or 1.85 per cent over total 2004 consumption. This preliminary assessment is indeed subject to further adjustment as new information becomes available on key factors such as the economic growth outlook, weather conditions, unforeseen social and geopolitical events, and variations in crude and product prices.

Oil consumption is expected to grow in all major regions with the sole exception of the OECD Pacific where demand will contract by 0.9 per cent. North America, especially the USA, will contribute the bulk of demand growth within the OECD countries, while China will make up more than one fourth of total world oil demand growth in 2005. China represents a major risk to next year's demand forecast, with the main question being whether China's demand for crude and petroleum products will normalize in 2005. The average for the last nine-year marginal Chinese demand was 280,000 b/d vs 2004's expected 800,000 b/d. Behind this year's astonishing growth in demand were the country's power deficit and strong economic growth. Nonetheless, diesel demand growth to feed back up generators is expected to ease as other non-oil generating sources gradually increase. On the economic arena, GDP growth next year is projected to decelerate to 7.6 per cent from 9.1 per cent in 2004. Early this year the Chinese central government implemented a series of administrative measures designed to slow down the overheated economic expansion. It appears that these measures did not have the desired effect. Therefore the government has been forced to make use of purely monetary policies in a new attempt to slow down economic growth. It is still too early to assess the effectiveness of the

9.15 per cent in 3Q of the year. Despite this still sizeable increase, preliminary indications show that apparent consumption of crude and petroleum products in China is starting to recede from astonishing rates early in the year of 15.7 per cent in 1Q and 23.9 per cent in 2Q. The forecast for the last quarter of 2004 shows a further deceleration in the rate of demand growth to 730,000 b/d or 6.9 per cent vs the last quarter of 2003. All in all China's demand is projected to rise 790,000 b/d, which translates into a y-o-y gain of 14.2 per cent and represents one third of the total world demand rise. Apparent demand in the FSU is projected to rise 120,000 b/d or 3.3 per cent on the back of the faster growth in export volumes despite the rise in production levels.

Forecast for 2005

The world oil demand forecast for the year 2005, first introduced in July of this year, has been further revised based on four assumptions. The first is that the world economy will continue to grow but at a slower pace than that seen in the present year. Thus, world economic expansion on a PPP basis is assumed at 4.05 per cent for 2005, which is considerably lower than the 4.81 per cent growth in world GDP expected for the present year. Secondly, temperatures are expected to return to normal conditions after the milder than average weather experienced this year, especially in the USA. Preliminary weather indications call for lower

Table D: FSU net oil exports m b/d

	1Q	2Q	3Q	4Q	Year
2001	4.30	4.71	4.89	4.47	4.60
2002	5.14	5.84	5.85	5.49	5.58
2003	5.87	6.75	6.72	6.61	6.49
2004¹	7.17	7.28	7.34	7.26	7.26
2005¹	7.44	7.78	7.85	7.79	7.72

1. Forecast.

recent policies. However, the intentions of the Chinese government with regard to the economy are very clear. Thus, we should remain vigilant on the latest developments in China and their impact on consumption patterns.

World oil supply

Non-OPEC

Forecast for 2004

Non-OPEC supply for 2004 has been revised down to 49.76m b/d, with a quarterly distribution of 49.61m b/d, 49.72m b/d, 49.54m b/d and 50.29m b/d, respectively. The 4Q projections were revised down significantly — for Canada by 210,000 b/d due to technical problems in synthetic crude production, while Russian output was 220,000 b/d less than expected in the last report. The yearly average increase stands at 1.17m b/d compared with the 2003 figure.

Forecast for 2005

Non-OPEC supply for 2005 is forecast to increase 1.22m b/d. North America should witness a rise of 160,000 b/d, mainly from a 80,000 b/d gain by Canada, partially offset by an expected 120,000 b/d decline in both OECD Pacific and Western Europe where the UK is forecast to dip 80,000 b/d. Total OECD supply is likely to increase to 21.42m b/d. Total DC supply is forecast to rise 570,000 b/d, mainly from Latin America, with Brazil adding 120,000 b/d and Trinidad 50,000 b/d, as well as Africa where Angola, Sudan and Chad should see increases of 190,000 b/d, 60,000 b/d and 40,000 b/d, respectively. The FSU is expected to be the major contributor to the rise, mainly on Russia's gain of 470,000 b/d, while Kazakhstan and Azerbaijan are

expected to add 60,000 b/d each. Quarterly figures are redistributed at 50.85m b/d, 50.91m b/d, 50.74m b/d and 51.53m b/d, respectively. The yearly average is forecast at 50.98m b/d.

The FSU's net oil exports for 2005 are expected at 7.72m b/d, an increase of 450,000 b/d over the 2004 figure of 7.26m b/d (see **Table D**).

OPEC NGLs and non-conventionals

The 2005 forecast for OPEC NGL and NCO remains unchanged at 4.14m b/d, an increase of 190,000 b/d over the 2004 figure. Figures for 2001–2003 also remained unchanged at 3.58m b/d, 3.62m b/d and 3.71m b/d, respectively, compared with the figures in the last report.

OPEC NGL production, 2001–05

	<i>m b/d</i>
2001	3.58
2002	3.62
2003	3.71
1Q04	3.88
2Q04	3.89
3Q04	3.97
4Q04	4.04
2004	3.95
Change 2004/2003	0.24
2005	4.14
Change 2005/2004	0.19

OPEC crude oil production

Available secondary sources indicate that OPEC's output for November was 29.76m b/d, 420,000 b/d less than the revised October figure. **Table E** shows OPEC production as reported by selected secondary sources.

Rig count

Non-OPEC

Non-OPEC rig activity was higher in November compared with the October figure. North America gained 97 rigs, mainly in Canada and the USA, while Western Europe was down 1 rig to total 64. Rig activity in Developing Countries was up by 13 rigs to 398, mainly in the Middle East and Latin America.

OPEC

OPEC's rig count was 267 in October,

a rise of 21 rigs compared with the October figure. The gain in rig activity was mainly contributed by Venezuela and Indonesia.

Stock movements

USA

US commercial oil stocks continued the contra-seasonal build observed in the previous two months increasing by 15.0m b at a rate of 540,000 b/d to 978.7m b during the period October 29–December 3. The bulk of this build came from product inventories which increased by 10.8m b, while crude oil stocks rose only 4.2m b. This build widened the y-o-y surplus to 16.4m b or 1.7 per cent. Crude oil stocks have been rising steadily since the week ending September 24, adding more than 24m b to now stand at 293.9m b. This indicates that crude inventories are at a comfortable level. Indeed, crude oil stocks are five per cent higher than a year ago and are in the middle of the average range for this time of the year. Crude oil inventories have been building as the extra crude produced by OPEC reaches refineries. While crude oil imports have averaged 10.3m b/d over the last four weeks, they reached 10.9m b/d in the week ending December 3, an increase of 808,000 b/d from the previous week and the second highest weekly average ever. On the product side, gasoline stocks registered a build of 6.4m b to 208.1m b and are 7.6m b or four per cent above this time a year ago. This build came despite the strong implied demand of 9.15m b/d, which is two per cent above the same period last year. Gasoline imports averaged 1.1m b/d in the week ending December 3, which is the highest ever weekly average for either the month of November or December. Gasoline imports almost doubled when compared to the level of this time last year. Distillate stocks also rose 3.6m b to 119.3m b as refinery runs have resumed operating at 94 per cent in the week ending December 3, which corresponds to a crude oil input of 15.7m b/d, but are still 12.8m b or ten per cent below a year earlier at this period. Over the last four weeks, US distillate production has surged to 4.1m b/d. Refinery distillate yields have averaged 26.3 per cent, their highest rate since December 2002. Heating oil stocks saw a build of 1.5m b to 50.0m b. Mild weather

on the US Atlantic Coast was behind the increase in heating oil inventories, which allowed prices to ease.

During the same period, the SPR reversed the temporarily downward trend observed last month when 500,000 barrels were released under a loan, increasing by 3.1m b to 672.8m b, which was around 40m b or 6 per cent higher than the level at the same period last year.

Western Europe

After an upward revision of the October figures, total oil stocks in Eur-16 (EU plus Norway) continued their upward trend, increasing by 3.7m b to 1,104.7m b in November. The bulk of this build came from crude oil, which increased by 9.3m b to 478.4m b, while total product inventories offset this build by decreasing 5.6m b to 626.3m b. The build widened the y-o-y surplus to 11.8m b or 1.1 per cent and left crude oil stocks with a y-o-y surplus of around 18.0m b or four per cent. This higher crude stock-build came as refiners cut back crude intake by 90,000 b/d to just over 12m b/d, the lowest figure since April, combined with the increase in Russian exports and high freight rates which cut arbitrage to the USA. Throughputs were almost 300,000 b/d below a year earlier at this time, which corresponds to a utilization rate of 92.1 per cent, which was 0.6 per cent lower than the downwardly revised 92.7 per cent seen in October as regional refinery maintenance increased. Gasoline stocks fell

Table E: OPEC crude oil production, based on secondary sources 1,000 b/d

	2002	2003	2Q04	3Q04*	Oct 04*	Nov 04*	Nov/ Oct
Algeria	864	1,134	1,199	1,257	1,278	1,285	7
Indonesia	1,120	1,027	969	958	956	954	-2
IR Iran	3,416	3,757	3,903	3,940	3,949	3,925	-24
Iraq	2,000	1,323	2,009	1,990	2,258	1,826	-432
Kuwait	1,885	2,173	2,292	2,395	2,441	2,433	-8
SP Libyan AJ	1,314	1,422	1,499	1,577	1,600	1,600	-
Nigeria	1,969	2,131	2,342	2,365	2,307	2,358	50
Qatar	648	746	772	796	799	800	1
Saudi Arabia	7,535	8,709	8,637	9,406	9,480	9,475	-5
UAE	1,988	2,243	2,243	2,459	2,501	2,486	-15
Venezuela	2,584	2,291	2,547	2,605	2,611	2,620	9
Total OPEC	25,322	26,955	28,412	29,748	30,180	29,761	-419

* Not all sources available.
Totals may not add, due to independent rounding.

a marginal 300,000 b to 132.8m b and are now 11.5m b or eight per cent below last year's level at this time. Production of gasoline dropped as refiners changed yields to increase distillate stocks ahead of colder weather. Distillate stocks, which comprise heating oil, diesel and jet fuel, remained almost unchanged at 354.4m b from the upwardly revised October figure and are now 6.6m b or two per cent higher than last year's November figure. Distillate stocks are at their highest end-November level since 1998. The slow-down in diesel demand as well as the sale of German heating oil were behind this increase. The inventory picture now appears adequate to meet the upcoming potentially cold winter. Analysts are carefully watching distillate inventories on both sides of the Atlantic as a barometer of oil demand. Fuel oil stocks fell around 1m b to stand at 114.9m b, in line with last year's level at this time, while naphtha dropped 4.4m b to 24.2m b, around 1m b below a year ago level at this period.

Japan

At the end of October, Japanese commercial onland stocks experienced an increase of 3.0m b or a rate of 100,000 b/d to 194.8m b, widening the y-o-y surplus to 11.4m b or 6.2 per cent. The main contributor to this build was crude oil, which increased by 12.6m b to 124.5m b, while

total product inventories abated the build, dropping 9.6m b to 70.3m b. The strong build in crude oil came on the back of the rise in crude oil imports for the fourth straight month. Indeed, crude oil imports rose by 2.2 per cent in September and 14.3 per cent from a year ago. Crude oil imports from the Middle East accounted for 88 per cent of the total. The UAE remained the largest crude supplier in October.

Crude oil throughput fell 4.5 per cent when compared to this time last year, but improved by 2.2 per cent compared to the previous month. Crude oil stocks climbed 12.1m b or 11 per cent from a year earlier to stand at a comfortable level. On the product side, all major products registered a draw at the end of the October, with the bulk of the draw coming from distillate inventories. Distillate stocks saw a decrease of 6.2m b to 39.8m b, in line with last year's level at this time.

However, kerosene stocks experienced a build of 6.5 per cent on soft domestic demand due to the warmer than average winter, but were still 14.2 per cent behind the level registered a year ago. Kerosene sales fell 8.4 per cent from a year earlier, while kerosene output registered a strong rise of 10.7 per cent from the same month last year or 11.5 per cent over last month. Total fuel oil stocks dropped 3.1m b to 17.9m b, bringing them 2.6 per cent below the

same time last year. Gasoline stocks also saw a slight decline of 300,000 b to 12.6m b, and now display a y-o-y deficit of 1.6 per cent. This draw occurred despite a 18 per cent rise in gasoline output, mainly due to a 1.6 per cent increase in gasoline sales.

Balance of supply/demand

Table I for 2004 shows a significant downward revision to total non-OPEC supply of 150,000 b/d which now stands at 53.71m b/d, while world oil demand has been raised 30,000 b/d to 81.77m b/d, resulting in an estimated annual difference of around 28.07m b/d. The quarterly distribution stands at 28.11m b/d, 27.26m b/d, 27.98m b/d and 28.78m b/d, respectively. The quarterly balance, which was revised downward by 40,000 b/d, 10,000 b/d and 120,000 b/d, now stands at 80,000 b/d, 1.15m b/d and 1.77m b/d, respectively.

Table I for 2005 shows world oil demand expected at 83.28m b/d and total non-OPEC supply expected at 55.11m b/d. This has resulted in an annual difference of around 28.17m b/d, some 110,000 b/d higher than the estimated 2004 level, with a quarterly distribution of 28.34m b/d, 27.14m b/d, 28.02m b/d and 29.05m b/d, respectively.

Table F: US onland commercial petroleum stocks¹
m b

	Oct 1, 04	Oct 29, 04	Dec 3, 04	Change Nov/Oct 04	Dec 3, 03	Dec 12, 04 ²
Crude oil (excl SPR)	274.0	289.7	293.9	4.2	280.4	293.8
Gasoline	199.4	201.7	208.1	6.4	204.2	209.6
Distillate fuel	123.4	115.7	119.3	3.6	132.2	119.3
Residual fuel oil	33.5	35.6	42.7	7.1	36.0	41.4
Jet fuel	41.0	40.2	41.4	1.2	38.1	41.2
Total	962.4	963.7	978.7	15.0	962.3	975.7
SPR	670.2	669.7	672.8	3.1	633.9	673.2

1. At end of month, unless otherwise stated.

Source: US/DoE-EIA.

2. Latest available data at time of publication.

Table G: Western Europe onland commercial petroleum stocks¹
m b

	Sept 04	Oct 04	Nov 04	Change Nov/Oct	Nov 03
Crude oil	466.2	469.2	478.4	9.3	460.5
Mogas	134.0	133.1	132.8	-0.3	144.3
Naphtha	24.6	28.6	24.2	-4.4	25.3
Middle distillates	359.5	354.2	354.4	0.1	347.8
Fuel oils	112.6	115.9	114.9	-1.0	115.1
Total products	630.7	631.8	626.3	-5.6	632.4
Overall total	1,096.9	1,101.0	1,104.7	3.7	1,092.9

1. At end of month, and includes Eur-16.

Source: Argus, Euroilstock.

Table H: Japan's commercial oil stocks¹
m b

	Aug 04	Sept 04	Oct 04	Change Oct/Sep	Oct 03
Crude oil	102.7	111.9	124.5	12.6	112.5
Gasoline	11.5	12.9	12.6	-0.3	12.8
Middle distillates	35.8	46.0	39.8	-6.2	39.8
Residual fuel oil	19.2	21.0	17.9	-3.1	18.3
Total products	66.5	79.9	70.3	-9.6	70.9
Overall total²	169.2	191.8	194.8	3.0	183.4

1. At end of month.

Source: MITI, Japan.

2. Includes crude oil and main products only.

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

	2000	2001	2002	2003	1Q04	2Q04	3Q04	4Q04	2004	1Q05	2Q05	3Q05	4Q05	2005
World demand														
OECD	47.9	47.9	48.0	48.7	50.1	48.2	49.1	50.1	49.4	50.3	48.3	49.3	50.5	49.6
North America	24.1	24.0	24.1	24.6	25.0	24.9	25.2	25.3	25.1	25.2	25.1	25.3	25.7	25.3
Western Europe	15.1	15.3	15.2	15.4	15.7	15.3	15.7	15.8	15.6	15.8	15.4	15.7	15.9	15.7
Pacific	8.7	8.7	8.6	8.8	9.4	8.0	8.3	9.0	8.7	9.3	7.9	8.2	8.9	8.6
Developing countries	19.3	19.6	20.0	20.3	20.6	21.2	21.2	21.7	21.2	21.4	21.9	22.0	22.5	21.9
FSU	3.8	3.9	3.7	3.8	3.6	3.8	4.0	4.2	3.9	3.9	3.9	4.1	4.3	4.0
Other Europe	0.9	0.9	0.9	0.9	1.0	0.9	0.9	1.0	1.0	1.0	0.9	0.9	1.1	1.0
China	4.7	4.7	5.0	5.6	6.3	6.8	6.3	6.0	6.4	6.7	7.2	6.7	6.4	6.8
(a) Total world demand	76.5	77.1	77.7	79.3	81.6	80.9	81.5	83.1	81.8	83.3	82.2	82.9	84.8	83.3
Non-OPEC supply														
OECD	21.9	21.8	21.9	21.6	21.8	21.5	20.8	21.4	21.4	21.8	21.6	20.8	21.4	21.4
North America	14.2	14.3	14.5	14.6	14.8	14.7	14.4	14.7	14.7	15.0	14.9	14.5	14.9	14.8
Western Europe	6.8	6.7	6.6	6.4	6.4	6.3	5.8	6.1	6.1	6.3	6.2	5.7	6.0	6.1
Pacific	0.8	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.5	0.5
Developing countries	10.9	10.9	11.2	11.3	11.6	11.7	11.9	12.0	11.8	12.2	12.2	12.4	12.6	12.4
FSU	7.9	8.5	9.3	10.3	10.8	11.1	11.3	11.5	11.2	11.4	11.6	11.9	12.1	11.8
Other Europe	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
China	3.2	3.3	3.4	3.4	3.4	3.5	3.5	3.4	3.4	3.4	3.5	3.6	3.4	3.4
Processing gains	1.7	1.7	1.7	1.8	1.9	1.8	1.8	1.9	1.8	1.9	1.8	1.8	1.9	1.8
Total non-OPEC supply	45.7	46.4	47.7	48.6	49.6	49.7	49.5	50.3	49.8	50.8	50.9	50.7	51.5	51.0
OPEC NGLS and non-conventionals	3.3	3.6	3.6	3.7	3.9	3.9	4.0	4.0	3.9	4.1	4.1	4.2	4.2	4.1
(b) Total non-OPEC supply and OPEC NGLS	49.0	50.0	51.4	52.3	53.5	53.6	53.5	54.3	53.7	54.9	55.0	54.9	55.7	55.1
OPEC crude supply and balance														
OPEC crude oil production¹	28.0	27.2	25.3	27.0	28.2	28.4	29.7							
Total supply	77.0	77.2	76.7	79.3	81.7	82.0	83.3							
Balance²	0.5	0.1	-1.0	0.0	0.1	1.2	1.8							
Stocks														
Closing stock level (outside FCPEs) m b														
OECD onland commercial	2530	2628	2476	2522	2467	2549	2597							
OECD SPR	1269	1284	1343	1406	1418	1424	1430							
OECD total	3799	3912	3819	3928	3885	3973	4027							
Oil-on-water	877	830	815	884	905	905	924							
Days of forward consumption in OECD														
Commercial onland stocks	53	55	51	51	51	52	52							
SPR	26	27	28	28	29	29	29							
Total	79	82	78	80	81	81	80							
Memo items														
FSU net exports	4.1	4.6	5.6	6.5	7.2	7.3	7.3	7.3	7.3	7.4	7.8	7.9	7.8	7.7
[(a) — (b)]	27.4	27.1	26.3	27.0	28.1	27.3	28.0	28.8	28.1	28.3	27.1	28.0	29.0	28.2

1. Secondary sources.

2. Stock change and miscellaneous.

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

Table I 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 pages 53 and 55) show the evolution on a weekly basis. Tables Three to Eight, and the corresponding graphs on pages 56–61, 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).

Graph 1:
Evolution of spot prices for selected OPEC crudes
August to November 2004

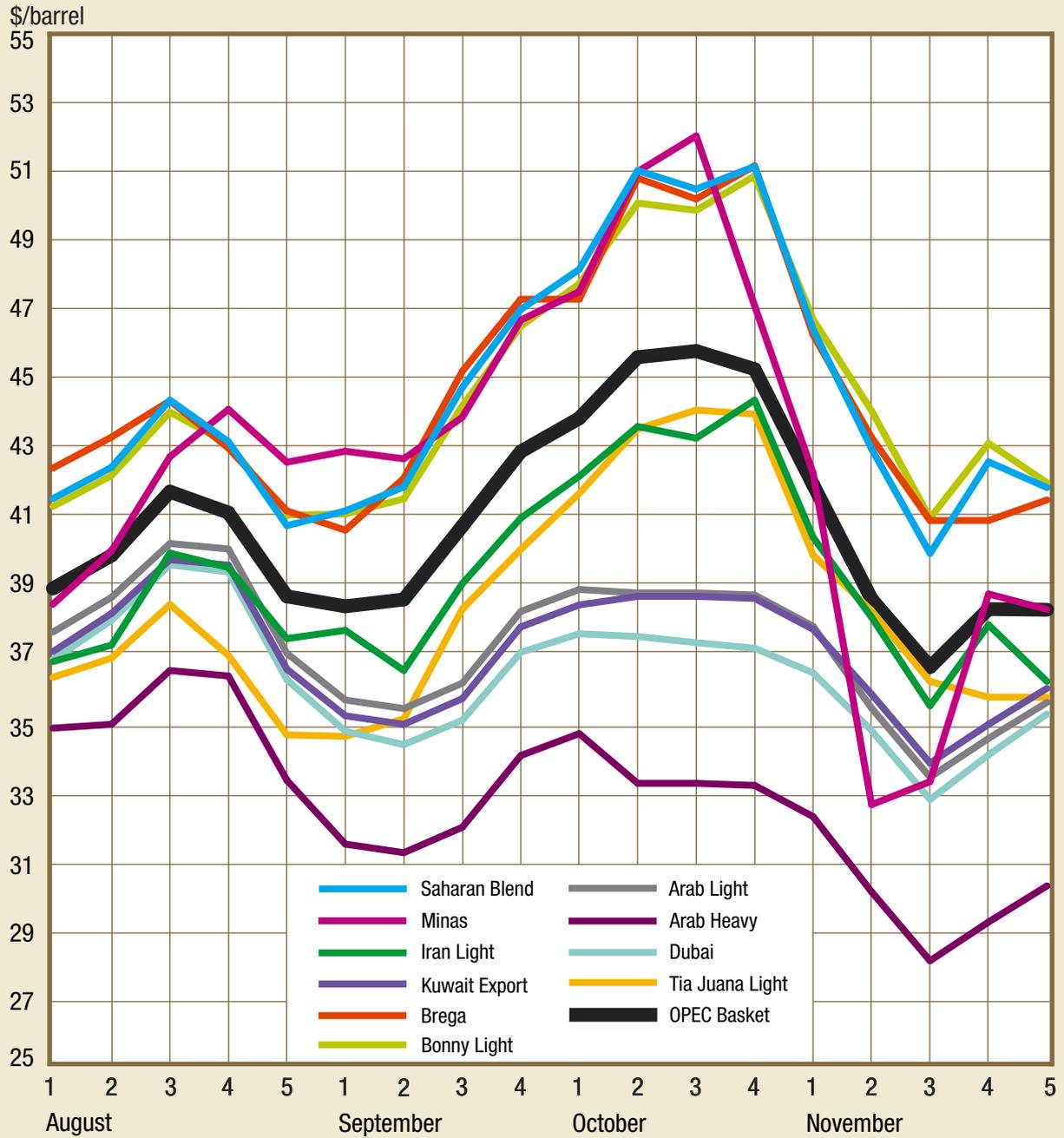


Table 1: OPEC spot crude oil prices, 2003–04

(\$/b)

Member Country/ Crude (API°)	2003				2004												
	Dec 5Wav	Jan 4Wav	Feb 4Wav	Mar 5Wav	April 4Wav	May 4Wav	Jun 5Wav	Jul 4Wav	Aug 5Wav	Sep 4Wav	Oct 4Wav	1W	2W	Nov		5W	5Wav
Algeria																	
Saharan Blend (44.1)	29.77	31.29	30.57	33.46	33.71	37.96	35.14	38.16	42.67	43.92	50.48	46.67	43.19	40.14	42.81	42.06	42.97
Indonesia																	
Minas (33.9)	32.09	30.27	29.38	32.21	32.19	37.18	36.75	36.28	41.79	44.27	49.68	42.48	32.82	33.49	38.96	38.51	37.25
IR Iran																	
Light (33.9)	28.55	29.31	28.00	30.78	30.41	34.97	32.67	35.42	38.40	38.77	43.59	40.61	38.28	35.70	38.06	36.41	37.81
Iraq																	
Kirkuk (36.1)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Kuwait																	
Export (31.4)	28.25	29.16	28.61	30.97	31.75	34.78	33.83	34.98	38.44	36.12	38.81	37.93	36.04	34.03	35.16	36.21	35.87
SP Libyan AJ																	
Brega (40.4)	30.02	31.58	30.90	33.90	33.82	37.96	35.46	38.08	43.07	44.04	50.14	46.51	43.52	41.10	0.00	41.70	43.21
Nigeria																	
Bonny Light (36.7)	29.64	30.94	30.47	33.34	33.74	37.87	35.60	38.08	42.55	43.56	49.91	46.96	44.30	41.17	43.35	42.20	43.60
Saudi Arabia																	
Light (34.2)	29.20	29.83	29.18	31.62	32.48	35.63	34.70	35.55	38.93	36.58	39.00	38.02	35.63	33.62	34.75	35.80	35.56
Heavy (28.0)	27.10	27.49	26.93	29.42	30.31	33.07	32.00	32.75	35.41	32.38	33.79	32.47	30.28	28.27	29.40	30.45	30.17
UAE																	
Dubai (32.5)	28.06	28.93	28.49	30.77	31.69	34.65	33.58	34.70	38.22	35.52	37.61	36.66	34.98	32.97	34.27	35.46	34.87
Venezuela																	
Tia Juana Light ¹ (32.4)	27.60	29.28	28.17	29.88	29.88	33.63	31.67	33.81	36.86	37.23	43.55	40.09	38.47	36.41	35.95	35.95	37.37
OPEC Basket²	29.44	30.33	29.56	32.05	32.35	36.27	34.61	36.29	40.27	40.36	45.37	42.14	38.81	36.83	38.52	38.50	38.96

Table 2: Selected non-OPEC spot crude oil prices, 2003–04

(\$/b)

Country/ Crude (API°)	2003				2004												
	Dec 5Wav	Jan 4Wav	Feb 4Wav	Mar 5Wav	April 4Wav	May 4Wav	Jun 5Wav	Jul 4Wav	Aug 5Wav	Sep 4Wav	Oct 4Wav	1W	2W	Nov		5W	5Wav
Gulf Area																	
Oman Blend (34.0)	28.43	29.34	28.67	31.10	31.71	34.78	33.92	35.10	38.49	36.53	39.81	38.98	36.87	34.86	35.82	36.73	36.65
Mediterranean																	
Suez Mix (Egypt, 33.0)	25.89	26.55	25.42	28.11	28.40	33.00	30.56	33.21	36.75	36.43	39.56	36.78	35.11	33.02	36.24	35.54	35.34
North Sea																	
Brent (UK, 38.0)	29.82	31.33	30.65	33.70	33.23	37.71	35.21	38.33	42.87	43.43	49.74	45.91	42.92	40.50	42.57	42.10	42.80
Ekofisk (Norway, 43.0)	29.62	31.10	30.52	33.70	33.31	37.79	35.37	38.42	42.86	43.44	49.75	45.87	42.30	39.71	41.99	41.28	42.23
Latin America																	
Isthmus (Mexico, 32.8)	29.71	31.78	30.64	33.08	32.76	36.95	34.85	37.41	40.88	41.47	47.40	44.08	42.30	40.04	39.53	39.53	41.10
North America																	
WTI (US, 40.0)	32.15	34.33	34.62	36.59	36.80	40.11	38.18	40.69	44.77	45.98	53.32	50.21	48.45	46.66	48.89	46.87	48.22
Others																	
Urals (Russia, 36.1)	27.90	28.63	27.41	30.79	29.88	34.87	32.08	35.45	38.29	37.96	42.12	38.86	37.15	35.22	38.94	37.41	37.52

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

2. OPEC Basket: an average of Saharan Blend, Minas, Bonny Light, Arabian Light, Dubai, Tia Juana Light and Isthmus.

Kirkuk ex Ceyhan; 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 Oilgram Price Report; Reuters; Secretariat's calculations.

Graph 2:
Evolution of spot prices for selected non-OPEC crudes
August to November 2004

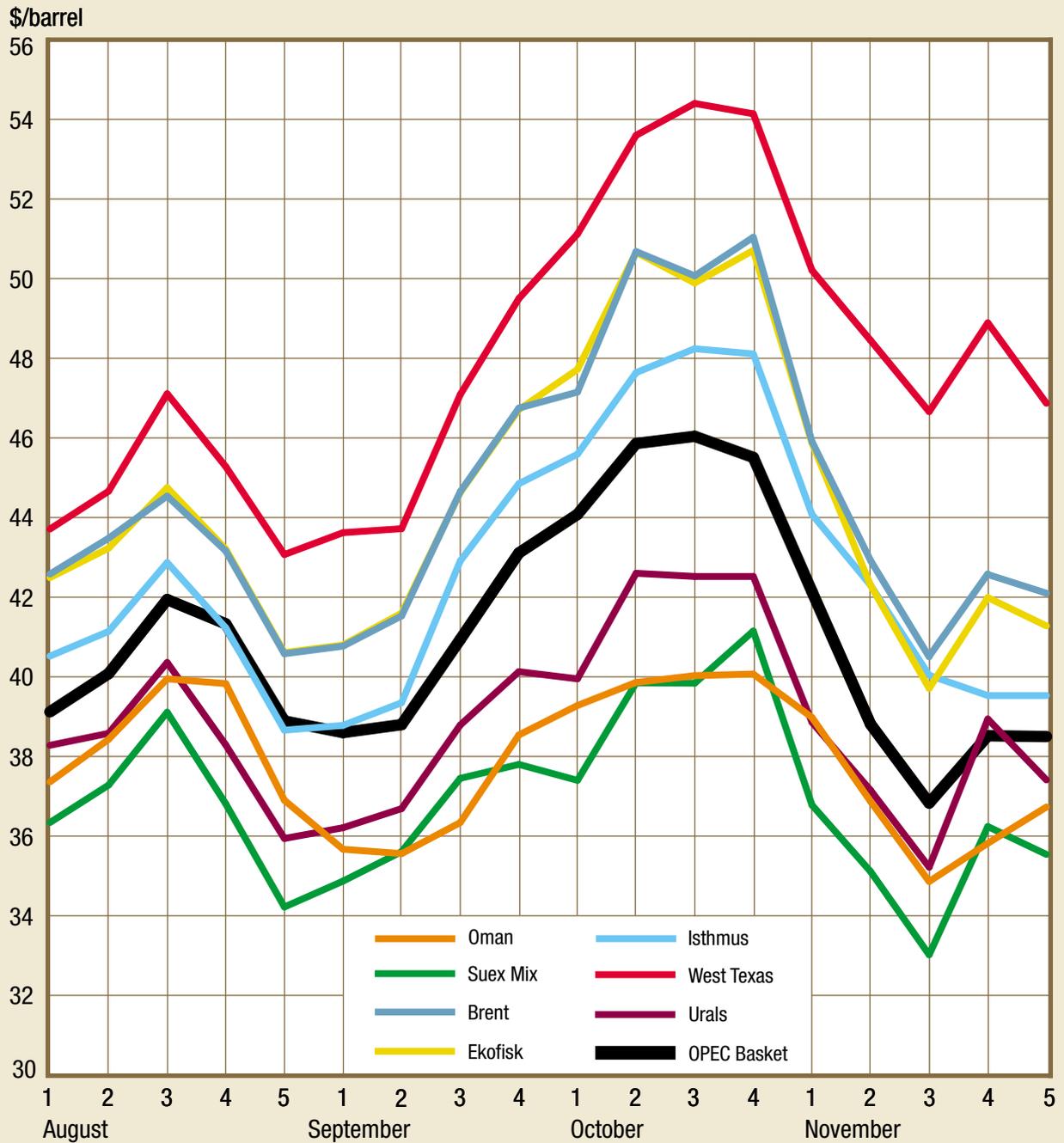


Table 3: North European market — spot barges, fob Rotterdam

(\$/b)

		naphtha	regular gasoline unleaded	premium gasoline unleaded 95	gasoil	jet kero	fuel oil 1%S	fuel oil 3.5%S
2002	November	28.67	27.75	27.88	28.52	30.48	23.59	18.40
	December	34.20	31.17	31.34	32.63	33.21	26.11	19.99
2003	January	40.35	35.19	35.31	35.22	36.66	26.83	25.97
	February	43.96	39.13	39.15	41.16	43.08	30.77	25.93
	March	40.60	35.98	36.06	39.61	42.75	26.86	21.91
	April	29.40	34.09	34.38	29.59	31.66	23.10	18.61
	May	28.03	31.74	32.06	29.00	30.30	21.68	20.29
	June	32.26	32.92	33.15	30.57	31.72	25.14	21.57
	July	32.81	35.17	35.36	31.08	32.98	25.56	24.15
	August	34.97	38.00	38.04	32.47	34.52	25.86	23.72
	September	32.66	33.64	33.70	29.84	32.23	23.84	21.64
	October	35.69	33.66	33.71	33.92	36.35	24.23	22.63
	November	37.49	33.51	33.54	34.21	37.57	23.08	22.56
	December	39.45	33.78	33.84	35.02	39.08	20.63	19.55
2004	January	43.00	37.66	37.73	36.58	40.35	22.05	20.75
	February	40.40	38.46	38.56	34.16	38.53	20.73	20.32
	March	42.65	41.57	41.68	37.77	40.55	23.33	21.49
	April	43.49	45.52	45.58	38.74	43.69	23.03	22.77
	May	48.99	53.08	53.11	42.83	47.81	25.70	25.10
	June	45.70	45.79	45.85	41.68	45.26	24.21	23.39
	July	48.87	52.01	52.03	46.18	49.88	24.28	24.44
	August	54.96	51.06	51.06	49.99	55.74	23.73	24.62
	September	54.88	50.73	50.77	53.02	58.49	23.40	24.12
	October	61.21	55.81	55.72	63.06	65.91	28.10	25.88
	November	56.49	50.64	50.62	56.89	60.31	25.23	21.49

Source: Platts. Prices are average of available days.

Graph 3: North European market — spot barges, fob Rotterdam

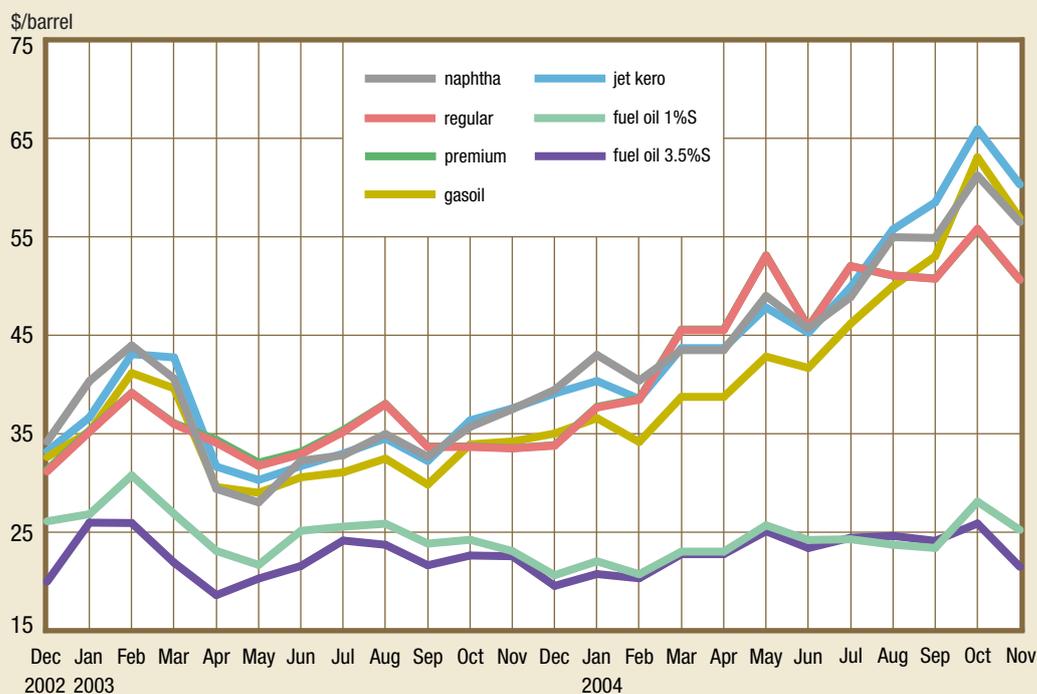


Table 4: South European market — spot cargoes, fob Italy

(\$/b)

		naphtha	gasoline premium unleaded 95	0.15g/l	gasoil	fuel oil 1%S	fuel oil 3.5%S
2002	November	23.45	26.78	27.11	27.91	21.26	16.99
	December	27.71	30.57	30.86	32.02	24.07	18.32
2003	January	33.02	34.20	34.44	35.05	29.15	23.71
	February	35.86	38.05	38.22	40.11	31.05	24.65
	March	32.05	33.75	33.99	39.45	28.10	20.94
	April	22.88	29.69	29.96	29.69	21.14	18.18
	May	22.24	28.97	29.28	26.72	21.57	18.46
	June	26.31	31.51	31.78	29.88	25.01	20.94
	July	26.84	34.10	34.33	29.50	27.39	23.29
	August	28.57	37.21	37.40	31.49	27.66	22.64
	September	26.78	32.33	32.59	29.46	22.91	20.49
	October	29.45	33.18	33.43	34.99	24.81	21.48
	November	30.43	32.79	33.05	33.79	23.93	20.33
	December	31.90	33.08	33.33	33.87	21.60	16.68
2004	January	34.41	37.04	37.24	37.04	23.16	19.39
	February	32.03	37.91	38.10	32.98	21.40	19.56
	March	34.24	40.92	41.07	36.94	23.63	20.02
	April	35.78	44.55	44.65	38.31	24.32	21.01
	May	40.52	52.16	52.15	43.41	27.66	23.69
	June	37.48	44.64	44.74	41.92	26.54	21.07
	July	40.37	49.37	49.40	45.88	26.47	23.03
	August	45.94	48.76	48.80	49.41	25.47	23.59
	September	45.90	49.84	49.87	53.12	25.66	22.81
	October	50.76	54.43	54.39	60.78	29.03	24.20
	November	45.68	48.70	48.74	56.47	26.72	18.65

Source: Platts. Prices are average of available days.

Graph 4: South European market — spot cargoes, fob Italy

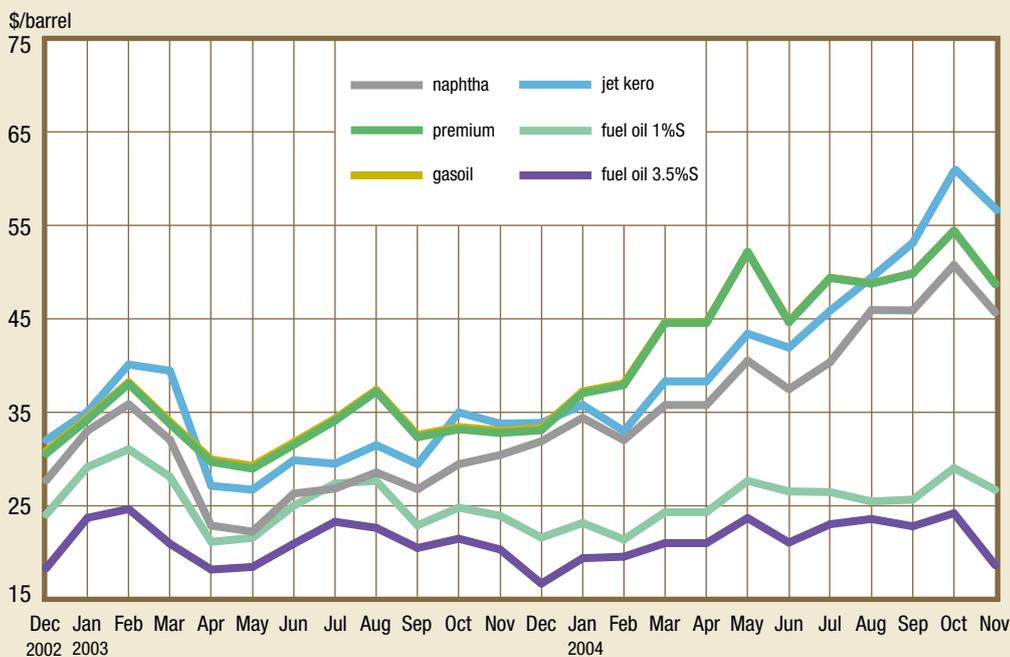


Table 5: US East Coast market — spot cargoes, New York

(\$/b, duties and fees included)

		regular gasoline unleaded 87	gasoil	jet kero	fuel oil 0.3%S	fuel oil 1%S	fuel oil 2.2%S
2002	November	31.43	29.98	30.79	26.94	23.86	21.46
	December	33.59	34.21	34.67	32.62	26.68	24.30
2003	January	36.60	37.78	38.17	37.87	31.53	30.04
	February	41.65	47.11	48.11	46.52	35.06	30.61
	March	39.86	40.82	40.92	38.71	31.71	27.13
	April	33.37	32.66	32.88	27.29	23.98	20.51
	May	31.65	30.79	31.66	29.58	24.51	21.79
	June	33.58	31.69	32.21	28.40	25.18	22.46
	July	36.45	32.76	33.71	30.45	27.53	26.26
	August	41.92	33.96	35.36	30.97	27.74	26.43
	September	37.51	30.52	31.67	28.53	24.88	23.15
	October	36.24	34.10	35.21	29.94	25.93	24.22
	November	36.52	34.75	35.94	30.01	26.14	24.65
	December	36.97	37.06	38.28	31.28	25.76	22.91
2004	January	41.77	40.88	42.83	34.39	28.05	23.99
	February	43.76	38.05	42.04	34.25	26.26	23.02
	March	45.56	37.87	40.47	28.90	24.67	23.11
	April	46.94	38.33	42.10	29.85	25.65	24.62
	May	56.32	42.45	48.54	34.22	30.33	27.86
	June	48.06	41.40	43.80	32.71	29.64	25.62
	July	51.30	45.54	49.26	30.90	27.93	25.07
	August	50.39	48.57	52.29	32.08	27.97	25.34
	September	52.80	52.49	58.16	31.82	27.85	26.47
	October	57.67	62.09	65.82	39.29	33.17	31.16
	November	53.12	57.86	59.01	38.16	28.77	24.50

Source: Platts. Prices are average of available days.

Graph 5: US East Coast market — spot cargoes, New York

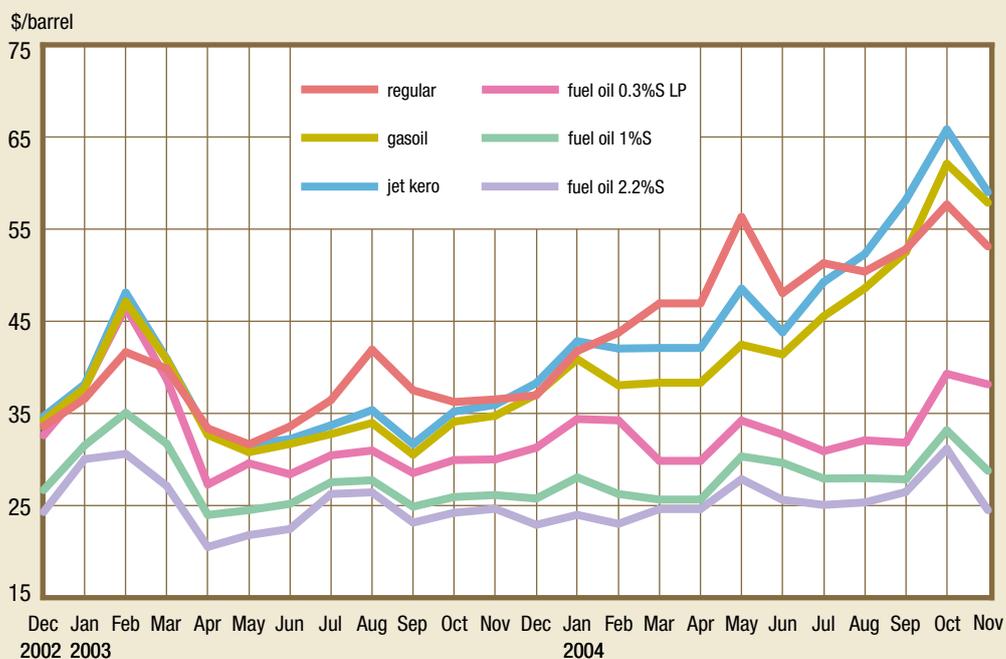


Table 6: Caribbean market — spot cargoes, fob

(\$/b)

		naphtha	gasoil	jet kero	fuel oil 2%S	fuel oil 2.8%S
2002	November	24.39	29.65	29.51	20.73	19.97
	December	31.43	33.64	34.27	23.58	23.18
2003	January	37.00	37.44	37.87	29.31	28.51
	February	40.53	45.21	44.77	29.89	28.43
	March	36.78	37.87	37.94	26.05	24.18
	April	29.03	30.65	31.62	19.01	18.45
	May	28.84	29.84	30.36	20.27	19.62
	June	28.91	31.30	31.79	20.95	20.19
	July	30.95	32.35	32.97	24.71	24.64
	August	34.67	33.69	34.72	24.89	24.81
	September	30.23	30.28	31.21	21.60	21.51
	October	33.95	33.72	34.74	22.36	22.10
	November	33.90	34.24	35.16	22.65	22.33
	December	35.64	35.89	37.44	20.34	19.99
2004	January	39.72	40.21	42.44	19.99	19.56
	February	36.80	37.30	40.07	19.02	18.73
	March	40.69	37.93	40.74	19.11	18.82
	April	41.08	38.18	41.70	20.62	20.50
	May	46.82	42.18	46.71	23.86	23.73
	June	43.00	41.30	44.16	21.62	21.37
	July	44.95	45.39	49.00	21.06	20.82
	August	46.62	48.67	52.38	21.34	21.04
	September	49.65	52.80	58.10	22.47	22.11
	October	55.18	62.12	64.83	27.16	26.87
	November	50.51	56.02	57.23	20.50	20.26

Source: Platts. Prices are average of available days.

Graph 6: Caribbean market — spot cargoes, fob

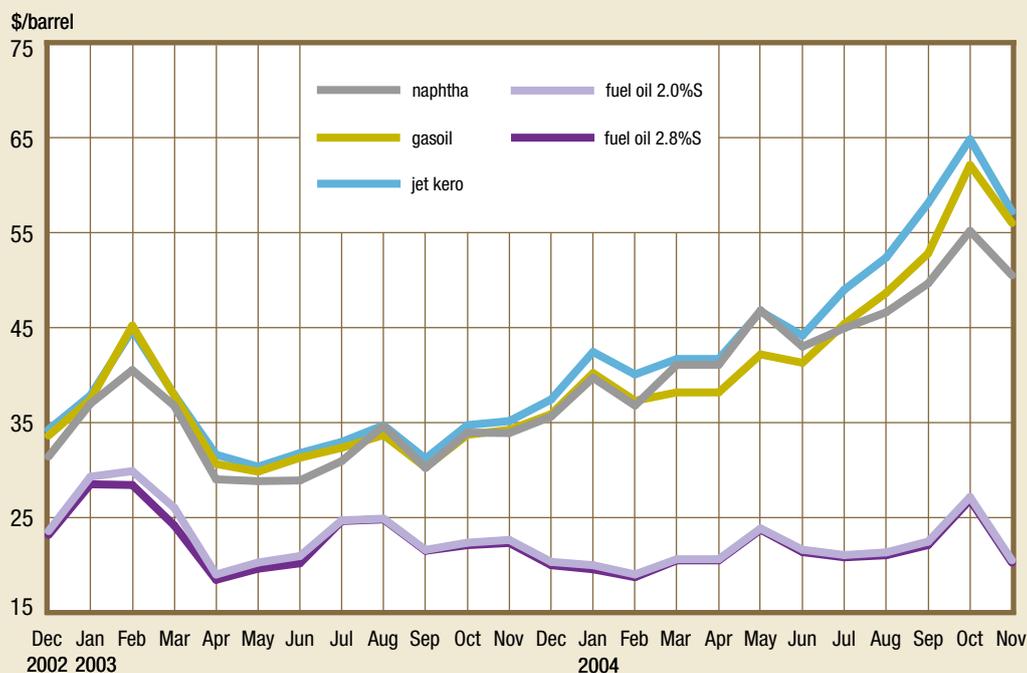


Table 7: Singapore market — spot cargoes, fob

(\$/b)

		naphtha	gasoline premium		gasoil	jet kero	fuel oil 180 Cst	fuel oil 380 Cst
			unleaded 95	unleaded 92				
2002	November	25.06	27.80	29.38	29.37	29.38	21.77	21.83
	December	29.57	30.25	29.35	31.88	32.10	23.95	24.24
2003	January	32.21	34.34	33.52	34.23	34.37	26.51	26.97
	February	37.34	40.14	39.28	39.35	39.27	29.05	29.33
	March	33.78	37.51	36.67	37.87	35.33	26.19	26.65
	April	23.58	28.74	27.79	30.03	28.35	22.55	23.12
	May	23.77	28.73	27.74	29.12	28.25	23.18	23.15
	June	26.66	31.59	30.84	29.33	28.48	24.20	24.51
	July	27.77	34.59	33.41	29.57	29.78	25.54	26.18
	August	29.67	37.30	35.95	33.27	33.58	24.27	24.92
	September	27.86	33.11	32.14	32.42	31.40	23.13	23.80
	October	30.46	35.55	34.39	33.58	33.84	23.88	24.38
	November	32.54	35.78	34.25	35.08	35.89	23.53	23.99
	December	34.67	39.52	38.43	36.67	37.50	23.38	23.79
2004	January	39.49	44.25	43.25	41.42	39.60	24.73	24.98
	February	34.21	40.05	39.33	38.74	37.44	24.61	24.88
	March	36.03	44.10	43.15	38.42	37.72	24.31	24.57
	April	36.48	44.09	42.79	42.82	40.92	25.30	25.54
	May	39.69	49.71	48.41	44.62	45.71	27.58	27.83
	June	37.19	45.19	44.04	42.84	43.17	26.63	26.87
	July	38.60	46.52	45.12	46.25	48.08	26.92	26.98
	August	44.19	51.50	50.62	51.67	52.29	27.99	28.19
	September	43.95	49.06	48.20	54.29	55.30	26.99	27.18
	October	48.81	54.73	53.68	58.40	61.25	30.14	29.95
	November	47.46	52.45	51.74	56.82	57.64	28.72	27.99

Source: Platts. Prices are average of available days.

Graph 7: Singapore market — spot cargoes, fob

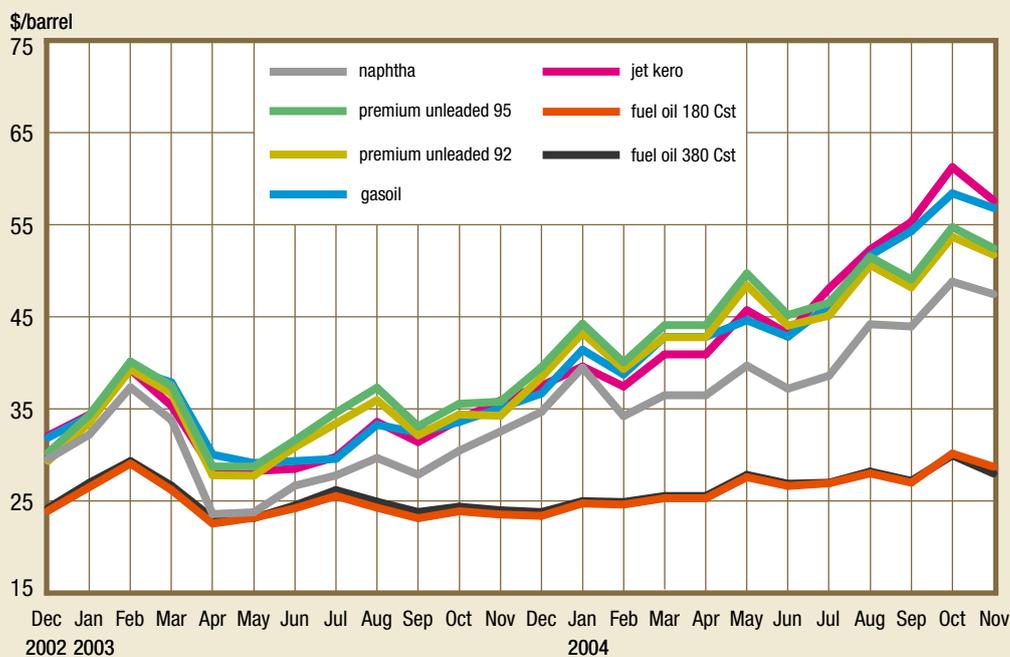


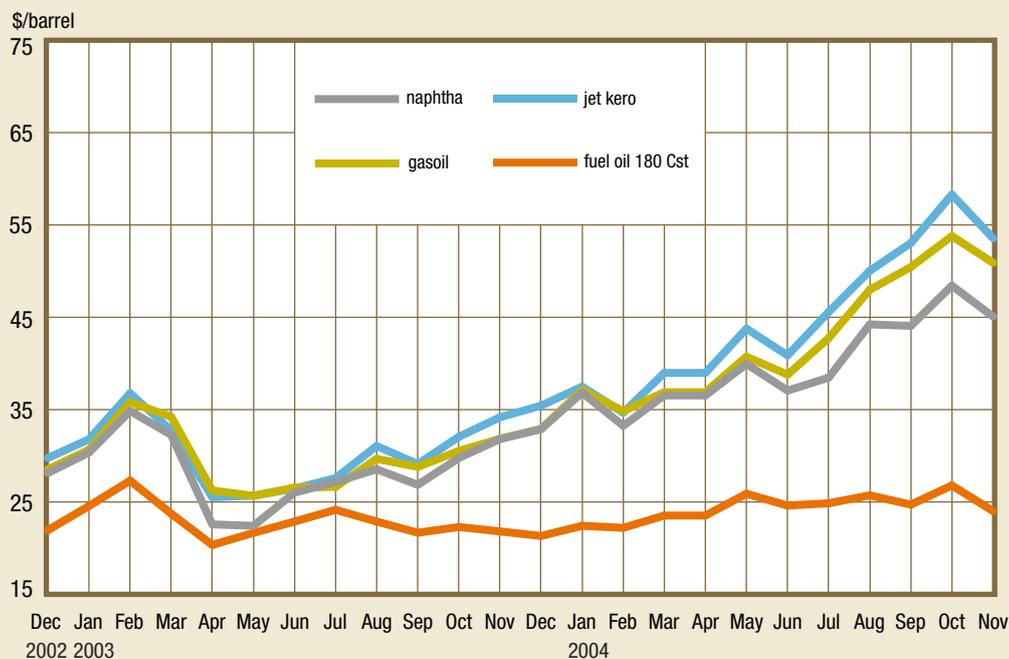
Table 8: Middle East Gulf market — spot cargoes, fob

(\$/b)

		naphtha	gasoil	jet kero	fuel oil 180 Cst
2002	November	24.50	27.03	27.63	20.31
	December	28.14	28.53	29.77	21.95
2003	January	30.36	30.66	31.79	24.57
	February	34.85	35.81	36.77	27.31
	March	32.26	34.22	32.74	23.73
	April	22.57	26.24	25.52	20.35
	May	22.42	25.67	25.68	21.65
	June	26.01	26.56	26.44	22.88
	July	27.16	26.63	27.59	24.15
	August	28.54	29.67	31.06	22.88
	September	26.86	28.80	29.11	21.67
	October	29.76	30.53	32.06	22.29
	November	31.81	31.85	34.17	21.81
	December	32.88	32.91	35.43	21.32
2004	January	36.84	37.13	37.49	22.42
	February	33.25	34.84	34.67	22.20
	March	35.04	34.84	35.02	21.96
	April	36.54	36.89	38.98	23.53
	May	39.94	40.74	43.77	25.89
	June	37.06	38.79	40.88	24.61
	July	38.47	42.75	45.58	24.86
	August	44.23	47.98	50.03	25.72
	September	44.07	50.44	53.04	24.71
	October	48.42	53.79	58.29	26.79
	November	45.07	50.90	53.56	24.02

Source: Platts. Prices are average of available days.

Graph 8: Middle East Gulf market — spot cargoes, fob



Fund grant supports



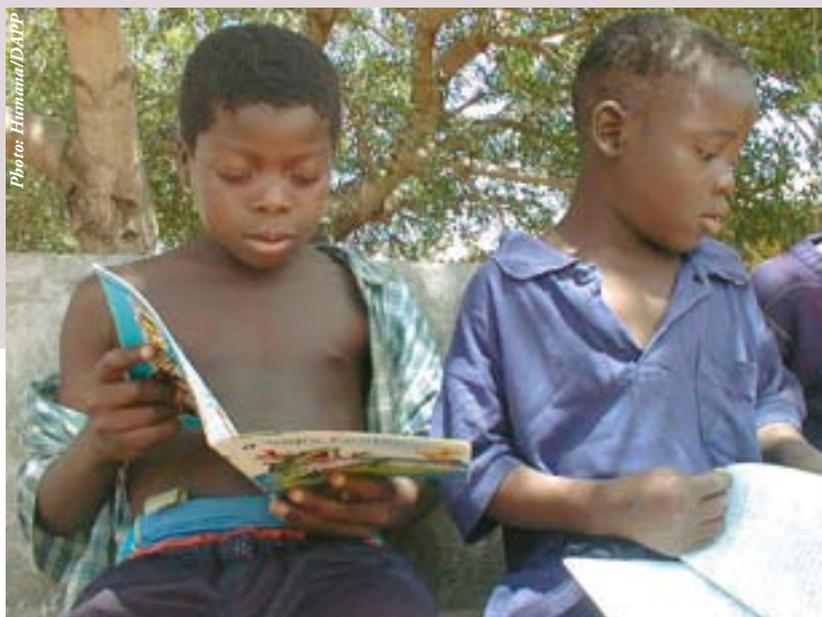
Photo: Human/DAPP

The OPEC Fund continues to target education in Africa by supporting educational projects in Angola. Due to the shortage of indoor classrooms, lessons are held outside to teach Angolan children to read and write.

teacher training in Angola

by Linda Cechura

NEARLY THREE DECADES OF CIVIL WAR HAVE LEFT ANGOLA'S EDUCATIONAL SYSTEM IN A STATE OF SHAMBLES. HUNDREDS OF CLASSROOMS WERE DESTROYED OUTRIGHT OR DAMAGED BEYOND USE, WHILE MANY SCHOOL-RELATED FACILITIES SUCH AS WELLS OR LATRINES WERE RUINED AND PLAYGROUNDS MINED. EVEN INTACT SCHOOLS ARE NOW IN A POOR CONDITION, REFLECTING YEARS OF NEGLECT AND INSUFFICIENT FUNDING. TEACHING EQUIPMENT AND MATERIAL — IF THEY EXIST AT ALL — ARE IN A DISMAL CONDITION.



With 65 pupils per classroom, existing schools are so severely over-crowded that teaching in shifts is necessary. Of course, rapid population growth¹ and free and compulsory basic education have compounded the problem, but the situation may worsen before it improves since only 65 per cent of school-aged children now attend school, and a mere four per cent of those manage to complete five years. Today, more than two years after the Luanda Peace Accords were signed, over a million Angolan children are growing up without an education due to a lack of functioning schools and qualified teachers.

In fact, correcting the severe teacher shortage may be one of the most time-consuming tasks facing the country. Many of the people now teaching have only a sixth grade education, and 75 per cent of all primary school teachers have never had formal training. Moreover, the pool of potential teachers is quite small: Less than 40 per cent of all young adults between 20 and 35 can read and write.²

In an effort to restore the country's educational system as rapidly as possible, the government has launched a national education campaign in co-operation with a number of NGOs that possess the experience and resources to assist in capacity-building and school reconstruction. One of these organizations is Development Aid from People to People (DAPP), a non-profit NGO affiliated with the Humana People to People Movement, which operates 150 development projects in 36 countries, including teacher training programmes in seven African countries. Dedicated to improving conditions in poor countries, DAPP has won wide acclaim for its projects and received considerable support from the United Nations Children's Fund (UNICEF) and other United Nations agencies, as well as numerous bilateral and multilateral development organizations, including the OPEC Fund.

Since 1986 when it first began operations in Angola, DAPP has managed 42 projects throughout the country. In addition to children's towns, special programmes for street children and vocational schools, DAPP has established six teacher training colleges and developed a training programme aimed at alleviating the shortage of qualified primary teachers.

The OPEC Fund has extended a grant of \$150,000³ in support of DAPP teaching training in Huambo, Angola's second most populous province.⁴ As one of 'the epicentres of the civil war,' Huambo is struggling to cope with devastated infrastructure, millions of landmines, thousands of orphans and hundreds of thousands of internally displaced persons. Huambo City, for-

merly Angola's most beautiful city, is in ruins, while the province once known as "the bread basket of Angola" is threatened by famine.

Primary education in Huambo is also in a dire shape, particularly in rural areas. Less than 35 per cent of children aged 6–11 attend school, and only 20 per cent of the six-year-olds start school. The province has only 370 schools, with a total of 1,400 indoor classrooms, unevenly distributed over a total area of 34,270 square kilometres.

With a school-age population now estimated at 334,000, these figures yield a pupil/classroom ratio of 235 to one. Holding classes in open-air structures mitigates overcrowding to some extent, but then there is another limitation: a teacher/pupil ratio of one to 60. As elsewhere, most teachers have had little formal education, and only a fourth of them have any paedagogical training.

The proceeds of the Fund grant will enable 60 would-be teachers to participate in a two-and-a-half year training programme in Huambo. In addition to preparing them to teach the primary curriculum effectively, the programme seeks to provide them with the interpersonal skills and special knowledge they will need as educators, such as ethics, paedagogy, school administration and child psychology, an especially vital subject in an area where so many children have been traumatized by war.

The DAPP programme also places particular emphasis on increasing the students' understanding of many topics of universal importance, such as globalization or environmental issues, and of contemporary history, particularly that of their own country.

After 12 months of academic training and five months of part-time practical training, the students will spend 11 months gaining full-time, hands-on experience as primary school teachers and community organizers in rural areas. Since DAPP views teachers as mediators and organizers not only in their schools but also in their communities, all students are expected to participate in volunteer work and community organizing, by informing villagers about HIV/AIDS, conducting literacy classes, or helping start income-generating activities, for example.

After completing their studies, the new teachers will have developed not only the knowledge and skills to become the 'cornerstones' of their schools, but also the practical and organizational abilities needed to empower and lead whole communities. More importantly, the values they have internalized should make them role models for hundreds of pupils, living examples of the tolerance and respect for individual rights that can help bring lasting peace to Angola.

1. At nearly two per cent per year.

2. The literacy rate for women in this age group is even worse.

3. This amount will finance 50 per cent of the operating budget for training 60 students. The other half has been pledged by the government of Angola.

4. This was the third grant extended by the Fund to DAPP since 2001. The previous grants went in support of children's towns in Zambia (\$150,000) and Mozambique (\$160,000).



News from the OPEC Fund

December 2004

Grants approved

OPEC Fund grant to ease social distress in Palestine

Amount: \$1.275 million.

Project: Assistance to Palestinian civil service organizations; phase I: the West Bank.

The OPEC Fund has approved a grant of \$1.275m to support the activities and services of 12 civil society organizations in Palestine's West Bank. The aim is to assist the poorest and hardest hit communities by addressing shortages and helping to meet some of their most urgent needs. Conditions in Palestine remain grim, with the enforcement of curfews, closures and movement restrictions disrupting the economy and undermining the territories' social fabric. As poverty and unemployment levels escalate, normal coping strategies are being exhausted, and thousands of families face crisis. Civil society organizations play a critical role in this emergency by acting as a social safety net and providing assistance at a grassroots level to the weakest members of the community.



Photo: UHCC

Beneficiary organizations/grant amount

Beneficiary organizations/grant amount	\$
Rawdat El-Zuhur	100,000
The Palestinian Counseling Centre	100,000
Project Loving Care Society	100,000
The Arab Thought Forum	100,000
Young Women's Christian Association	100,000
Union of Health Working Committees	100,000
Early Childhood Resource Centre	100,000
The Palestinian Family Planning and Protection Society	100,000
The Union of Agricultural Work Committees	100,000
The Jerusalem Princess Basma Centre for Disabled Children	100,000
The Edward Said National Conservatory of Music	100,000
Dar Al-Tifel Al-Arabi Institute	75,000

Total

1.275m

Pictured above and right: Conditions in Palestine remain grim, with the enforcement of curfews, closures and movement restrictions which continue to disrupt the social fabric of society. The Fund grant will target the poorest and hardest hit Palestinian communities.

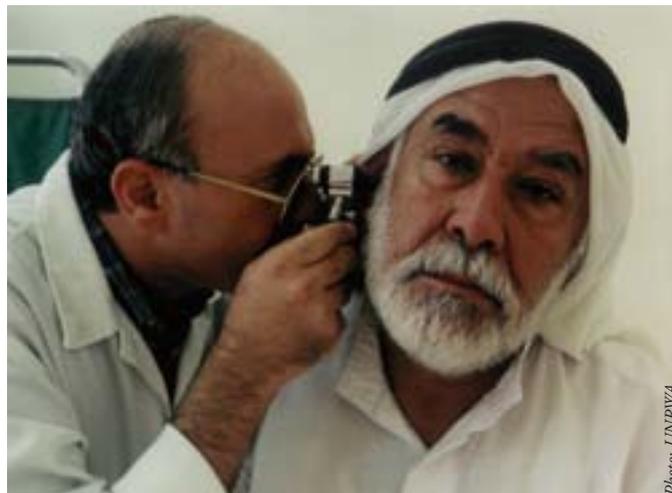


Photo: UNRWA

Arabic translation programme assisted

Amount: \$70,000.

Project: Arab Organization for Translation (AOT).

The OPEC Fund has approved a grant of \$70,000 to help finance the programme of the Arab Organization for Translation (AOT) for 2005, which envisages the translation into Arabic of 37 specialized books for academic purposes. Professional translation plays a vital role in solving language problems, promoting studies and learning, and in transferring and developing scientific knowledge. The programme aims to enhance and expand the translation into Arabic of books in the fields of applied sciences, technology, social sciences, arts and literature, and linguistics, particularly specialized titles that have not been previously translated. Another objective of the programme is to promote and co-ordinate the efforts of translators throughout the Arab world and to contribute to their training and understanding of standard criteria for terminology use. The AOT is a specialized, non-governmental, regional, non-profit organization, established in 1999, to encourage the development of the Middle East region through the transfer of knowledge and the enhanced study and use of the Arabic language.

Research productivity targeted in developing countries

Amount: \$100,000.

The Fund has approved a grant of \$100,000 in support of an ongoing initiative developed by the Third World Academy of Sciences (TWAS), which seeks to strengthen research productivity among scientists in developing countries through a structured programme of exchange and co-operation. In many developing regions, scientists work in relative isolation and are unable to benefit from the sharing of expertise and resources. The Associate Membership Scheme at Centres of Excellence in the South was set up by TWAS in 1994 specifically to fill this need and to promote, in a viable way, South-South collaboration in science and technology. The programme has since developed into one of the most successful of its kind, with the number of participating centres rising from 16 in 1994 to 116 today. Consisting of a network of Centres of Excellence in a variety of scientific disciplines, the scheme accepts

new members by means of a merit-based, highly competitive selection process, giving special consideration to scientists from those developing countries where the lack of appropriate research facilities is particularly severe. Appointments are granted for a fixed period of three years, during which the successful candidates may visit the host centre in their field of interest twice, for two to three months each time. They may pursue their own research interests and/or collaborate with the research teams at the host centre in programmes of common interest. At the end of the period, participants will be eligible to renew their membership for another three years.

Ethnic minority supported in Nicaragua

Amount: \$200,000.

Project: Strengthening the Mayangna population in Nicaragua.

Total cost: \$550,000.

Executing agencies: The Austrian Relief Organization; Foundation for Autonomy and Development of the Atlantic Region in Nicaragua (FADCANIC).

The Fund has approved a grant of \$200,000 in support of an ongoing project to assist the Mayangna people of Nicaragua, an indigenous minority living in the North Atlantic autonomous region. Covering about one-quarter of the country, the region is home to around 160,000 people from four ethnic groups. It is rich in natural resources, including rain forests, which the Mayangna protect and manage using traditional means. The primary objective of the current initiative is to ensure the sustainability of the Mayangna people by strengthening their productive capacities and communal organization. Spearheaded by the Austrian Relief Organization, a non-profit NGO, the project has been underway since January 2003. It has made significant headway towards achieving sustainable food production, strengthening local bio-diversity and developing organizational structures among 13 Mayangna communities in the Sauni territory along the River Tungky. The Fund grant will help finance the continuation of the project for an additional three years (January 2005–December 2007) and will benefit around 5,260 people. Project activities will include the purchase of natural fertilizer along with a variety of seeds and bulbs to encourage mixed cultivation, and the provision of domestic livestock such as sheep and hens. In the final year of the project, a marketing plan will be

developed for the distribution of agricultural produce to neighbouring provinces. Special attention will be paid to protection of the environment and sustainable use of natural resources through training programmes on communal forestry and the protection of rivers. Organizational strengthening efforts will continue with the ultimate goal of enabling the Mayangna to take charge of their own development activities.

Fund grant to renovate Cuban world heritage site

Amount: \$100,000.

The OPEC Fund has approved a grant of \$100,000 in support of a programme to renovate and preserve historic buildings in Old Havana, the ancient centre of the Cuban capital, Havana. Declared a world heritage site by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1982, Old Havana is home to numerous buildings, squares, monuments and forts of architectural and cultural importance from Cuba's colonial period, and is considered the biggest colonial centre in the Caribbean. While many structures have been rescued and restored to their original state under a master plan overseen by the city's Office of the Historian, a large number of buildings that provide housing for local residents remain in a seriously dilapidated condition, many under threat of imminent collapse. The Fund's grant will support a programme to rehabilitate 79 selected buildings, housing some 175 families. Activities will include structural reinforcement and refurbishment as well as the construction of temporary accommodation for endangered residents. Specifically, the resources provided by the Fund will help renovate two buildings, comprising a total of 23 housing units, in the district of Belen.

Boost given to higher education in Africa

Amount: \$550,000.

The Fund has approved a grant of \$50,000 to help finance the 11th General Conference of the Association of African Universities (AAU). Convening under the title *Cross-border provisions and the future of higher education in Africa*, the gathering is scheduled to take place in Cape Town, South Africa on February 21–25, 2005. The conference will address issues related to challenges facing the higher education sector in Africa,

namely: the autonomy of national education systems; access limitations and private sector involvement in higher education; and, ensuring quality in transnational higher education. The AAU is a regional, non-governmental organization, established in 1967 as the principal forum for consultation, exchange of information and cooperation among African universities. With 174 members from 43 countries, the Association plays a vital role in addressing major concerns about the state of higher education on the continent. The Fund's grant will assist directly with the organizational expenses of the conference.

Polio eradication in Africa targeted by Fund

Amount: \$600,000.

Project: Polio eradication in Africa.

The Fund has approved a grant of \$600,000 to aid UNICEF in the final thrust of its campaign against the highly infectious and debilitating disease poliomyelitis (polio). Grant resources will help finance national immunization days in Burkina Faso, Niger and Chad, with the aim of halting transmission of the polio virus in those countries. Affecting primarily children under the age of three, polio is a virus of the nervous system which can cause total paralysis. While there is no cure, it can be largely prevented through immunization. Since the Global Polio Eradication Initiative was launched in 1988 by UNICEF, the World Health Organization and other key public/private partners, the number of polio cases has decreased worldwide from 350,000 to fewer than 700 in 2003. With only six countries still endemic, total eradication is now within sight. Concerns remain, however, over the recent rise in 'imported' cases in West African countries that were previously polio free. Over the next 12 months, the primary goal of the campaign is to step up synchronized immunization programmes in west and central Africa to get eradication efforts back on track. The aim is to carry out multiple rounds of national immunization days throughout 2005. The OPEC Fund grant will help finance one vaccination round for a total of 9.4 million children under the age of five in the targeted countries. This will include the provision of the oral polio vaccine together with the necessary cold chain equipment to ensure safe and effective inoculations. Planning, monitoring and logistical support will also be provided, as will assistance to social mobilization efforts.

Fund and UNESCO join forces to battle HIV/AIDS in Asia

Amount: \$2.25m.

Project: Mitigation of HIV/AIDS crisis in Asia through education.

Executing agencies:

UNESCO; International Institute for Educational Planning; Ministries of Education of beneficiary countries.

Total cost: \$4.52m.

The OPEC Fund has approved a grant of \$2.25m to help finance a joint OPEC Fund/UNESCO Project on Mitigation of the HIV/AIDS Crisis in Asia through Education. The initiative covers 12 countries in central, south-east and west Asia and aims to reduce infection among young people by integrating prevention awareness into national education programmes. HIV/AIDS continues to cause damage in all corners of the world. In 2003, Asia suffered the second highest rate of new infections, with around 1.37m people becoming HIV-positive. The region has many obstacles to overcome in its fight against the pandemic. Access to healthcare services is poor, there is limited or no sex education in schools, and little exists in the way of easily understood information material. The \$4.52m joint initiative seeks to develop and implement a generic programme on HIV/AIDS prevention education that is simple and standardized, yet comprehensive and sensitive to the particulars of each country, as well as applicable and adaptable to each community.

The targeted countries are Afghanistan, Bangladesh, Cambodia, China, Jordan, Kazakhstan, Lao PDR, Lebanon, Syria, Thailand, Uzbekistan and Vietnam.

Activities to be carried out under the two-year project include: the development of advocacy materials for senior policy makers to help them devise appropriate strategies; the strengthening of national and local capacity to implement effective education programmes; the promotion of HIV/AIDS prevention education through the media; the strengthening of tools to measure the impact of prevention education; and the scaling up of HIV/AIDS prevention education in schools.



An AIDS awareness poster in Beijing, China

Loans signed

Fund supports house construction in Benin

Amount: €1.37m.

Project: Abomey-Calavi housing scheme.

The loan was signed with the Groupe Betsaleel Building (GBB) of Benin, a construction company specializing in housing development. Loan resources will help finance the construction of 225 low- and medium-income group housing units in the capital, Cotonou. The Abomey-Calavi housing programme is a public/private partnership designed to meet the demand for competitively-priced property. Of the total 1,650 units to be built under the scheme, GBB is constructing 1,100 units in four phases. Phase one was completed successfully in 2003, and prospective buyers have been secured for most of the 225 units planned under phase two. Varying in size from two to five rooms and with a floor space of between 35 square metres and 126 sq m, all properties will be connected to the national water and electricity networks. On completion, the scheme will provide affordable accommodation for over 20,000 people.



Forthcoming events

Melbourne, Australia, February 14–15, 2005, workshop on *Petrochemicals: from economics to markets*. Details: Centre for Management Technology, Ms Nancy Phua, Event Executive, 80 Marine Parade Road, #13-02 Parkway Parade Singapore 449269, Singapore. Tel: +65 6345 7322; fax: +65 6345 5928; e-mail: nancy@cmtsp.com.sg; Web site: www.cmtevents.com.

London, UK, February 14–17, 2005, *IP Week 2005*. Details: Events Department, Energy Institute, 61 New Cavendish Street, London W1G 7AR, UK. Tel: +44 (0)20 7467 7100; fax: +44 (0)20 7580 2230; e-mail: events@energyinst.org.uk; Web site: www.ipweek.co.uk.

London, UK, February 15, 2005, *2nd PetroAfricanus Dinner*. Details: Global Pacific & Partners, Suite 27, 78 Marylebone High Street, Marylebone, London W1U 5AP, UK. Tel: +44 (0)20 7487 3173; fax: +44 (0)20 7487 5611; mobile: +44 77 39 45 7769; e-mail: duncan@glopac.com; Web site: www.petro21.com.

London, UK, February 15–18, 2005, *Strategic management of oil and gas portfolios*. Details: Petroleum Economist Ltd, 15/17 St. Cross Street, London EC1N 8UW, UK. Tel: +44 (0)20 7831 5588; fax: +44 (0)20 7831 4567/5313; e-mail: training@petroleum-economist.com; Web site: www.petroleum-economist.com.

London, UK, February 16, 2005, *AIPN—African state oil companies*. Details: Global Pacific & Partners, Suite 27, 78 Marylebone High Street, Marylebone, London W1U 5AP, UK. Tel: +44 (0)20 7487 3173; mobile: +44 (0)7739 45 77 69; fax: +44 (0)20 7487 5611; e-mail: duncan@glopac.com; Web site: www.petro21.com.

Algiers, Algeria, February 16–17, 2005, *CAPE 2005 — 2nd African petroleum congress and exhibition*. Details: CWC Associates Limited, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 (0)20 7089 4200; fax: +44 (0)20 7089 4201; e-mail: alafond@thecwcgroup.com; Web site: www.thecwcgroup.com.

Kuala Lumpur, Malaysia, February 16–17, 2005, *HSE risk management in oil & gas*. Details: IQPC Ltd, Anchor House, 15–19 Britten Street, London SW3 3QL, UK. Tel: +44 (0)20 7368 9300; fax: +44 (0)20 7368 9301; e-mail: enquire@oilandgasIQ.com; Web site: www.oilandgasIQ.com/AS-699.

London, UK, February 16–18, 2005, *ERTC fluid catalytic cracking training course*. Details: Vicki Pope, Global Technology Forum. Tel: +44 (0)1737 365118; e-mail: vicki@gtforum.com; Web site: www.gtforum.com.

Galveston, USA, February 20–24, 2005, *Delivering E&P performance in uncertainty: best practices and barriers*. Details: SPE Registrar — 2005 RSS, PO Box 833836, Richardson, TX 75083-3836, USA. Tel: +1 972 952 9328; fax: +1 972 952 9435; e-mail: registration@spe.org; Web site: www.spe.org.

London, UK, February 21–22, 2005, *LNG*. Details: Events Team, SMi Conferences Ltd, The Clove Building, Maguire Street, London SE1 2NQ, UK. Tel: +44 (0)870 9090 711; fax: +44 (0)870 9090 712; e-mail: client_services@smi-online.co.uk; Web site: www.smi-online.co.uk/lng.asp.

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Kuala Lumpur, Malaysia, February 23–24, 2005, *Strategic & operational risk management 2005*. Details: Centre for Management Technology, The Administrator, Lot 7.03, 7th Floor, North Block, The Ampwalk, 218 Jalan Ampang, 50450 Kuala Lumpur. Tel: +603 2162 7322; fax: +603 2162 639; e-mail: admin@cmtkl.com.my; Web site: www.cmtevents.com.

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appointments

Dr Adnan Shihab-Eldin appointed Acting for the Secretary General



The Director of OPEC's Research Division, Dr Adnan Shihab-Eldin, has been appointed as Acting for the Secretary General, effective January 1, 2005, under the supervision of the President of the OPEC Conference and Secretary General, Minister of Energy of Kuwait and Chairman of Kuwait Petroleum Corporation, HE Sheikh Ahmad Fahad Al-Ahmad Al-Sabah.

The decision is in pursuance of the provisions of OPEC Conference Resolution No 128.406, which states that from January 1, 2004, "... until such time as a Secretary General is appointed, the President of the Conference shall assume the responsibilities of the Secretary General and is authorized to make whatever arrangements he deems appropriate for the efficient direction of the Secretariat."

Dr Shihab-Eldin takes over as Acting for the Secretary General from Indonesia's Governor for OPEC, Dr Maizar Rahman, who held the post in 2004.

OPEC Meetings

The 133rd (Extraordinary) Meeting of the OPEC Conference took place in Cairo, Egypt, December 10, 2004.

Secretary General's diary

The *Makati business forum* was organized by the Department of Energy of the Philippines and held in Manila, Philippines, December 1–3, 2004.

The 10th Conference of the Parties (COP10) to the United Nations Framework Convention on Climate Change was organized by the UNFCCC, and held in Buenos Aires, Argentina, December 6–17, 2004.

Secretariat missions

The symposium on *The outlook for global oil industry: a new era or temporary imbalances* was organized by the National Bank of Kuwait and took place in Kuwait, December 1–3, 2004.

The 9th IIES Conference — *The Iran & Middle East Oil & Gas Forum* was organized by the Institute for International Energy Studies, and held in Tehran, IR Iran, December 6–7, 2004.

An *Enhanced oil recovery conference* was organized by the CWC Group and took place in London, UK, December 6–7, 2004.

The *Global gas flaring reduction partnership steering committee* was organized by BP and held in London, UK, December 9, 2004.

The *Arab strategy forum: the Arab world in 2020* was organized by the government of Dubai, and took place in Dubai, United Arab Emirates, December 13–15, 2004.

Forthcoming OPEC Meetings

The 134th (Extraordinary) Meeting of the OPEC Conference is due to be convened in Vienna, Austria, January 30, 2005.

The next *Ordinary Meeting of the OPEC Conference* is due to be convened in Isfahan, IR Iran, on March 16, 2005.

December

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