OPEC bulletin

5–6/06

Venezuela: Petroleum for the people

Soccer –

a greater service to mankind than just kicking a ball

The best wishes of the OPEC Secretariat go to the soccer teams from the Islamic Republic of Iran and Saudi Arabia at the 2006 FIFA World Cup finals that kick off in Germany on June 9.

These two Founder Members of OPEC will be among the 32 teams competing in the closing rounds of the tournament, for the coveted cup which will be awarded to the winner of the final in Berlin one month later, on July 9.

Across the globe, the World Cup captures the imagination probably more than any other organized international event. It symbolises the opportunity for players from a rich tapestry of nations, cultures and backgrounds to compete with each other for 90 minutes or more on a level playing field – using this term in a more literal sense than usual.

Soccer's appeal is a basic one. Kicking a ball around is almost as natural as walking, the rules are simple and the game can be played on virtually any flat, firm surface across the world, where weather conditions permit. These are the fundamental elements.

Of course, in practice, soccer has become a highly sophisticated sport when it is played at an advanced level, particularly to national or international standards, with vast financial rewards for the handful of players who reach its pinnacles of achievement.

Nevertheless, at the grassroots level, the basics remain and the soccer culture is strewn with rags-to-riches stories. Many top players have had the most humble of origins, developing their dazzling skills on patches of land that would sometimes be unrecognizable as soccer grounds. Some don't even have grassroots!

The World Cup finals provide the ideal international arena for such rich talent to shine before a global audience, either collectively as a team or individually as players. In this respect, it is a great equalizer.

But the competition's service to mankind exceeds this.

It provides a distraction to the woes of the world during the course of the tournament. It adds faces and emotions to people in far-off lands, and this can be very important at times when international tensions are high. People are people the world over, whatever destiny may bestow upon them at birth. Lasting friendships can be formed, even among supporters of opposing teams. After all, the true supporter delights in soccer played with skill and dignity, whatever the team.

Why is all of this so important to OPEC?

OPEC's Members are all developing countries. Even though they may be at different stages of socioeconomic development, they can easily relate to the idea of a singular attribute propelling them onto the world stage. In their case, it has been their abundant reserves of crude oil, the dominant energy source for the world economy. They too have experienced the disappointment of discovering that this is all that some consumers from the richer part of the world want from them, and that there is little interest in helping them develop their economies and integrating them into a truly global community.

This is why OPEC remains committed to the ideals and aspirations of other developing countries, as they seek to eradicate poverty and modernize their economies in a viable and sustainable manner.

This is why we welcome competitions like the World Cup and the Olympic Games, because they enable the international spotlight to be focused on the innate competence and capabilities of people in developing countries, even though this may be for only a fleeting moment. In a world full of injustices and inequalities, this may be a tiny step forward, but it is, indeed, a step forward, rather than standing still or even going backwards, as is so often, regrettably, the case.

Destiny can be highly capricious. Sometimes the difference between two teams can be just a lucky bounce.

"May the best team win!" is the most appropriate expression for a global competition like the 2006 soccer World Cup.

And let us hope that it is an OPEC team!

Alles Gute, the Islamic Republic of Iran!

Alles Gute, Saudi Arabia!

Contents

OPEC bulletin

Cover
Venezuela will be host of the 141st Meeting of the OPEC Conference on June 1, 2006. A Venezuelan market overview can be found on pp4–17.
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Membership and aims
OPEC is a permanent, intergovernmental Organization, established in Baghdad, September 10–14, 1960, by IR Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. Its objective is to co-ordinate and unify petroleum policies among Member Countries, in order to secure fair and stable prices for petroleum producers; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the industry.
The Organization now comprises 11 Members: Qatar joined in 1961; Indonesia and 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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Centro Refinador Paraguaná.

Sowing the oil:
a new direction for Venezuela

With the Venezuelan hydrocarbons market currently providing many column inches to both the mainstream and international trade press, OPEC Editor, James Griffin, talks to the Minister of Energy and Petroleum for the Bolivarian Republic of Venezuela and President of Petróleos de Venezuela (PDVSA), Rafael Ramírez *(pictured),* about today's Venezuelan hydrocarbons industry, the potential for regional collaboration, and his views on the current international market situation.

Venezuela has the largest conventional oil reserves and the second-largest natural gas reserves in the western hemisphere, as well as vast deposits of extra-heavy crude oil and bitumen. It might sound like an ideal set of circumstances; oil and natural gas reserves that place Venezuela in the top ten nations globally for both commodities. Yet the 'oil strike' in Venezuela at the end of 2002 and start of 2003 (when many workers downed tools) underlined how unforeseen events can significantly impact a market's production capabilities.

The 'oil strike' paralysed much of the industry and according to PDVSA's estimations caused losses of more than $14 billion. The 'oil strike' was allayed, but it left the government with much to do to rebuild and strengthen its oil industry institutions. The spotlight has been on what Ramírez calls the "new PDVSA", which is focused on enhancing long-term security with a strategy of taking back control of its operations and training its own people to conduct its core activities.

Ramírez has been oft quoted that the troubles PDVSA encountered in late 2002 and early 2003 were extremely serious, but he is also keen to point out that both the company and the Energy Ministry has since made "huge steps" in its restructuring efforts and in the direction of achieving economic, financial and social development goals *(wider social development initiatives are discussed with the Director General of the Office of International Relations at the Ministry of Energy and Venezuela's Governor for OPEC, Iván Orellana, on page 12).*

Preliminary results for 2004 show that PDVSA generated $64.5bn in total revenue, with an operating income of $9.5bn and a healthy net income of $4.7bn and on top of this PDVSA came in at number three in the Petroleum Intelligence Weekly's (PIW) annual ranking list of the world's top oil companies published at the end of 2005. The PIW list is based on six operational criteria and sees PDVSA ahead of the likes of BP, Royal Dutch Shell, Total and Chevron.

For PDVSA, the figures make for pleasant reading, as well as a solid platform for the unveiling last year of its strategic plan — 'Sowing the Oil' — that presented a vision for the country's hydrocarbons industry over the next 25 years. Ramírez states that the policy is based "on the fundamentals of OPEC — the sovereign right to administer our own resources and the right to monetize these and obtain a fair return." He adds that prior to the election of President Hugo Chávez in 1998 the country's oil policy had focused on industry privatization, which had jeopardized Venezuela's right to full oil sovereignty.

The market transformation and the focus of the 'new PDVSA', both within Venezuela and on a broader regional level, certainly makes the Venezuelan market one of much interest to oil market watchers. In fact, rarely a week goes by without media reports of PDVSA's development and investment plans. With all this talk, it begs the question: just how are things progressing, both at home and abroad?

"... the combined investment (2006–2012) is expected to be close to $60bn, with the focus on increasing production capacity from 3.3m b/d today to 5.4m b/d by 2012 ..."

All photographs on pp4–17 courtesy of PDVSA.

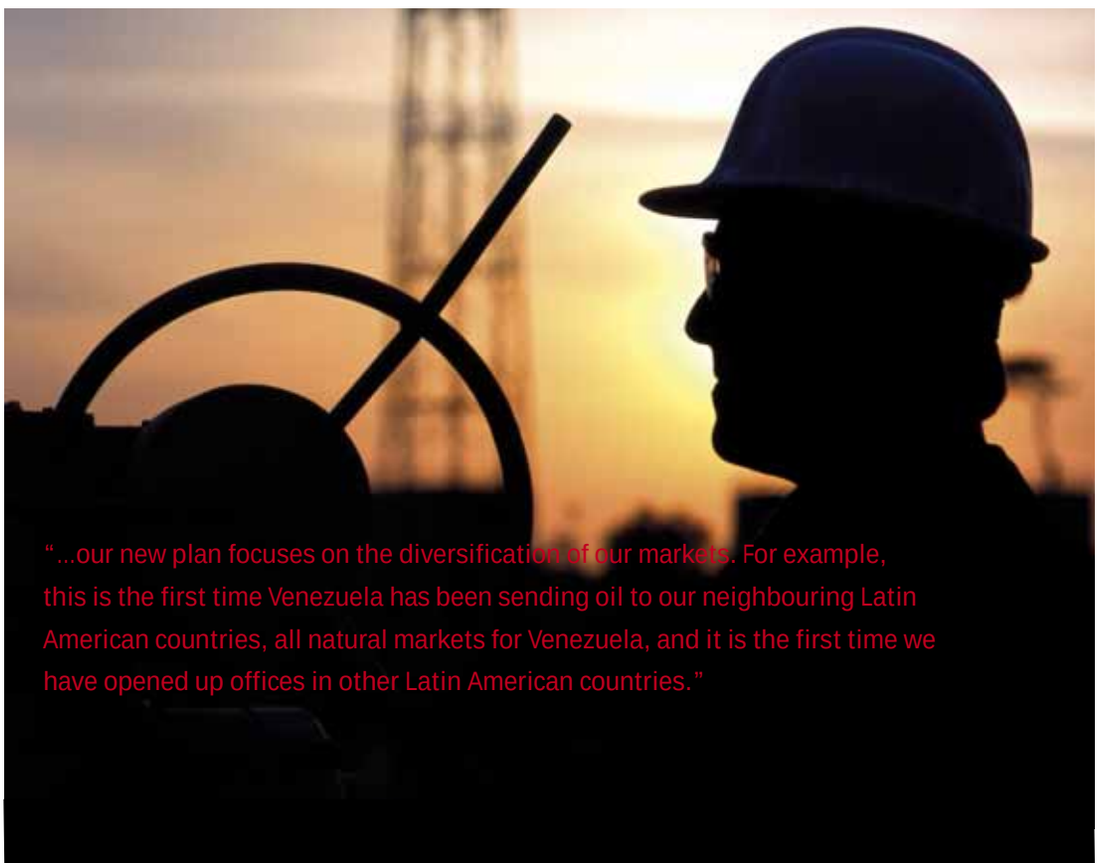
Starting at home

"With this capacity (235bn b) added to the already proven reserves of 77bn b, Venezuela would then have the largest accumulation of liquid hydrocarbon reserves in the world, with an approximate total of 312bn b."

The current business plan, part of the long-term strategic roadmap, covers the years 2006—2012 and Ramírez says that in Venezuela "the combined investment is expected to be close to $60bn, with the focus on increasing production capacity from 3.3 million barrels/day today to 5.4m b/d by 2012; and in regards to refining capacity, both within Venezuela and our overseas ventures, from 3.3m b/d to 4m b/d over the same timeframe."

One of the focal points for increased production and investment is the Orinoco oil belt, which, by 2012, is expected to be producing about 1.2m b/d, double the stated current production capacity. PDVSA is currently exploring a number of blocks in the Orinoco belt; in many cases in partnership with international investors.

The region, which covers an area of 55,314 square kilometres and is estimated to hold approximately 235 billion barrels of oil, is also central to the Magna Reserva project that aims to quantify and certify Venezuelan reserves. "With this capacity added to the already proven reserves of 77bn b, Venezuela would then have the largest accumulation of liquid hydrocarbon reserves in the world, with an approximate total of 312bn b," says Ramírez.



"...our new plan focuses on the diversification of our markets. For example, this is the first time Venezuela has been sending oil to our neighbouring Latin American countries, all natural markets for Venezuela, and it is the first time we have opened up offices in other Latin American countries."

Refining investment is expected to hit $16.5bn during the 2006–2012 plan and includes the construction of three new refineries. The new refineries are to be located in Barinas, Cabruta in Guárico and Caripito in Monagas. The plan also aims to upgrade and refurbish existing facilities to process heavy crudes.

The 'Hydrocarbons Law'

The investment figures outlined emphasize the desire of PDVSA to expand both upstream and downstream to meet domestic, regional and international requirements. The opportunities and potential production increases are certainly significant, but parts of the restructuring and the new 'Hydrocarbons Law', which revises a number of contractual commitments that the Venezuelan government considers to be unfair and harmful to the national interest, have not met with universal approval. Earlier this year Exxon Mobil sold its Venezuelan investments to Spanish multinational, Repsol YPF, after refusing to sign new contracts and in April, Italian group Eni, failed to agree terms on a new operating service contract for the Daicon Area.

Ramírez iterates that the 'Hydrocarbons Law' clearly sets out the role of private sector participation and this must be adhered to. "According to the law, the private sector can participate in upstream activities up to 49 per cent and downstream this is 100 per cent," he says. "Oil reserves belong to the Venezuelan State and PDVSA must have a majority stake in these activities, with the Ministry of Energy and Petroleum having the power to regulate the exploitation of resources in a rational manner."

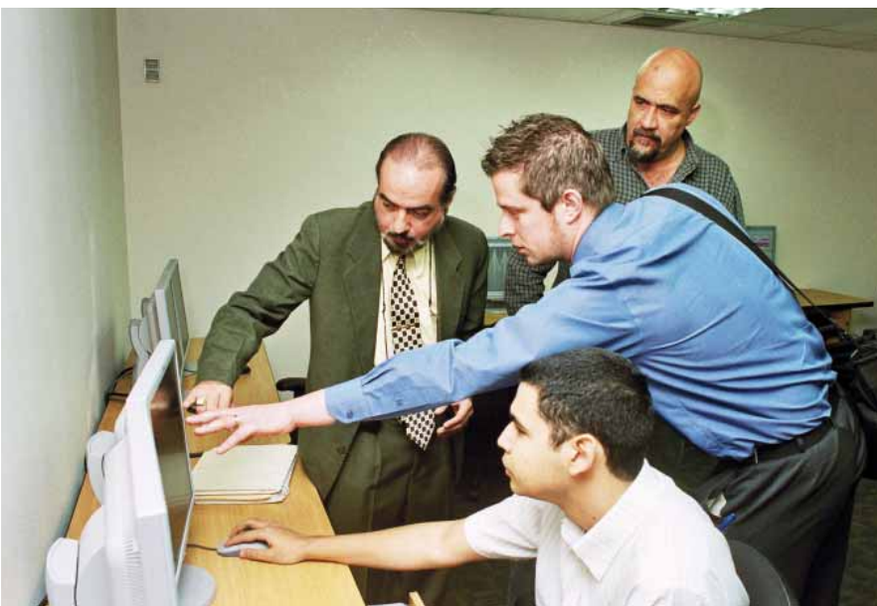
He adds that the law is aimed at striking a new balance between the interests of investors, private companies and the state as the owner of the hydrocarbon resources and points out that most international oil companies remain present in Venezuela. This was highlighted at a ceremony on March 31 this year that brought together Venezuelan representatives, including President Chávez and Ramírez, with international companies that had signed agreements to migrate to the new operating agreements. This included representatives from Repsol YPF, Suelopetrol, BP, Teikoku, Vincler, Inemaka, Open, Petrobras, China National Petroleum Corporation, Chevron, Royal Dutch/Shell, Tecpetrol, Perenco, Harvest and Hocol. Ramírez believes the willingness shown by private enterprises participating in the migration process is a demonstration of confidence in Venezuela and its new policies.

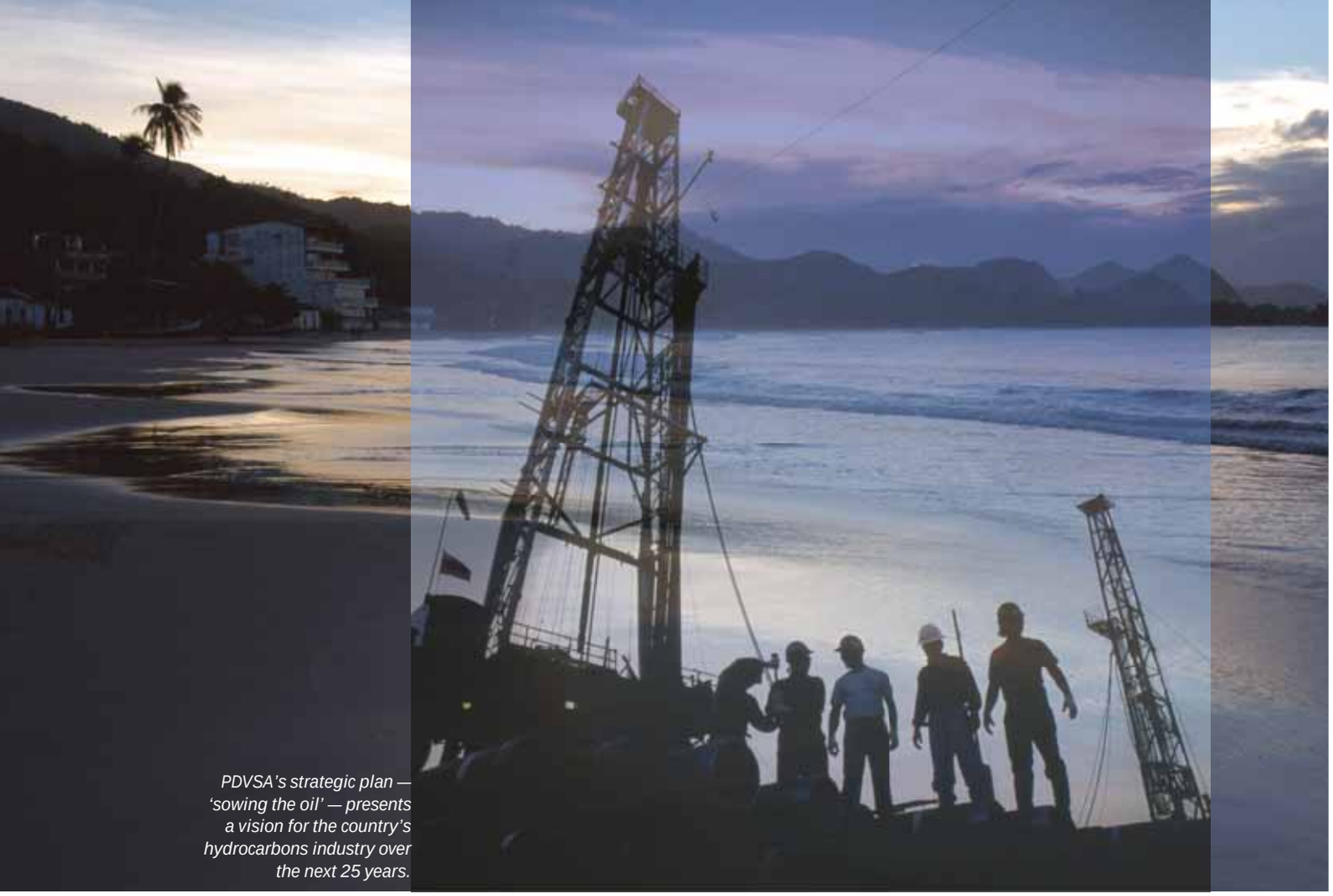
Gas development expands

In the Venezuelan gas market, new legislation has also been enacted through the 'Gaseous Hydrocarbons Law'. PDVSA says the new law promotes private sector participation and permits a national and foreign investor participation of up to 100 per cent of the capital. Given that on the world scene Venezuela ranks eighth among the countries with the largest natural gas reserves, much of which is still to be exploited, there is plenty of scope for development. Ramírez adds that "we are planning extensive exploitation of our offshore gas resources ... and proposing to add an additional 100 trillion cubic feet to the proven reserves."

The aim is to increase production from 6.3bn to 11.5bn cu ft per day by 2012, with investment reaching $16.8bn during this period. Within the framework of the National Gas Plan, the three main projects in offshore gas exploration and production are: Plataforma Deltana, Mariscal Sycre and Rafael Urdaneta and the focus for bringing gas onshore is the Gran Mariscal de Ayacucho Industrial Complex (CIGMA). The complex will undertake LNG production and crude processing, pump gas inland, provide export facilities for LNG, as well as be the home base for offshore services.

Below left and right: Work at the Insituto Tecnologics Venezolano del Petroleo (Intevep), PDVSA's R&D technology centre.





PDVSA's strategic plan — 'sowing the oil' — presents a vision for the country's hydrocarbons industry over the next 25 years.

Ramírez sees the prospects offshore as "very encouraging" and the potential benefits for Venezuela's internal market are easy to see, but for many what has caught the eye is the prospect and plans for regional gas integration.

Everyone needs good neighbours

One of the cornerstones for regional integration is the 'Great gas pipeline of the south', which according to preliminary proposals is expected to begin in Puerto Ordaz, south-east of Caracas, stretch south the length of Brazil and end in Argentina, with possible branches serving Uruguay and Bolivia. In March, the Co-ordination and Decision-Making Ministerial Committee met for the first time and in late April the leaders of Venezuela, Argentina and Brazil held a one-day summit in Sao Paulo, Brazil, to discuss the project, where it was agreed to push ahead with the plans.

The gains for Venezuela, as well as Bolivia, which has the continent's second largest gas reserves, are clear, just as they are for consumers such as Brazil, whose supplies come largely from Bolivia. These supplies are also predicted to triple by the end of the decade.

There is widespread recognition that the pipeline makes economic sense and Ramírez states that "agreements have already been signed" and that "the concept engineering and the environmental studies are currently being undertaken." Some commentators, however, have expressed doubts due to environmental concerns.

It will be interesting to see the outcome of these studies, but if engineering hurdles and environmental concerns can be met in the required manner, the project will certainly play a major role in expanding the energy integration of Latin America. For Ramírez, the belief is that it will deliver far more than natural gas — it will be a fundamental step in the development of the Latin American Petrosur agreement that covers Argentina, Brazil, Uruguay and Venezuela.

The petro-agreements

The Petrosur agreement is just one of the projects aimed at diversifying Venezuela's hydrocarbons markets;

The Cardon refinery on the Paraguaná Peninsula.

others include Petroandina, covering Venezuela, Bolivia, Ecuador, Peru and Colombia and Petrocaribe, covering Venezuela and 13 Caribbean nations. The three initiatives come under the umbrella of Petroamerica.

The appetite for stronger regional integration, in both oil and gas, is underlined by Ramírez. "Venezuela has been exporting oil for over 100 years and for this period our sole task has been to export to the US. So our new plan focuses on the diversification of our markets. For example, this is the first time Venezuela has been sending oil to our neighbouring Latin American countries, all natural markets for Venezuela, and it is the first time we have opened up offices in other Latin American countries." Since 2002, PDVSA has increased its supply to Latin America and the Caribbean by 31 per cent.

He does iterate, however, that "we will of course maintain our important role in the North American market and keep sending our oil there, as well as looking to increase our presence there." At present, approximately 57 per cent of Venezuela's crude and associated petroleum product exports are sent to North America.

Within the strategy for Latin America, Ramírez emphasizes the aim is to co-ordinate and plan public policy in energy matters that minimizes the negative effect the cost of energy has on countries of the region as a result of geopolitical and speculative factors. He adds: "We have already signed an agreement with Brazil to supply fuel to the PDVSA-Petrobas Abreu e Lima refinery in Pernambuco; add into this plans to refurbish a refinery in Uruguay, energy co-operation agreements with Brazil, Argentina, Uruguay and Paraguay, as well as plans to integrate with Colombia and a number of agreements with Bolivia to help them with the exploitation of their gas reserves, and it is clear that enhanced regional co-operation has taken some big steps forward."

He is also keen to stress that "at the same time as we are pushing forward energy integration, we are also proposing economic and social integration." At the end of last year, Venezuela became a full member of Mercosur, a regional integration block consisting of Argentina, Brazil, Paraguay and Uruguay, which according to PDVSA "shares values that find expression in their own democratic and plural societies ... the fight against poverty and economic and social development under equal conditions."

"It is clear to us that developing world economies will never be able to compete with large economies, such as the US and Europe, in a free trade system."

PDVSA workers at the Barinas plant.

"It needs to be remembered that you cannot demand stability in the markets when you introduce instability."

Ramírez adds that Venezuela is looking to "an alternative way to integrate from the liberalized free market way. It is clear to us that developing world economies will never be able to compete with large economies, such as the US and Europe, in a free trade system."

For the Caribbean, Petrocaribe came into force last July and is focused on solving the problems of access to energy resources in the Caribbean region. Ramírez says: "It is an alliance under which Venezuela will provide approximately 200,000 b/d, supplied without third party intermediaries, to 13 Caribbean nations, with financing arrangements for up to 40 per cent of the bill at current oil price levels. And in addition, Venezuela will accept payment in the form of products and services." A good example of the exchange of products and services, he says, is the agreement with Cuba. In return for oil, Cuba is loaning its medics to provide free health care to the poorest parts of Venezuela's population.

Broader international expansion

PDVSA's plans also cover the diversification of export

markets much further afield. For example, Ramírez says that "for the first time PDVSA is sending oil to China and India." Today, PDVSA is sending approximately 160,000 b/d to China and in 2005 it opened up PDVSA China in Beijing to foster commercial opportunities in both upstream and downstream activities. In February, it also sent its first oil shipment to India.

In Europe too, PDVSA has put together Plan Europa, which in its first phase, according to PDVSA, has identified five target countries where particular collaborative initiatives have been carried out: Norway, the UK, Spain, Italy and France. The objectives of the plan are to promote direct investment and the formation of strategic alliances with European suppliers and contractors; to promote the transfer of best practices from Europe to PDVSA; and, to help European operators in Venezuela identify and consolidate business opportunities.

The Puerto La Cruz refinery.

"Even though storage capacity is good, even though the season coming is not one where oil consumption is at its peak, it has been agreed by consensus, that in order not to create too much tension in the market we are looking to keep production where it is."

The global oil market

Talk of the broader international arena turns attention to the OPEC Conference in Caracas in June and Ramírez's thoughts on the current global oil market situation. In March this year at the OPEC Conference in Vienna, it was reported that Venezuela had been pushing for a cut in OPEC production. Ramírez stresses that "what we have been proposing to OPEC has been based on market fundamentals and what corresponds is a cut in production."

He adds, however, geopolitical factors; particularly the situations in Nigeria and Iran and a bottleneck in refining capabilities, need to be taken into consideration. "So even though storage capacity is good, even though the season coming is not one where oil consumption is at its peak, it has been agreed by consensus, that in order not to create too much tension in the market we are looking to keep production where it is," he says.

The current oil price is also a topic of much global debate. Ramírez stresses that "firstly, it needs to be pointed out that the price needs to stabilize", and emphasizes the importance of dialogue between producers and consumers. From a producer's perspective he says: "It needs to be recognized that it is a time when all countries are looking to increase their production and refining capacities and the investment inputs are becoming increasingly expensive. For example, the price of rigs is escalating, the availability of materials is proving troublesome and this all affects prices."

On the consumer side, he adds, "demand keeps on increasing, many consuming nations take no measures whatsoever to conserve energy and in many instances consuming nations are imposing high taxes on the end consumers. For example, high taxes on petroleum are widely prevalent in Europe. So these issues also need to be taken into consideration when we talk about prices."

When asked for a fair and sustainable price going forward, Ramírez says, "somewhere around $50 plus for a barrel, but who knows? What happens if Iran suffers supply disruptions because of geopolitical events? Just imagine we could be looking at $100 a barrel! It needs to be remembered that you cannot demand stability in the markets when you introduce instability."

Venezuela: extending its reach

With the Venezuelan domestic market very much back on even keel after the 'oil strike' at the end of 2002 and start of 2003, the signs are that much change is afoot. Ramírez's references to the 'new PDVSA' underlines the restructuring being undertaken at home as PDVSA and the government focus on 'full oil sovereignty' and its long-term strategy for 'Sowing the oil'.

Yet its plans extend much further than Venezuela. Abroad there are signs that development aplenty is in the pipeline: enhanced regional integration with both Latin America and the Caribbean, and the desire for much more expansive international growth. With so much activity, the Venezuelan market is very much 'one to follow'.

VENEZUELA: resources for all

The distribution of oil revenues for social and economic development projects that benefit the whole population is a core aim for the government of the Bolivarian Republic of Venezuela. OPEC Editor James Griffin talks with the Director General of the Office of International Relations at the Ministry of Energy, and the Venezuelan Governor for OPEC, **Iván Orellana** *(pictured right and above inset left)*, about some of the development projects initiated and some of the significant benefits seen to date.

At the Second OPEC Summit in Venezuela in 2000, OPEC's Heads of State and government resolved in a Solemn Declaration "to emphasize that economic and social development and the eradication of poverty should be the overriding global priority." For OPEC Member Countries the focus is twofold: the alleviation of economic and social imbalances at home, through national-based programmes, and in other developing countries, through Member Country-led individual programmes, as well as the OPEC Fund for International Development and other multilateral fora.

Venezuela, the country where the 2000 Solemn Declaration was made, is today making much headway in putting the country's oil resources to the service of its population, as well as many other developing countries in the region, in an attempt to put an end to social inequalities, says the Director General of the Office of International Relations at the Ministry of Energy, and Venezuelan Governor for OPEC, Iván Orellana.

Focusing initially on Venezuela, figures from the National Statistics Institute underline some of the progress made to date. In 2005, the poverty index diminished; social expenditure continued to rise; and, there was a 14 per cent increase in the health sector's budget.

Orellana stresses that the government is placing much emphasis "on mechanisms to finance health, education, agricultural and infrastructure programmes with excess revenues from the oil sector and in July 2005 it set up Fondespa, the Fund for Social and Economic Development." Fondespa came into being, when PDVSA, the Venezuelan national oil company, signed a contract with Banco de Deasarrollo y Social (the Social and Economic Development Bank) to administer a legacy fund, the base for Fondespa. The social obligations of PDVSA are in the hands of Palmaven, which was set up as a subsidiary to allocate resources to various social programmes.

Orellana says that Fondespa aims to ensure that a higher percentage of the oil revenue goes to the people, that the complex bureaucratic structure of previous governments is replaced, and stresses that the government "has also put in place mechanisms of accountability, which in previous governments, prior to 1998, did not exist." The backbone for enhancing and pushing through social development in Venezuela is in place, but what projects are being promoted and just how are they progressing on the ground?

The missions

Since the end of 2003, the Venezuelan government has established development 'missions' in areas such as food distribution, health, education, job training and land reform. For example, Mission Ribas is an education programme that provides the opportunity and means to anyone who has not completed secondary education to do so; Mission Robinson is focused on eliminating illiteracy in the country; Mission Sucre is a university education programme; Mission Mercal is a food-related programme; and Mission Barrio Adentro fosters improvements in healthcare.

Below: By the end of 2005, 211,289 students had graduated from the Mission Ribas high school education programme.

Orellana believes the most significant impact thus far has been seen in education. "We supply Cuba with 100,000 b/d of crude oil in an agreement that gives them the means to make part payments with products and services. The first service they provided was trained teachers and new methods to improve the literacy of the Venezuelan people. When we began the programme, the levels of literacy were very low, but in a very short time period literacy levels have improved significantly," he says. To date, Orellana says, over one million people have been taught to read and write. In October 2005, Venezuela was declared by UNESCO to be a country free of illiteracy.

The next step on the education ladder, Mission Ribas, is also deemed by the government to be a major success. According to PDVSA and the Ministry of Energy and Petroleum, this mission has 8,174 localities, 29,929 classrooms and 31,041 facilitators and by the end of 2005, 211,289 students had finalized their studies and graduated from this programme.

In health, the primary objective of the Barrio Adentro Mission is to guarantee full access to integral health services. The programme is aided by over 20,000 Cuban doctors, again as part-payment for oil, and Orellana adds that "the Cuban doctors have been extremely helpful in designing the most effective and efficient system to provide health services." For example, he says, "the Cuban doctors have been particularly effective in alleviating common illnesses related to the eyes, such as cataracts. Previously some people in Venezuela had been left needlessly blind."

According to the Ministry of Health and Social Development, the Barrio Adentro Mission has reached approximately 17 million people across the country and embraces over 90 per cent of the prioritized municipalities. Orellana offers up an anecdote to underline the value local communities attach to the health missions. "When the Mission began I was very curious to see how it was being accepted by some of the poorest parts of Venezuelan society. So, I decided to visit one of the most remote villages high in the mountains and spend two days there so I could talk to the people.

"I remember I spoke to a lady there and at the time there was talk of the Supreme Court ordering the Cuban doctors home. In reference to this she said to me directly 'if you are going to take the Cubans out of here, you will over my dead body!' It highlights the importance local communities attach to the health services being provided."

Endogenus development

Bringing many of the Missions' objectives together are the Endogenous Development Nuclei (Núcleos de Desarrollo Endógeno or NDE) of which there are now approximately 130. According to PDVSA these allow "each community to become aware of its potential and are also capable of strengthening and transforming themselves so as to generate benefits for the community and eventually become self-supporting."

These specific community projects allow individual communities to find solutions to particular problems faced within their own neighbourhoods. Orellana says: "You have to participate with the community to provide services that take into account endogenus development. For example, project managers have to provide local people with the knowledge of the resources of the area so that people can organize co-operatives or social production enterprises that utilize local resources."

He adds: "For example, if a pipeline is installed and this borders a local fishing community, then you not only

provide gas from the pipeline to power generators, but also sustainable projects that will directly aid the fishing community. The project will create value for the community and in turn for the people of Venezuela."

The creation of an NDE can be viewed on a plot of land in Gramoven, a poor suburb of Caracas. The land was once home to the Nueva Caracas fuel distribution plant, which belonged to PDVSA, but had been idle for ten years. The Fabricio Ojeda Endogenus Development Nucleus, as it is now called, opened in February 2004, and is home to sports facilities, a clinic, a pharmacy, a dentist, a community centre, agricultural plots and workshops.

The pharmacy offers the community approximately 3,500 lines of pharmaceutical products, the workshops offer skills training in the production of shoes, which are then sold both locally and overseas, and the agricultural plots are focused on allowing locals to replant the land and grow organic produce. There is even talk of setting up an organic restaurant. It is also interesting to note that all monetary issues and decisions are debated and taken by the local community, with everyone having an opportunity to sit on the board of decision makers.

A helping hand

On the seventh anniversary of the Bolivarian Revolution in February this year, Venezuelan President, Hugo Chávez, said: "The country is growing internally thanks to oil resources allotment made through endogenous development cores, development poles (local community advancement programmes), and social missions."

With an additional $700m expected to be made available to existing social expenditures in 2006 — the average has been around $4m per year — further strides in the social development of Venezuelan's population can be expected.

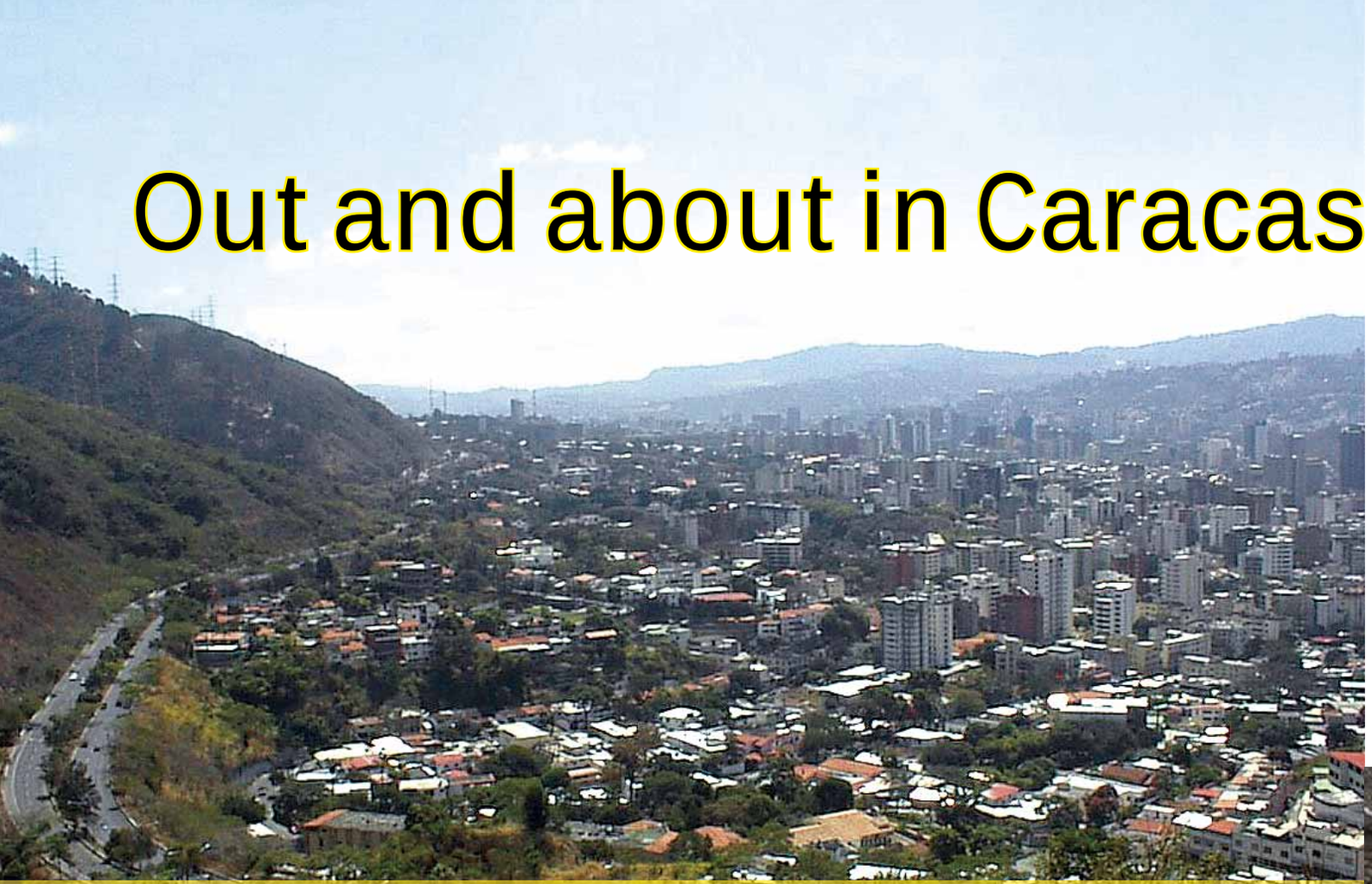
Orellana adds that the significance of these initiatives is both short- and long-term. He says: "Whatever happens in the future, the political process and strategies developed by President Chávez for social development are now an integral part of Venezuela.

All sides of the political spectrum understand this and recognize that the only future option is to take account of the entire Venezuelan population. The oil resources are for us all."

Above and left: The Venezuelan government is placing much emphasis on mechanisms to finance health, education, agricultural and infrastructure programmes.

Top right: Minister of Energy and Petroleum, Rafael Ramírez (l), and President, Hugo Chávez (c), congratulate graduates of Mission Ribas.

Out and about in Caracas



The 141st (Extraordinary) Meeting of the OPEC Conference sees OPEC returning to Caracas, Bolivarian Republic of Venezuela. With ministers, delegates and press converging on Caracas at the start of June, the OPEC Bulletin takes this opportunity to review some of its history and explore what the city has to offer today.

Caracas was founded in 1567 as Santiago de León de Caracas and nestles in the shadow of the mountain 'El Ávila'. The great mountain wall of El Ávila National Park protects the city from the Caribbean heat and also serves as an orientation point for all parts of the city. Today the city stretches some 20 kilometres from east to west along the valley of the Guaire River and is Venezuela's economic hub and home to some four million inhabitants. It is a mixture of both old and new, home to much history and culture, as well as the vibrancy and rhythms of 21st century Venezuelan life.

Historical Caracas

The original and historical part of the city is focused on the Plaza Bolívar in which sits a monument of Simón Bolívar, 'El Libertador', which was unveiled in 1874. Bolívar was born in Caracas in 1783 and is revered as the founding father of Venezuelan independence. Around Plaza Bolívar are historic sites such as Caracas Cathedral, which is home to religious art dating back to the 17th and 18th centuries. One of the side chapels, the Capilla de la Trinidad, is also the resting-place of 'El Libertador's' father, mother and young wife. A block to the east of the Plaza Bolívar is the Casa Natal de El Libertador (birthplace of El Libertador).

This colonial mansion and the Museo Bolivariano alongside, exhibit paintings, clothing, furniture and other relics related to the life and works of Simon Bolívar.

On the west side of the Plaza Bolívar, the Casa Amarilla (Yellow House) stands out for its colour and elegance. This important building was the seat of royal powers in the 17th century; it was later used as the president's residence, and since 1912 it has been the seat of the Ministry of Foreign Affairs. On the north side of the plaza stands the Gobernación de Caracas, a handsome art deco building and on the south side the Palacio Arzobispal, built during the first years of the city.

Alongside the Plaza Bolívar is the Palacio Municipal, built at the beginning of the 20th century as the seat of Venezuela's national government and today one of the most important buildings of the historic centre. The building is home to the Chapel of Santa Rosa of Lima, the place where the Independence Act of Venezuela was signed in 1811.

Diagonal to the south-western corner of the Plaza Bolívar is the National Capitol. Beneath its golden dome is the Elliptic Salon where, since 1890, the original Independence Act of Venezuela is kept. One of Venezuela's classic painters, Martín Tovar y Tovar, decorated the oval ceiling of the salon with a masterpiece depicting the 'Battle of Carabobo'.

República Bolivariana de Venezuela

Capital: Caracas
Population: Approximately 25 million
Area: 916,445 sq km
Time zone: GMT –5
Languages: Spanish is the official language, but more than 30 Amerindian languages still survive, predominantly belonging to the Arawak, Carib & Chibcha ethno-linguistic categories
Currency: Venezuelan Bolívar (approximately US$1 = 2,150 Bolivars)

Other historical places to visit include:

- Plaza Morelos;
- Plaza de los Museos;
- Plaza Venezuela; and,
- El Dulce Nombre de Jesús.

Modern Caracas

Modern Caracas is famous for its all-night dancing and partying, much of which takes place in discos, jazz bars, and night clubs. The main after-hours areas are Las Mercedes, El Rosal, La Floresta, and La Castellana. Las Mercedes, Altamira and La Castellana are also home to a wide variety of restaurants, from national cuisine to the most cosmopolitan culinary styles. Elsewhere, there is La Candelaria, a famous concentration of Spanish style tascas and the town of El Hatillo, which offers a nocturnal atmosphere, which is both cosy and peaceful.

Shopping centres and malls are common in Caracas. Among the largest are Centro Sambil and Centro ciudad Comercial Tamanaco. In other places like Paseo Las Mercedes, Plaza Las Américas, Centro Lido, Centro Plaza, Concresa and the new Centro San Ignacio, Centro El Recreo, Boleíta Center and Centro Tolón there is a varied offer of quality goods that include designer fashions. The city also has many jewelery shops; some of the best known are downtown, in the building La Francia, in front of the Capitolio. For those interested in crafts, art and antiques, the streets of El Hatillo and Las Mercedes are the places to explore.

El Ávila National Park

For a real escape from the capital, visitors can explore El Ávila National Park. El Ávila was declared a park in 1958 and the mountains now serve as both a recreational area and as a buffer to pollution and urban expansion. A cable car, which climbs to the highest point at 2,135 metres above sea level and drops down the other side to the city of Macuto, was recently reopened after being out of service for a number of years.

The park has a high diversity of fauna and flora. More than 100 butterfly species, approximately 120 mammal species, 20 amphibians, 30 reptiles and 500 bird species have been documented. Nine bird species are endemic to Venezuela and three threatened bird species live in the park. In addition, more than 1,800 plant species can be observed and several of these plants are endemic to the park itself.

Caracas is a mixture of both old and new, home to much history and culture, as well as the vibrancy and rhythsms of 21st century life.

Fuelling the future:

energy security, a shared responsibility

That was the theme of the 10th International Energy Forum which convened in Doha, the Qatari capital, between April 22 and 24. The theme could not have been more apt given the resurgence of concerns about energy security in recent times.

Above: Deputy Amir and Heir Apparent of the State of Qatar, His Highness Sheikh Tamim Bin Hamad Al Thani (r), and Qatar's Second Deputy Prime Minister and Minister of Energy and Industry, Abdullah Bin Hamad Al Attiyah (l).

While key energy importing countries have become more vocal in expressing their fears about the security of energy supply, exporting countries have also expressed the fear that there is not enough security of demand to encourage them to make the kind of investment that will secure future supplies. Both sides are generally agreed that the problem is not one of availability of energy resources but that of deliverability, which can be taken care of, to a large extent, by massive investment.

The argument posed by proponents of energy insecurity appears to rest on two planks: uncertainty of availability and uncertainty of deliverability. The first questions the existence

OPEC's Acting for the Secretary General, Mohammed Barkindo, presenting OPEC's 'Oil outlook to 2025' in Session 1 on 'Fuelling the future'.

of enough unconsumed resources to provide the global economy with the energy it needs in the coming decades and into the future. The peak oil theory falls in this category.

The problem with this argument is that it is built on an unsound premise. It assumes, in the first place, that all locations of global reserves have been identified already and the amount of resources in them is known. It does not, therefore, make room for huge findings, onshore or offshore. Secondly it also assumes that mankind is not going to further develop the technology of energy exploration and exploitation. In other words, as we consume what we already have, we are not replacing it with new findings. But neither of these two premises is sound as more and more findings are made by big and small companies, just as more efficient technologies have continued to enhance resource recovery rates in recent years.

The second plank of the argument is the uncertainty of deliverability. This position does not question the availability of the resources. It acknowledges that the resources are there. What it sees as the problem is that these resources are in places where they cannot easily be made available to those who need it and can afford it. There are two sides to this argument.

In the first place there is the paucity of needed investment and technology to turn the potential into real assets. This problem was the focus of the 9th International Energy Forum in Amsterdam in 2004. The second is the fear of political use of resources by those who have and control it against those who do not. This fear, partly informed by the experience of the early 1970s, has continued to haunt many energy importing countries. But that fear is simply unfounded in today's globalized economy. So much has changed in the last quarter of a century plus. The world economy has become a lot more interdependent and nations have come to realize that no nation is an island. At a lower level, the uncertainty of deliverability is informed by geopolitical tensions in important producing and transit areas, thus making the logistics of actual acquisition and delivery practically impossible.

These were some of the problems that the Forum sought answers to. It was acknowledged that technology can make a huge difference in bringing resources to the market more cheaply, and that there is the need for investment to be allowed to go where it is required, just as it was acknowledged that for the foreseeable future there are oil and gas resources to meet growing world demand.

Among the problems that have plagued the industry, and which needs to be addressed in order to make energy security a reality, is resources nationalism. And this problem is present in both producing as in consuming countries. Whereas some energy producing countries prohibit direct foreign investment in their energy sector, consumer countries are also known to have established impossible hurdles for developing countries energy firms to participate in their economies.

Part of the reason for the current concern about energy security can be traced to the recent rise in oil prices. But the problem did not just spring up. It was in the making since the oil price collapse of the late 1980s. The industry did not

invest sufficiently in the upstream and downstream sectors in the 1990s because of the experience of the late 1980s. Indeed, up to 2000–2001, the industry was not expecting oil prices to remain the way they were. Since it was thought to be temporary, no investments were made. And we are now paying the price of our failure to do the right thing at the right time.

On the current price of oil, there was agreement that there was ample supply in the market and that the high price is attributable to factors other than market fundamentals. Geopolitics is seen as contributing about $15 premium on a barrel.

While still on the price of oil, the Ministers of OPEC took the opportunity of their collective presence at the IEF to hold the first consultations on developments in the oil market since their last meeting in Vienna in late March.

In a press briefing after the consultations, OPEC Conference President and Nigeria's Minister of State for Petroleum Resources, Edmund Daukoru, noted that stocks in OECD countries have risen to their five-year highs, signifying that the market has been over-supplied. He assured those present of OPEC's continuous commitment to work for the stability of the market.

The sub-themes of the four sessions of the Forum were very well chosen. Session 1, titled *'Fuelling the future: opportunities and challenges',* looked at the inter-linkages between world energy demand, global economic growth and development and social progress. While recognizing the critical importance of these linkages, it calls for sustained investment in all the energy chain, from upstream through to mid-stream and downstream. It notes that a key driver of the timeliness of such expenditure will be the level of confidence in future demand developments. It calls on political leaders to help stabilize the market by avoiding statements that could raise tensions.

Session 2, *'Investment in the Energy chain',* was a follow up to the Amsterdam meeting and it highlighted the drivers and constraints in investment throughout the energy chain.

It also discussed the impact of future demand uncertainties on investment decisions and finally the role of government and industry in facilitating the securing of adequate investment. *'Access to energy markets, technology and capital',* was the sub-theme for Session 3 which explored the reciprocal access to energy sources and markets, as well as the dividing line between commercial interest and finally the relationship between access to energy and energy security.

Finally Session 4, titled *'Partnership: finding the balance',* explored ways of improving private-public sector co-operation by looking at the operations of both national and international oil companies and asking what makes one different from the other.

In his opening address to the Ministerial Meeting, the Deputy Amir and Heir Apparent of the State of Qatar, His

Heads of Delegations attending the 10th International Energy Forum in Doha.

Front row: CEO's of (from l–r) the IEF, Ambassador Arne Walthers; from the IEA, Claude Mandil; and from OPEC, Mohammed Barkindo; with other delegates attending the International Forum.

Highness Sheikh Tamim Bin Hamad Al-Thani commended the JODI initiative for collecting and co-ordinating oil information and data, and for its positive impact on ensuring transparency of information and limiting speculation that confuses the market and harms the interests of both producer and consumers. Sheikh Al-Thani opined that oil reserves the world over should be seen as a strategic stockpile for all mankind.

The biennial ministerial and business forum attracted high level participation of ministers as well as captains of industry from all corners of the globe.

OPEC consultations on developments in the oil market were also held in Doha. Pictured from l–r are Qatar's Minister of Energy and Industry, Abdullah Bin Hamad Al Attiyah, Venezuelan Minister of Energy & Petroleum, Rafael Ramirez, Algerian Minister of Energy and Mines, Dr Chakib Khelil, and OPEC Conference President and Nigeria's Minister of State for Petroleum Resources, Dr Edmund Daukoru.

Delegates including OPEC Member Countries' representatives from Indonesia, Iran, Iraq, Libya and the United Arab Emirates.

Six international organizations (APEC, Eurostat, IEA, OLADE, OPEC and UNSD) pioneered the Joint Oil Data Initiative (JODI) which is now co-ordinated by the IEF Secretariat.

Session 4 on 'Energy security — a shared responsibility' was chaired by China's Vice Minister of Foreign Affairs, Yesui Zhang; from l–r: Venezuela's Minister of Energy & Petroleum, Rafael Ramirez; Russian Industry and Energy Minister, Viktor Khristenko; China's Zhang; President of the Council of Foreign Relations, People's Party of Spain, Mrs Loyola de Palacio; President of the OPEC Conference and Nigerian Minister of State for Petroleum Resources, Dr Edmund Maduabebe Daukoru; and Minister of Energy Affairs, Austria, President of EU Ministers Council, Dr Martin Bartenstein.

Italy will be the host country of the 11th IEF due to take place in 2008 with India and Mexico as co-hosting countries. The Italian Minister of Energy, Sergio Garribba, was interviewed by the OPEC webcast team.

The role of call of Ministers included the chief host, Abdullah bin Hamad Al-Attiyah, Qatar's Second Deputy Premier and Minister of Energy and Industry, Malcolm Wicks of the UK, Nigeria's Dr Edmund Maduabebe Daukoru, who doubled as OPEC Conference President, Samuel Bodman of the US, Ali I Naimi of Saudi Arabia, Claudio Scajola of Italy, Mohammed Bin Dhaen Al Hamli of the UAE, Odd Roger Enoksen of Norway, Sheikh Ahmad Fahad Al-Ahmad Al-Sabah of Kuwait, Michael Glos of Germany, Rafael Ramirez, of Venezuela, Canales Clariond of Mexico, Murli Deora of India, Chakib Khelil of Algeria, François Loos of France, and many more.

At the industry level, representatives of the following chief executives were in attendance: Rex Tillerson of Exxon-Mobil, Jeroen van der Veer of Shell, Paolo Scaroni of ENI, Pat Davies of Sasol, Hassan Marican of Petronas. The organizers also succeeded in getting some of the most informed analysts and commentators to moderate.

The IEF was established in 1991 after the price collapse of the late 1980s. It is designed as a Forum where representatives of governments of energy producing and consuming countries would meet to discuss energy issues of common interest. It does not make binding resolutions. It holds meetings every other year in one of its member countries.

The next meeting of the Forum is to be held in 2008 in Rome.

Norway eager to push the consumer/producer dialogue

Eithne Treanor, of the OPEC webcast team, interviewed Norway's Minister of Petroleum and Energy, ***Odd Roger Enoksen,*** *at the 10th International Energy Forum (IEF), Doha, about developing a dialogue to ease oil consumption.*

Norway's Minister of Petroleum and Energy, Odd Roger Enoksen.

How important is the producer/consumer dialogue?

The dialogue between producers and consumers is getting more and more important with increased consumption of oil. It is important to have transparency and close dialogue to be able to make a forecast on developments in this sector. The relationship between OPEC and non-OPEC nations is even more important because of the increase in oil consumption.

I think the dialogue has improved and what has been done in the last few years is in my opinion positive. To develop this dialogue in the future it must be given priority. From Norway's side we are eager to push this dialogue.

How has the current oil price impacted on the development of the hydrocarbons industry in Norway?

Actually, the investment of Norwegian oil companies is quite high and it will stay at the high level in coming years, mainly because of high oil prices, but also because we are developing the gas sector in Norway. Oil production is decreasing slightly, but not as fast as we thought it would, thanks mainly to high oil prices and bigger investment in small fields, as well as developments in the Barents Sea region.

On the need for partnerships:

That has been the situation in Norway since we started our oil activity on the Continental Shelf in the late 60s. I think the co-operation between national and international companies is part of our success. I am sure close dialogue between companies, dialogue between different countries, and dialogue between producers and consumers is needed

In terms of the environmental impact, what are you doing?

I think greenhouse gases are one of the main challenges we have to deal with in the coming years. I think Norway is doing a lot on carbon capture. Producing countries have the possibility to use CO_2 to increase oil production and we are working on several different projects in Norway to be able to take care of CO_2 from gas-fired power plants.

UK Minister of Energy, Department for Trade & Industry (DTI), Malcolm Wicks.

Consuming nations need to offer guidance on energy needs

Eithne Treanor, of the OPEC webcast team, interviewed the UK Minister of Energy, Department for Trade & Industry (DTI), ***Malcolm Wicks,*** *at the 10th International Energy Forum (IEF) in Doha and discussed the importance of dialogue.*

On the challenges facing the oil market:

I don't think anyone will be happy about the current high oil price because it will have a negative impact across the world. However, there is nothing which governments can do about it. What we can do is make our case for greater accessibility to the oil and gas supplies that exist. I think that the question for the coming decade it is not about supply, it is about accessibility.

On the importance of the IEF:

I think it is a useful forum because we need to get a better dialogue and better data on research and analysis so that the producing and consuming countries can understand each other's concerns more fully.

I do understand the concerns of the producer countries. They would like to know more about future demand but

we need to understand what that means, we need better scenarios based on the best possible projections about what demand might be in the future.

You will never get a situation where the EU or any of the other countries that are the major consumers are going to say exactly what demand would be. It would be foolish to think that's either desirable or possible. But I think there is an onus on the consumers to produce better scenarios of what demand might look like in the future.

The JODI initiative has been put in place. Are you encouraged by this?

Yes, I am encouraged and we need more countries to participate. We need the greatest transparency from both producing and consuming countries about data on energy demand and supply.

Do you think there is sufficient investment in the oil industry at the moment?

Probably not. I suppose my instinct is to say that we need much greater investment in energy generally, not just in oil and gas, but generally across the board. There is going to be a huge extra investment demand in the decades to come and I think that people need long term certainty.

We have a target around climate change and CO_2 reductions for the middle of this century, 2050, and it's that kind of long-term goal that everyone needs — governments need it, economies need it, and the producers need it.

Do you think there is a lot more awareness in terms of climate change?

Yes, I think in the UK and across EU climate change is recognized. Whereas a few years ago those people in the oil and gas business would have been talking about energy supply/security in maybe too narrow a way, now global warming is the biggest threat facing our planet and is now increasingly encroaching on discussions about oil, gas and energy supply and demand.

The EU President has said that the environment is on top of the agenda. Is that very encouraging for you?

Yes, I am very encouraged. Maybe 30 or so years ago oil producers might have seen environmental issues as a threat to the oil industry, but there is now a recognition that the oil, gas, coal industries worldwide have a great future ahead of them. We will be burning a lot of these fossil fuels in the years to come, but everyone now recognizes that this has to be done in an environmentally-friendly way, using cleaner and greener technologies such as carbon capture and storage.

These are things that the OPEC nations need to put on the top of their agendas, and I think they are beginning to do that. I am encouraged by many of the meetings I have had with Ministers of OPEC Member Countries, and certainly the world has to put this at the top of the agenda.

Looking at the EU footprint, how important is a concerted energy use policy?

I certainly think with the arrival of the 21st century energy very much goes global in terms of demand and supply. We are still as a world thinking through the implications of that. Certainly within the EU member states we are talking now about what kind of energy strategy we need, and that is very much linked with a climate change challenge.

But we need to go further than that. There is no point for the UK, which is responsible for only two per cent of CO_2 emissions, tackling that problem on its own. You need to do this internationally.

I've been very impressed by the dialogues the EU has had with OPEC. There is a shared understanding about both energy issues and climate change issues.

We will be burning a lot of these fossil fuels in the years to come, but everyone now recognizes that this has to be done in an environmentally-friendly way, using cleaner and greener technologies such as carbon capture and storage.

Everyone needs to play a part to bring down prices

Eithne Treanor, of the OPEC webcast team, interviewed ***Lord Browne of Madingley,*** *Group Chief Executive, BP, at the 10th International Energy Forum, Doha, and discussed the issue of the rising price of oil.*

How important is the producer/consumer dialogue?

I think it is very important for everyone because anything which reduces people's anxiety about supply, and about the environment, is important. People are concerned about whether their energy is going to flow to them in the right way, at the right time, and in the right amount.

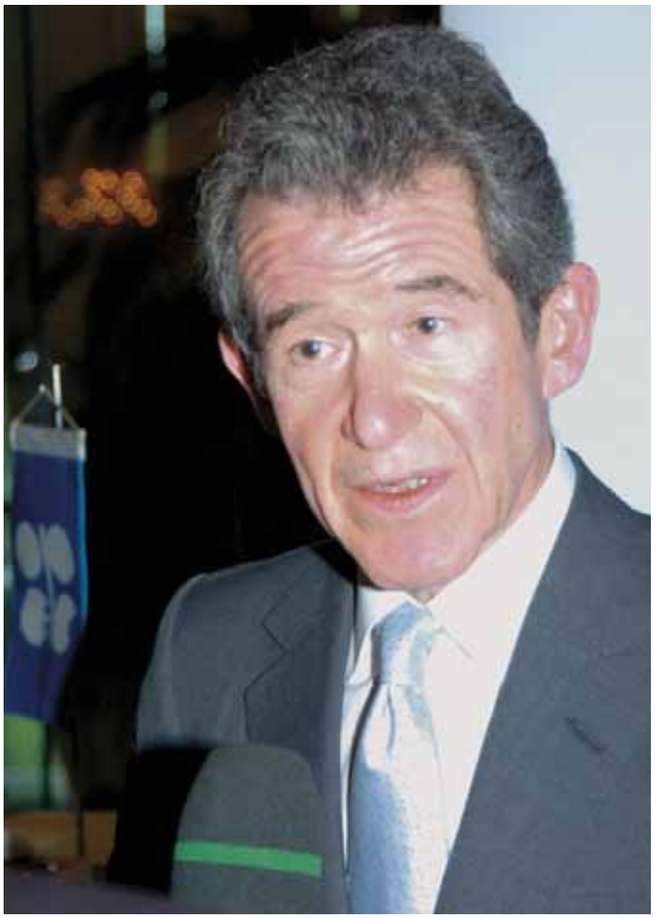
I think there are a lot of things that can be done to help work on this issue. This is the discussion which is currently taking place and it is an important thing to do.

On the high oil price:

This is a market, and there are both suppliers and purchasers, and there are consumers and producers. So if anyone's at fault, everyone is at fault. Demand has risen, people are using energy, but perhaps they are not using it efficiently.

Investment in energy, not just oil and gas, has to be made for a world that is getting richer and more populous (we know that the world increases its population by 10,000 every half hour). More and more people want to buy the energy they need to live.

Everybody needs to do something, including producers of energy of all sorts — oil, gas, renewables, biofuels, and other varieties of power. Consumers need to make choices and I'm sure they will. They're very smart, and they will decide where to put their money, what to do, and what energy to buy.



On taxes and investment:

Every market has boundaries — they are called taxes, and they induce people to do things or not to do things. In a more concrete way I think it is very important that the world feels comfortable that we have mechanisms to ensure that supplies don't fall short.

I can only speak for BP and say that for many years we have seen more and more investment, and we will be involved (in one way or another) with 50 per cent of the additions coming from non-OPEC countries or regions (such as Azerbaijan, Angola, or the deepwater Gulf in Mexico) in the next three years.

Technology and its associated improvements are important to keep going, and help to create the environment where people understand what's going on and co-operate as much as possible in the development of new energy sources.

On the current oil price:

Prices are really quite high now, but in real terms they are only 80 per cent of the spikes seen in the 70s and 80s. Nonetheless they are very high.

If my mail bag is anything to go by consumers are pretty concerned, and they want to know why the same product they bought a few years is double the price today. Moreover, prices are going up while inventories of crude oil and products are also going up. This is not something that should happen.

I think that the world economy, at least with crude at $50/barrel on average, has not suffered. However, what happens if the price is higher than that I don't know.

On the refining issue:

We continue to make our refineries more flexible so that they can take heavier crude, and we continue to 'de-bottleneck' them by adding new technology which expands their capacity broadly in relationship with demand every year.

Sometimes there are regulatory matters which have to be considered, matters which have actually reduced the amount of capacity. There is no real shortage of refining at the moment, but perhaps they're in the wrong places.

The building of new refineries may not be in the areas that we have traditionally looked at, but in places such as India and China.

1ST High-Level

OPEC – China

Roundtable

High-level OPEC-China roundtable stresses the need for harmony

As a demonstration of OPEC's ongoing commitment to global energy security and enhancing producer/consumer dialogue, the OPEC Secretariat was pleased to host the 1st High-Level OPEC-China Roundtable on April 27–28, in Vienna.

Above left: Acting for the Secretary General, Mohammed Barkindo (l), with the vice chairman, director general of the Energy Bureau, National Development and Reform Commission (NDRC) and head of the Chinese delegation, Xu Dingming.
Above: Chinese and OPEC delegates to the roundtable.
Right: The Chinese delegation at the lobby of the OPEC headquarters in Vienna.

In the first formal event to be held after the establishment of the OPEC-China Energy Dialogue in Beijing in December 2005, OPEC's Acting for the Secretary General, Mohammed Barkindo, opened the Roundtable by thanking the National Development and Reform Commission (NDRC) of the People's Republic of China for traveling to Vienna to take part in this important event, which had been jointly organized by the OPEC Secretariat and the NDRC.

"This joint effort is grounded in the shared understanding that only through increased dialogue and shared responsibility can the challenges posed by the oil industry be successfully faced," said Barkindo. "The dialogue between producers and consumers provides the only way forward. OPEC has always welcomed and attached great importance to maintaining an ongoing dialogue, and we are happy that this will now encompass our important partner, China."

Economic well-being

Barkindo stressed that is it the right and duty of every nation, particularly developing nations, to increase their economic well-being and improve the welfare of their people, and OPEC, he said, "is well aware of the important role its MCs can play in helping China fulfill its economic ambitions through the orderly supply of crude."

The OPEC-China Dialogue was established last year with the visit to China of the then OPEC President and Secretary General Sheikh Ahmad Fahad Al-Ahmad Al-Sabah, who is also Kuwait's Minister of Energy. The purpose of the dialogue was to establish a balanced and pragmatic framework to ensure a fruitful and long-lasting co-operation, as well as develop an "ongoing exchange of views at all levels on energy issues of common interest." The high-level roundtable in Vienna was an important first step in this process, something which both OPEC and the Chinese authorities hope will provide a strong basis for ongoing co-operation.

The vice chairman of the NDRC and director general of the Energy Bureau, Xu Dingming, was also co-chair of the meeting and head of the Chinese delegation. He thanked the Acting Secretary General for his comments and noted that holding the meeting in Vienna, a city famous for its music, revealed an interesting link between oil prices and music. He said focusing on achieving greater harmony in the market should be the main goal of all participants. In reference to the dialogue with OPEC, Xu said: "I believe there are unlimited opportunities for further co-operation to achieve common goals. We sow the seed in spring and the harvest in the autumn, and we hope to see a harvest over the long term. OPEC and China share in a natural partnership."

The presentation highlighted the fact that OPEC and China have much more in common than just crude oil. In additional to strengthening oil market stability, both sides have a shared interest in the exchange of data and forecasting methodologies as well as promoting synergies in both the upstream and downstream.

Barkinko concluded: "As we have learned from Chinese wisdom, a long journey begins with one step, and the step we are taking is a very big and important one. I am confident that this first roundtable will help mark the beginning of a deeper and even more fruitful relation between China and the OPEC MCs."

Feature

ETHANOL

proves to be the perfect complement to Brazil's crude oil

Brazil's moves towards being a net oil exporter have not stopped it becoming the world's premiere producer of ethanol, a fuel source many believe will help extend the life of global crude reserves. Here we take a look at Brazil's use of ethanol and assess what the future could be for this biofuel.

Reuters

Brazil — the land of coffee, carnival ... and of course football. An enormous country, it encompasses almost one half of the South American continent and is home to the world's eighth largest population. Split in the north by the mighty Amazon River, it also boasts the most extensive area of rainforest worldwide, home to one-fifth of all known species on the planet. Extensive and well-developed agricultural, mining, manufacturing, and service sectors form the backbone of the Brazilian economy, which has seen impressive growth over the past few years, outstripping all other Latin American countries, and ensuring its place among the 'BRIC'* nations.

But there is one area of operation within this vibrant, beautiful and progressive nation that not so many people know about, something which really has brought 'sweet' success in helping to fuel the economic prosperity enjoyed today. Sugar, or to be more precise, sugar cane, is bringing unimaginable benefits to the country.

Brazil is now the world's largest sugar producer and exporter. It produces around 30 million tons of the commodity a year, almost two-thirds of which is exported. And with global sugar demand having risen by an average of around 2.4 per cent a year over the past ten years, the industry represents a thriving business for the country.

However, as is the case with many products traded on world markets today, there is more to sugar cane than just satisfying a global sweet tooth. And it was one of those attributes that the Brazilian authorities had the foresight to seize upon many years ago. It entailed a simple, yet effective process whereby the raw sugar cane was stripped of its leaves and pulverized into a watery paste. The resulting product — ethanol — is now a multibillion dollar complementary energy source worldwide. But nowhere has more progress been made in this biofuel sector than in Brazil.

Today, after three decades of seeking efficient sources of 'other' energy, filling stations all over Brazil are kitted out with pumps that offer three alternatives to traditional gasoline — pure ethanol, a blend of gasoline and ethanol, called gasohol, or compressed natural gas. This early vision of the use of alternative fuels has transformed Brazil into a global leader in ethanol. In fact, it shares the number one spot for production with the US, but is clearly the top ethanol exporter.

A closer look shows that Brazil heads the rankings for ethanol made from sugar cane, while the US is the world's largest producer of corn-based ethanol. But Brazil still has the advantage — its sugar cane ethanol is far more energy-efficient and cheaper to produce.

Brazil embarked on its ethanol programme in 1975 in response to high crude oil prices. At that time, the country was importing some 90 per cent of its oil needs, which meant that any substantial rise in the price of crude was potentially damaging for its economy. The development of

* *Brazil, Russia, India and China — four nations which have experienced huge economic growth over the past decade.*

Pictured above: The statue of 'Christ the Redeemer' atop Corcovado mountain, silhouetted against a full moon in Rio de Janeiro.
Left: A worker harvests sugar cane at a plantation in Santa Rita do Passa Quatro, Brazil.

Cutting the sugar cane can be a physical and arduous task as shown at this plantation some 200 km south-east of Sao Paulo.

innovative fuels, such as ethanol, was an obvious choice, given the huge expanse of arable land the country possessed, coupled with the favourable climate.

Flexibility incorporated

Obviously, as with any fledgling industry, there were teething problems and the first automobiles to use the fuel did not perform very well. But as the quality of the product improved with the introduction of more advanced technology, and car engines were better adapted to its use, the industry took off. The mills that produced the fuel were also set up in such a way that the production process could be quickly switched from sugar to ethanol, which proved ideal in satisfying fluctuating demand for the two products — a win-win situation that continues today.

Government figures show that by 2002, ethanol-powered cars in Brazil had secured three per cent of the domestic market. However, the following year, automakers, in wanting to exploit the potential good fortune this alternative fuel offered, began to produce cars that were fuel flexible — meaning that they could run off ethanol, gasoline, or a mixture of the two. It proved to be a landmark year for the industry. Today, the so-called flex-fuel vehicles account for 75 per cent of all new car sales in the country, while ethanol makes up about half of all fuel used by passenger vehicles.

As for the product itself, pure ethanol is cheaper than gasohol, yet not as efficient in the distance one can achieve with one litre of standard fuel. It means that as prices fluctuate, drivers in Brazil fill their tanks accordingly with one or other of the products. It has proved to be a beneficial and economical system. Today, drivers in Brazil can fill up with ethanol at 29,000 filling stations across the country. This is indeed impressive when one considers that in the United States only around 600 gas stations currently sell a blend of ethanol and gasoline.

With demand for ethanol remaining strong, Brazilian producers have to perform a balancing act right now in satisfying domestic needs and the growing export market, which is obviously very lucrative. And with demand forecast to rise by half as much again over the next five years, the government has said that it is imperative that the country's production capability be expanded as quickly as possible.

According to the Renewable Fuels Association, Brazil produced just under 16 billion litres of ethanol last year, and almost 15 per cent of that was exported. However, the

government is confident that the additional sugar cane mills earmarked will satisfy the growing export demand.

Already in the country, an area covering more than 13 million acres is dedicated to growing sugar cane, but obviously there is plenty of scope for expansion. One problem facing the government is the effect on the environment as new areas are exploited. The Amazon forest is very attractive to the producers because its warm climate enables two growing cycles to be accommodated every year — meaning twice the harvest.

Ethanol abroad

And as the industry's output capability grows, then so does the share of exports. The US, India, South Korea, Japan and neighbouring Venezuela all receive ethanol supplies from Brazil. A further major expansion of its ethanol trade involves Japan, which is due to decide soon on whether to make domestic gasoline with an ethanol mix mandatory. If that transpires, global demand for the product would jump by over 30 per cent.

Brazil's state oil firm Petrobras, which handles all overseas ethanol exports, has estimated that Japan could import between 1.8 billion and 6bn litres of ethanol, depending on whether the government mandates a three per cent or 10 per cent mix of ethanol in its gasoline. In 2005, Japan bought just over 300 million litres of Brazilian ethanol, according to Brazil's Agricultural Ministry.

A memorandum of understanding was recently signed between Petrobras and Japan's Mitsui over future ethanol studies, while in March this year, the state firm set up a joint venture with Nippon Alcohol Hanbai covering additional exports of ethanol to Japan.

Brazil's 2.5bn litres exports of ethanol last year was more than ten times the figure seen in 2000. This growth meant that the country accounted for over half of global ethanol trade. Europe is a long way second with a market share of 12 per cent.

An important export market for Brazil is the US. American interest in ethanol has increased following moves by the US Administration to phase out the use of the fuel additive MTBE in refining oil products. Ethanol is the obvious substitute, but that means greater reliability on imported supplies, which translates into more good news for Brazil, if it can develop the export potential.

In addition, heightened interest in ethanol was sparked in July last year when US Congress, in its overall bid to reduce dependence on imported crude oil, passed


Reuters

Workers taking a well-earned break at this plantation at Sao Tome in the southern Brazilian state of Parana.

Reuters

A truck is loaded with organic sugar cane at a refinery farm in Santa Rita do Passa Quatro. More and more motorists around the world are filling their cars with biofuels, such as ethanol made from sugar cane or corn.

Countries with ethanol-gasoline blend programmes

USA	E-10 and for FFV E-85
Canada	E-10 and for FFV E-85
Sweden	E-5 and for FFV E-85
India	E-5
Australia	E-10
Thailand	E-10
China	E-10
Colombia	E-10
Peru	E-10
Paraguay	E-7
Brazil	E-20/E-25 and for FFV any blend

A tanker truck waits to be loaded with pure ethanol at this distillery in the southern Brazilian state of Parana.

Reuters

an energy bill requiring the US to use over 28bn litres of renewable fuels by 2012.

In 2005, the US produced 16bn of the 16.35bn litres of ethanol it needed, thus importing 350m litres primarily from South America. However, ethanol producers currently have the capacity to produce about 16.3bn litres of the fuel. Signs are that the US will need increasing supplies of ethanol in future years. In fact, US State Senators, concerned that the country could suffer an acute ethanol shortage, recently visited Brazil for talks on a possible increase in ethanol imports.

High-growth China, which is demanding more and more sources of energy to fuel its burgeoning economy, also wants to get on the ethanol bandwagon. With the price of crude oil pushing upwards, the country is keen to find and develop complementary fuel sources.

Brazil's experience with ethanol is attracting serious attention in Beijing. With future prospects for ethanol looking increasingly rosy, more high-tech mills that produce the fuel in Brazil are set to sprout up as the government pursues its ambitious goal to boost production. Brazilian firms have earmarked some $9bn in investment for the provision of additional facilities that will take output to new heights and enable exports to be doubled by 2010.

However, future thinking is that if ethanol is to have a major influence on world fuel supplies, its primary source will not be corn or sugar cane, but the more abundant feedstocks, such as agricultural and forest residue, switchgrass, and woodchip. Already, a great deal of research is being conducted into the possible base feedstocks one could utilize to produce commercially viable quantities of ethanol. Agricultural residue, such as corn or rice stalks, or wheat straw are normally ploughed back into the field, or burned. Studies show that collecting just one third of this residue for biofuel production could yield over 50bn litres of ethanol.

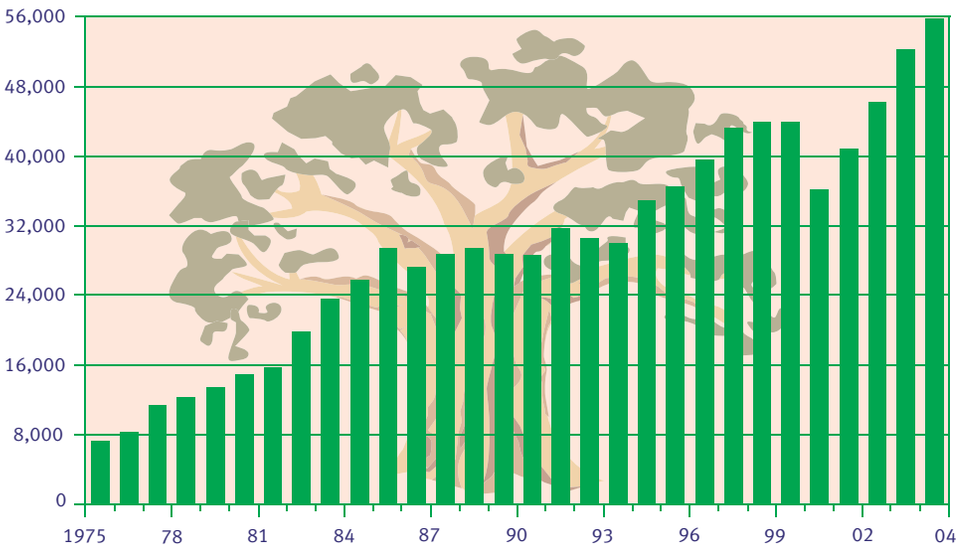
The scope appears endless. Still, this is all speculation, and with world energy demand set to rise considerably in the years ahead, biofuels such as ethanol will meet only a fraction of the fuel needs, unless substantial improvements in vehicle fuel economy and biomass conversion technologies are made. These technologies are fast becoming available, but are still very expensive to introduce.

Developing the infrastructure

It is therefore clear that even though great strides have already been made in the biofuel industry, it will still take some years to develop a fully integrated ethanol market. Still, everything is on track for that to happen. Brazil today has the physical capacity to export over 7.5bn litres of ethanol annually; some three times more than the current level. But the means for transporting the fuel to the ports for export at a competitive price is still in its infancy.

Currently, tanker trucks are used for this purpose, but if an extensive pipeline network was established, it would make the whole operation much more cost-effective. With the provision of new mills mushrooming, Petrobras is already involved in a study for a proposed pipeline that could transport up to 3.8bn litres of ethanol annually from the production centres to the coast for export.

Brazil's supply of sucrose* *(1,000 tons)*

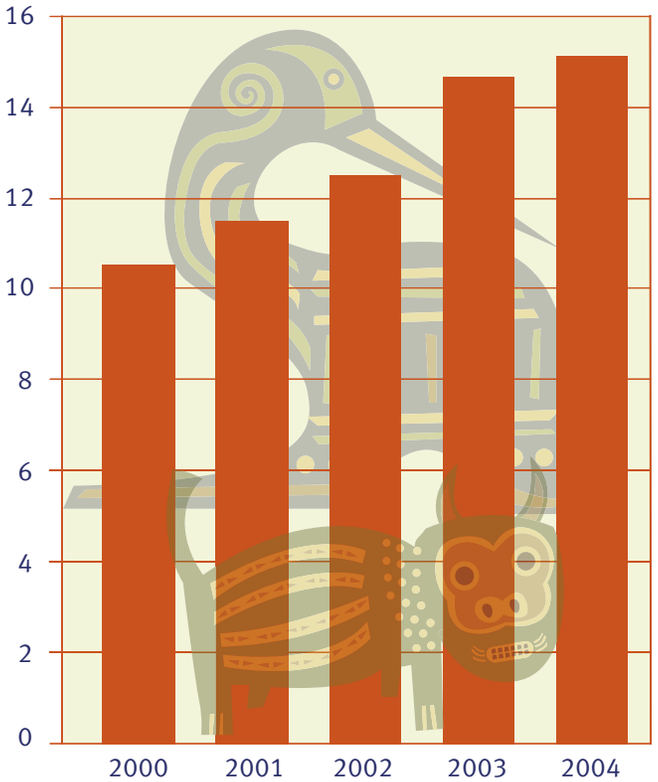


* Sucrose is the raw material for sugar and ethanol production.

Source: Datagro.

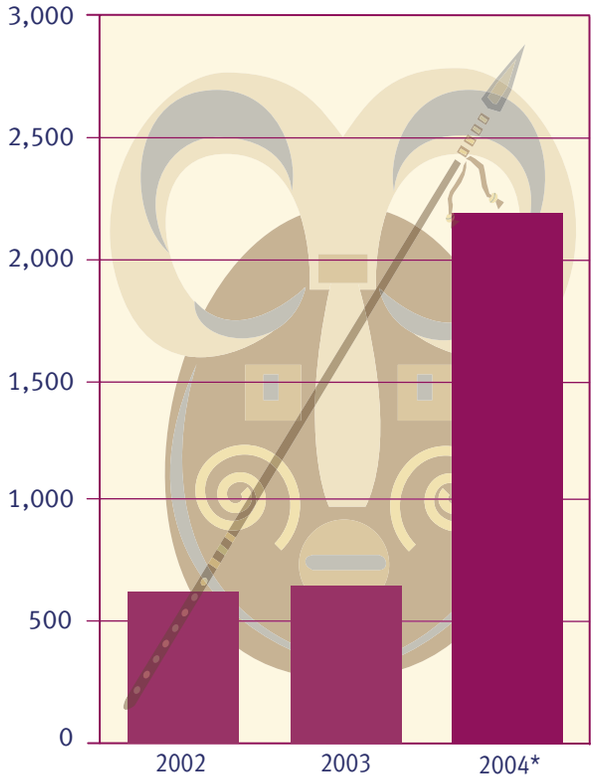
Brazilian ethanol producers are also interested in establishing more partnerships to form a stronger base for the industry. They have entered into talks with US firms over the possibility of forming joint-venture operations. They also want to promote ethanol use in other countries and are particularly interested in using the vast expertise they have acquired to help countries, particularly in the developing would, that already have sugar cane

Ethanol production in Brazil
(million kl)



Source: Ministry of Agriculture, Livestock and Food Supply.

Brazil's ethanol exports
(1,000 kl)



** January–November 2004.*

Source: Ministry of Development, Industry and Foreign Trade.

operations, to set up their own ethanol industries. For these partnerships to materialize, obviously considerable foreign investment would be required, but with the Brazilian economy performing above expectations, that would apparently present no obstacle.

Brazilian economic growth

According to the latest figures from the Ministry of Development, Industry and Foreign Trade, surging exports pushed Brazil's trade surplus up to $3.68bn in March this year. That was 30 per cent more than the previous month. March exports soared to $11.37bn, from $8.75bn in February, while imports expanded to $7.69bn from $5.93bn.

The accumulated surplus for the year so far has risen to $9.35bn, 12.5 per cent more than in the same period of 2005. Brazil posted a record surplus of $44.7bn in 2005 when exports increased by almost 23 per cent to a value of $21.8bn.

On a separate, yet equally as impressive note, this year Brazil will achieve energy independence. Petrobras, which claims to have the fastest-growing oil industry in the world, has announced that national oil production will average 1.9 million barrels/day in 2006, more than average consumption of 1.85m b/d.

And as more offshore rigs come online, Petrobras expects to join the world's net oil exporters — with production exceeding demand by nearly 300,000 b/d in 2010. That's quite some change to the 1970s, when Brazil imported 90 per cent of the oil it consumed.

What with the country trailblazing on both the crude oil and ethanol fronts, the future indeed looks very promising for Brazil.

Reuters

In the production process, raw sugar cane is pulverized into a watery paste, which is then converted into ethanol. Facilities at the processing mills have a dual function, whereby they can quickly switch from the production of sugar to ethanol as demand dictates.

Three-quarters of the cars now being produced in Brazil have 'flex-fuel' engines, capable of running on either ethanol or petrol, or any mixture of the two.

Reuters

A Brazilian car, the Obvio! 828, is being designed and produced for export. The three-passenger microcar is equipped with a four-cylinder, 1.6-l, 170-hp engine that can go from zero to 60 miles/hr (100 kph) in just 5.2 seconds, and can run on either gasoline or ethanol.

Qatar's development in full swing as the gas starts to flow

Qatar is a country with the third largest natural gas reserves in the world, encompassing the single largest non-associated gas field, and is now established as a major energy exporter. The OPEC Bulletin takes a look at a nation that is intent on becoming the global hub for natural gas production.

"Natural gas is extremely important for Qatar," said the Chairman, Qatargas Operating Company, and the CEO, Qatargas, Faisal Al Suwaidi. "On one side Qatar does not have too much in the way of crude oil reserves, but on the other side it has the largest single natural gas field in the

Qatar's Second Deputy Prime Minister, and Minister of Energy and Industry, Abdullah Bin Hamad Al Attiyah.

Chairman, Qatargas Operating Company, and the CEO, Qatargas, Faisal Al Suwaidi.

world." Recoverable oil reserves currently stand at well over 15 billion barrels, although oil accounts for less than 15 per cent of domestic energy consumption.

"It's difficult to say whether natural gas is more important than oil for the Qatari economy," said Al Suwaidi. "At the moment, there is more income from oil as opposed to natural gas, but if we look longer term, there are bigger gas reserves than oil."

Qatar's Second Deputy Prime Minister, and Minister of Energy and Industry, Abdullah Bin Hamad Al Attiyah, is in little doubt as to how important natural gas is to Qatar, and the world. "Natural gas is a major and rapidly growing component in the world energy mix," he said. "It is available in sufficient quantities to supply the growing demand. It is projected to play an increasing role in future global energy markets and, subject to the development of the necessary infrastructure, to transform our resources into commodities enabling us to link the supply areas to the market."

LNG and the Qatari economy

Over the past few years, thanks to the revenues from liquefied natural gas (LNG), Qatar's GDP has continued to grow, a process which has also facilitated a movement towards economic diversification, particularly moves into refining and petrochemicals as a way to create private sector jobs.

According to recent figures, Qatar's GDP achieved a growth rate of 20 per cent in 2005, placing the country among some of the world's fastest growing economies. "The whole of Qatar's economy is now also moving on a fast track," said Al Attiyah. "Our country is seeing remarkable progress in all segments of the economy."

Above and below: Two production facilities in Qatar, which stand ready to top into the country's proven crude oil reserves of 15 billion barrels.

"There are many different uses for gas, and we try to tap into all of them," said Al Suwaidi. "For example, all our power stations are gas fired, and we are totally self sufficient in energy. Moreover, we have different industries related to natural gas, such as fertilizer, ethane, methanol, and petrochemical."

Qatar has a policy of continuously investing in locating additional natural gas and oil reserves even as existing reserves are being exploited, as well as using the latest technology to extend the life of existing fields. This policy is evident in the improved terms seen in exploration contracts.

"In the gas sector, our achievements are truly remarkable," said Al Attiyah. "We have focused our attention on three main areas, which are LNG, GTL and pipeline exports. Our LNG production started only in 1997 and our success in expansion through QatarGas (Qatar LNG Company) and Rasgas (Ras Laffan LNG Company) is now well known throughout the industry."

Al Attiyah continued: "Our LNG production was over 20 million tons in 2005 and by the year 2012 annual production should be about 77m t, making Qatar the world's largest exporter of LNG. In the field of gas-to-liquids production, Qatar will soon surpass all other countries to become the GTL center of the world."

In the Qatari gas sector expenditure during the next few years is expected to be in the order of many tens of billion dollars, offering up opportunities for all, including international oil companies, engineering and consulting companies, designers and manufacturers.

Qatar is successfully promoting itself as a global centre for gas activities, with a recent upgrade of facilities and the ability to reach any market around the world to compete with other exporters. Qatar's LNG exporters already have long-term arrangements with the United Kingdom, Spain and the US, partly in an attempt to diversify away from Asian nations, most notably Japan, India, and South Korea.

"We have two trains from Qatargas designated for the UK market, so by 2008 we will be supplying 20 per cent of the UK's gas needs," said Al Suwaidi. "We also have supply deals with Spain, Italy, and Northern Europe. Qatar has seen a huge optimization of its exports. This is a side of the story people don't really want to talk about, or just don't notice." Pakistan and Qatar have already agreed to co-operate on a LNG project, with the Qatari authorities offering to provide technical assistance in Pakistan's oil and gas sectors.

Safety and maintenance within the natural gas industry remain top priorities for the Qatari authorities.

Oil and the Qatari economy

"In the oil sector, our goal is to reach a production level of one million barrels per day," said Al Attiyah. "With the approval of a new development plan for Al Shaheen field in December 2005, we expect to be able to reach our target production level within the next four years, with an investments of over $5bn." At the moment, Qatar's oil production is stable at about 800,000 b/d, with most of this coming from the offshore Dukhan field. Japan remains Qatar's largest single oil customer.

Even though Qatar's ability to generate revenue remains immense, concerns have been raised over levels of foreign debt, which have increased in recent years. Much of this debt has been incurred in order to create solid economic infrastructure and increase the natural resource capacity. Some of these measures have resulted in Qatar having a budget surplus.

"We have our own 100 per cent owned companies, and we have joint ventures, but there has to be a reason for inviting someone to come and join," said Al Suwaidi. "This could be for marketing, for technical know-how, or the sharing of risks. Having said that, all the major oil companies are in Qatar — you name them, we have them."

Dolphin Project

Back in 2004 (with preliminary memorandums of understanding signed 1999), Dolphin Energy, forming part of a regional energy protocol, was begun with the aim of producing a source of clean, new energy for the southern Gulf region, and to make use of natural gas for power generation and industrial projects.

Dolphin Energy

Above: Dolphin Energy — laying the Al Ain to Fujairah Pipeline 2003.

Left: One of the huge LNG tankers responsible for delivering Qatar's natural gas supplies to the world.

The project, described by Al Attiyah as a "significant milestone that further strengthens the ties between the states" is essentially an integrated natural gas pipeline grid that will form part of a project bringing together the UAE, Qatar, and Oman in a regional energy network.

The total venture is expected to cost around $4.5bn, and when fully developed, the project will export 2 billion cubic feet (bcf) per day of gas to the UAE, as well as producing, for export, over 95,000 b/d of condensate, 3,000 t/d of LPG and 3,700 t/d of ethane for the petrochemical industry in Qatar. The first gas export is anticipated before the end of 2006. "Our hope is to export gas by pipeline to many other neighboring countries and eventually to link up with a future GCC-wide (Gulf Co-operation Council) gas network," said Al Attiyah.

Qatar's energy situation

According to recent figures, Qatar's gross domestic product (GDP) achieved a growth rate of 20 per cent in 2005.

Qatar has the world's third largest gas reserves (after Russia and Iran) with the ability to produce over nine million tonnes of LNG annually. Qatar has proven reserves of natural gas of 910 trillion cubic feet.

Qatar plans to reach a production level of one million barrels of oil per day within the next three to four years, after an investment of over $5 billion.

Gas sector — three main areas, namely LNG, GTL and pipeline exports. LNG production started in 1997, with production of over 20 million tons in 2005, projected to reach about 77m t by 2012, making Qatar the world's largest exporter of LNG.

Gas-to-liquids production — Qatar will soon become the GTL hub of the world, producing over half million barrels of GTL products within the next few years.

Qatar has proven recoverable oil reserves of 15.2 billion barrels, although oil accounts for less than 15 per cent of domestic energy consumption. Most oil exports go to Asia, in particular Japan.

Energy City Qatar

Developed by Gulf Energy, a consortium of energy investors and consultants, Energy City Qatar (ECQ) is the Middle East's first attempt to develop an environment that incorporates marketing and hydrocarbon expertise under one roof. In essence, it acts as a meeting point for the biggest players in the Middle East hydrocarbon industry.

ECQ, which forms part of the major new city scenario being developed by Qatari Diar Real Estate Investment Company, aims to attract the industry leaders in O&G production, IOCs, NOCs, support services, infrastructure and downstream activities, shipping and trading, market and resource data, intellectual property, and energy trading.

The project, which encompasses two square kilometres, and forms part of the major new city development, Lusail, that will be home to 200,000 residents, already has the full support of Qatari Government.

It is looking to lead the way in hydrocarbon above ground resource development, and help to deal with the environmental concerns that surround the development of natural resources.

"The State of Qatar has embarked on huge gas resources development programs to provide this cleaner energy to the world market," said Al Attiyah. "More than $100bn have already been invested in projects with long term return periods to put on stream the natural gas industry in the country." There are also more immediate examples.

A GTL car

Back in November 2005, Qatar Petroleum and Shell Gas & Power International presented the first gas-to-liquids (GTL) fuel car (a 4.2 litre Audi A8 TDI) to run in Qatar, demonstrating that GTL is a clean, practical alternative fuel that can be used in conventional diesel engines.

GTL fuel is almost free of sulphur and aromatics, and so reduces local emissions. Shell started the development of GTL technologies in the 1970s and has operated a medium scale GTL plant in Bintulu, Malaysia since 1993, which is where its GTL fuel is currently manufactured.

"This is truly a symbolic event for Qatar in its quest to reach the summit of the global GTL industry," said Al Attiyah. "GTL represents cutting edge technology and fuels that provide energy-saving and environmentally friendly options for markets around the world."

The importance of natural resources to the country is such that over the next seven years, Qatar's total investment in shipping, port development and gas production facilities is likely to reach $70bn.

Qatargas targets growing gas markets in the US

Far left: Chairman, Qatargas Operating Company, and the CEO, Qatargas, Faisal Al Suwaidi.

Left: President of Global Gas at ConocoPhillips, Sig Cornelius.

A recent ceremony held at Qatar's Ras Laffan Industrial City saw the beginning of the execution phase for two of the world's largest LNG developments. The foundation stone for the Qatargas 3 and Qatargas 4 projects, expected to generate approximately 2.8 billion cubic feet per day (cf/d) of natural gas, mostly for delivery to the US, was formally laid.

Qatargas 3 is an integrated project, jointly owned by Qatar Petroleum (QP) (68.5 per cent), ConocoPhillips (30 per cent) and Mitsui (1.5 per cent). Qatargas 4 will be implemented through a joint venture between QP (70 per cent) and Shell (30 per cent). The total cost for the development is estimated to be around $14bn.

Each project comprises upstream gas production facilities to produce approximately 1.4bn cf/d of natural gas, including an average of approximately 70,000 b/d of LPG and condensate combined from Qatar's North Field over the 25-year life of the project. The projects are jointly executing the development of onshore and offshore assets so they form part of a single integrated venture.

The event was attended by dignitaries, visitors and guests from Qatar and around the world, including senior representatives from QP, ConocoPhillips and Shell. The act of laying the stone was carried out by Heir Apparent of the State of Qatar, HH Sheikh Tamim Bin Hamad Al-Thani.

"On this occasion I am very proud to say that Qatar will deliver on its promise to provide energy to our costumers," said Qatar's Second Deputy Premier, and Minister of Energy & Industry, HE Abdullah Bin Hamad Al-Attiyah. "This would not have been realized without the partnership with major oil and gas companies in the world such as ConocoPhillips and Shell."

Last December both Qatargas 3 and Qatargas 4 announced their final investment decisions and awarded the onshore engineering, procurement and construction (EPC) contract to the Chiyoda Corporation and Technip France Joint Venture (CTJV). The EPC contract with CTJV covers the engineering, procurement, and construction of onshore facilities for two large-scale LNG trains, each with a nameplate capacity of 7.8 million tonnes/annum. The total price of this contract is valued at around $4 billion.

Qatargas 3 has signed all definitive agreements and successfully completed financing. The project has received commitments for more than $2.8bn from 26 commercial banks, the Export Import Bank of the United States (US Exim) and Japan Bank for International Co-operation (JBIC). Commercial agreements and financing for Qatargas 4 are advancing rapidly.

The first LNG cargo from Qatargas 3 is expected to be delivered in 2009. First LNG cargo from Qatargas 4 is scheduled for around the end of the decade with access to the growing US natural gas markets the key element in both the Qatargas 3 and Qatargas 4 LNG marketing strategies.

Shell has already entered into agreements with Southern LNG and Elba Express Pipeline Company to acquire additional capacity at the Elba Island LNG import terminal as well as in a new natural gas pipeline. Both projects will be filed with the US Federal Energy Regulatory Commission (FERC) for approval in the third quarter of 2006.

In December 2005, Qatargas 3 executed a sales and purchase agreement with ConocoPhillips, one of the leading marketers of natural gas in the US, and soon to become one of the largest natural gas producer on the North America continent, for the full train output which will be marketed primarily in the US.

"I would like to stress that Qatargas is a unique company from the point of view of its market diversity and partnership

Qatargas

Established in 1984, Qatar Liquefied Gas Company Ltd (Qatargas) — the country's first LNG company — was formed to own and operate a world-class onshore LNG plant, utilizing natural gas from Qatar's giant North Field, and to market and export LNG and associated gas liquids (condensates) worldwide.

Qatar Petroleum, the state oil company, is Qatargas's major shareholder, along with joint venture participants TotalFinaElf, ExxonMobil, Mitsui and Marubeni.

The main activities of Qatargas are divided into two main projects with separate participant groups: the downstream joint venture (onshore LNG plant) and the upstream joint venture (offshore production and onshore receiving facilities).



Left: Delegates attending the ceremony. Centre: Chairman, Qatargas CEO, Faisal Al Suwaidi (l) with Executive Director of Gas and Power of Shell, Linda Cook (c) and the President of Global Gas at ConocoPhillips, Sig Cornelius. Right: Linda Cook.

with its shareholders," said the Chairman, Qatargas Operating Company, and the CEO, Qatargas, Faisal Al Suwaidi. "Qatargas is supplying to Asia, will reach Europe by end of 2007, and the North American market by end of 2008. Therefore our marketing will reach every corner of the world and in turn we will realize our vision to be the world's leading supplier of LNG by the end of the decade."

President, Global Gas, ConocoPhillips, Sig Cornelius, said: "This project is an important addition to ConocoPhillips's growing LNG portfolio, and we are pleased to have an important role in helping Qatar reach its objective to become the largest LNG supplier in the world by the end of the decade."

Executive Director of Gas and Power, Shell, Linda Cook, said: "This venture demonstrates Shell's and Qatar Petroleum's joint efforts to strengthen security and diversity of natural gas supply primarily to the US, the world's largest natural gas market."

Plans for energy diversification and development in Qatar also include a new gas condensate refinery (offering up naphtha, kerosene, and LPG) at Ras Laffan, with operations starting in late 2008, and a global investment unit set up by QP called Qatar Petroleum International (QPI). State-owned QPI will seek out petroleum assets (both upstream and downstream) abroad, with particular reference to China and India.

Ras Laffan will thus soon become home for the world's largest liquefied natural gas plant, supplying almost 25 per cent of global LNG needs. It should also be remembered that not only is world demand for natural gas expected to increase dramatically over the next 30 years, as a fuel it is also far cleaner than crude oil.

Photographs on pp38–44, unless otherwise credited, courtesy Qatargas.

Japan and Qatar move closer on energy co-operation

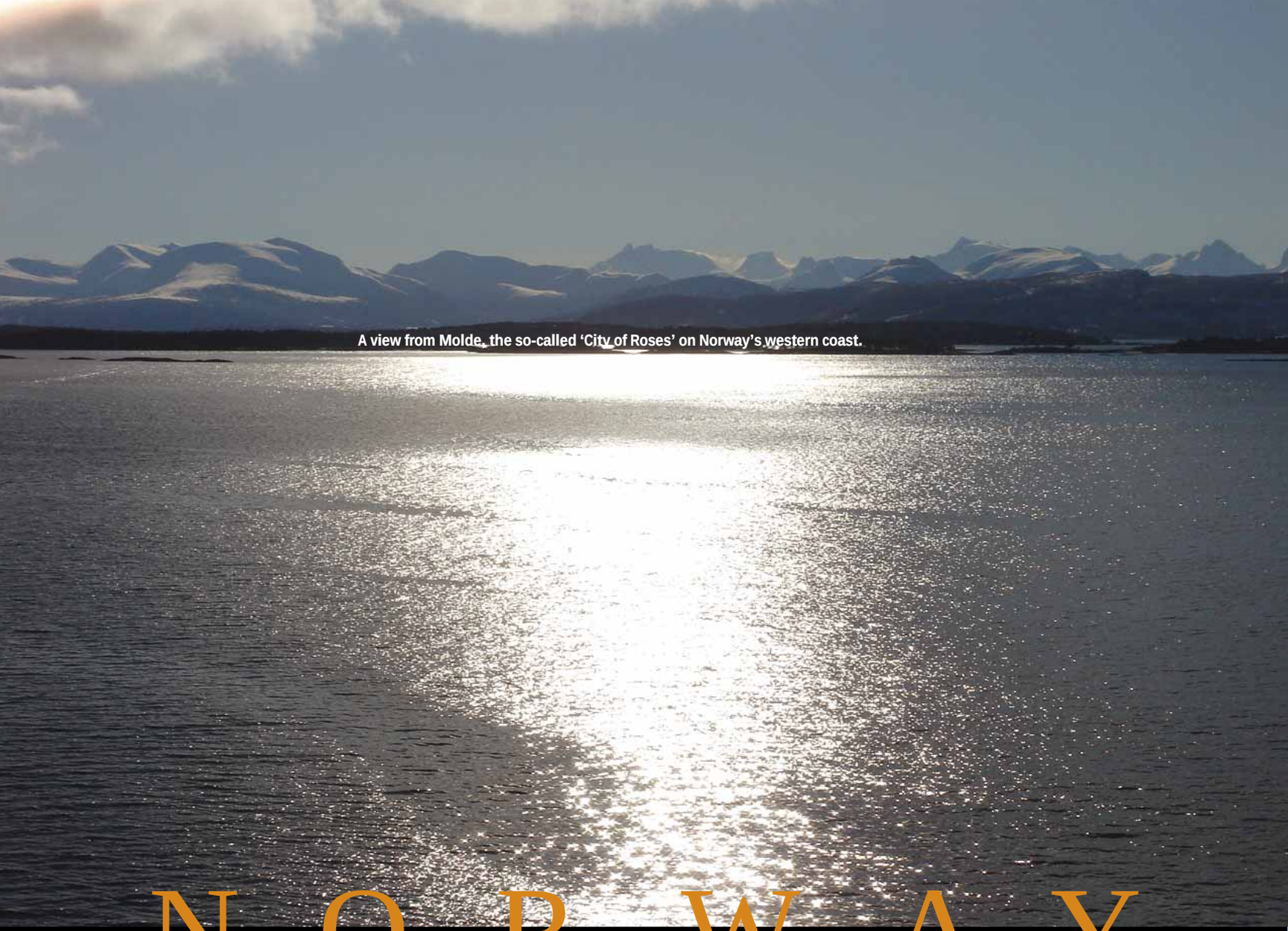
Bilateral economic relations between Japan and the State of Qatar were given a boost by the signing in late April of an energy supply agreement. The agreement aims to satisfy Japan's long term energy supply needs, while at the same time create momentum for Qatar's gas production industry.

The agreement, which was signed by Qatar's Second Deputy Prime Minister and Minister of Energy and Industry, Abdullah bin Hamad Al Attiyah, and Japan's Minister for Economy, Trade, and Industry, Toshihiro Nikai, also touched upon non-energy matters, such as increasing Japanese investments in Qatar's rapidly diversifying economy.

Qatar, with some of the largest gas fields in the world, is already the largest supplier of natural gas to Japan. Within five years it is expected that Qatar will become one of the world's biggest exporters of LNG.

Bilateral relations between Japan and Qatar have been on the rise for some years, culminating in the in the June 2005 Japan-Qatar Summit Meeting in Tokyo. It saw Japan's Prime Minister, Junichiro Koizumi, meet with the Emir of the State of Qatar, His Highness Sheikh Hamad Bin Khalifa Al Thani. The two leaders discussed a number of important bilateral issues.

Japanese officials called the agreement "a commitment for further strengthening between Japan and Qatar in the economic and industrial sectors." It has also been reported that Japan is soon to start negotiations with the Gulf Co-operation Council concerning arrangements for free trade.



A view from Molde, the so-called 'City of Roses' on Norway's western coast.

NORWAY

seeks a new approach to exploration

Despite being one of the world's premiere oil and gas producers, with one of the most advanced hydrocarbon recovery industries in the world, Norway is continuing to push its exploration boundaries. On a recent visit to the country, organized by Offshore Northern Seas, OPEC Bulletin Editor, **Edward Pearcey,** reviewed some of the recent developments and accessed Norway's moves towards encouraging smaller companies into the Norwegian Continental Shelf.

Despite being an industrialized Western society with a diversified economy it's difficult to overstate the importance of crude oil and natural gas to the Norwegian economy. Since the late 1960s, the Norwegian oil and gas industry has continued on a path of development which has seen it become one of the biggest players in the global hydrocarbons industry, with the country's daily oil production averaging approximately 2.8 million barrels.

Currently, Norway is the sixth largest oil producer in the world, and the third largest oil exporter. The country also has the largest proven oil reserves in Western Europe, standing at over 8 billion barrels, and by the end of 2000, still less than 22 per cent of its petroleum resources had been produced.

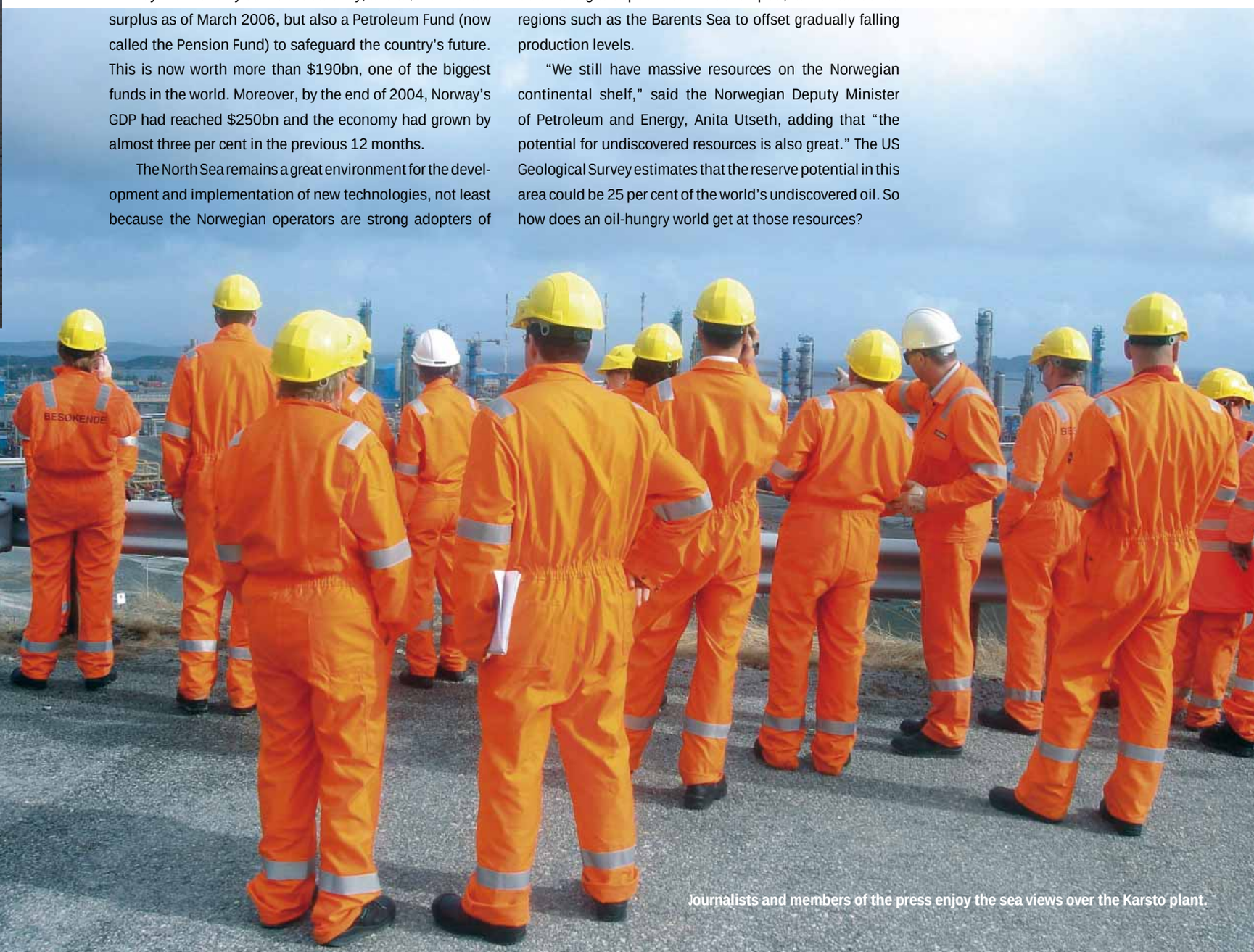
With the country only consuming a fraction of what it produces, it is able to export, principally to the UK, US and Germany, the majority of its crude oil. This has provided Norway with not only economic stability, and a $4.9bn trade surplus as of March 2006, but also a Petroleum Fund (now called the Pension Fund) to safeguard the country's future. This is now worth more than $190bn, one of the biggest funds in the world. Moreover, by the end of 2004, Norway's GDP had reached $250bn and the economy had grown by almost three per cent in the previous 12 months.

The North Sea remains a great environment for the development and implementation of new technologies, not least because the Norwegian operators are strong adopters of technology early in the cycle. Operators in Norway see the business advantage in being early adopters, if for no other reason than to gain an understanding of the technology. Thus, the region has become something of a proving ground, with Norway seen as a low-risk country for the majors. There are clouds on the horizon however. Even though oil demand in the European Union is set to continue rising, North Sea oil production peaked around 1999/2000 (at over 4m b/d).

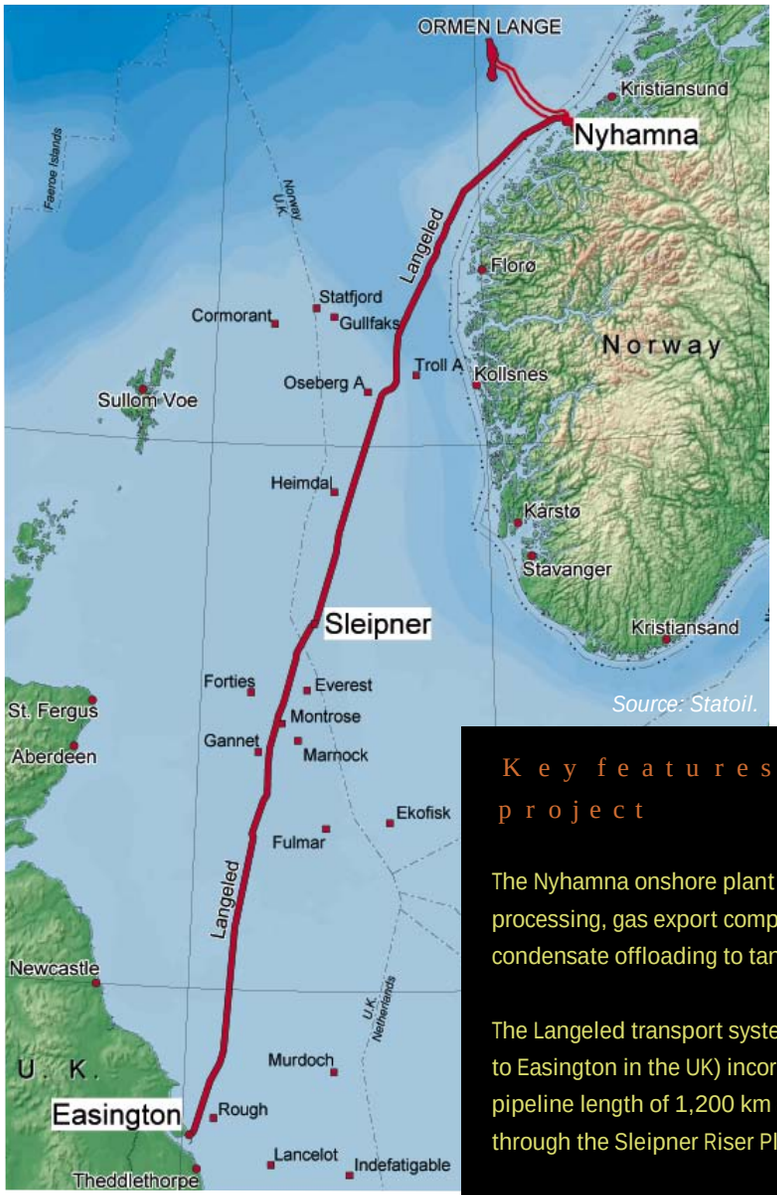
New openings

It's generally assumed that the Norwegian Continental Shelf (NCS) as a whole is an oil producing region which is maturing. Hence, the future of Norwegian energy development lies in finding new ways to approach existing fields, cost effectively develop smaller fields (which are still being discovered on a regular basis), encourage the development of the roughly 60 oil and gas deposits still undeveloped, as well as look to regions such as the Barents Sea to offset gradually falling production levels.

"We still have massive resources on the Norwegian continental shelf," said the Norwegian Deputy Minister of Petroleum and Energy, Anita Utseth, adding that "the potential for undiscovered resources is also great." The US Geological Survey estimates that the reserve potential in this area could be 25 per cent of the world's undiscovered oil. So how does an oil-hungry world get at those resources?



Journalists and members of the press enjoy the sea views over the Karsto plant.



Source: Statoil.

Key features of the project

The Nyhamna onshore plant will handle processing, gas export compression, and condensate offloading to tankers.

The Langeled transport system (from Nyhamna to Easington in the UK) incorporates a total pipeline length of 1,200 km and will pass through the Sleipner Riser Platform.

24 subsea wells located at four templates will produce the gas.

"Before 2000, the NCS was dominated by the large oil companies, but there was a turning point when the North Sea became a more mature area, and when that happened there were opportunities for new entrants," said Utseth. "The new players have a major role to play in the development of the NCS." The Norwegian Government saw a need for new participants in the industry and pre-qualified some new companies as stakeholders in recent licensing procedures.

It has been important for the Norwegian authorities to introduce new measures, such as incentives in the licensing system, to generate more exploration activities, both in developed fields and newer areas, such as the Barents Sea. In 2003 a system which incorporated pre-defined areas was introduced so the authorities could allow access to new exploration areas.

The Barents Sea

Technical difficulties, high costs, and ongoing negotiations between the Norwegian and Russian governments have combined to delay exploration activities in the Barents Sea, even though it is believed that the region could contain exceptional oil and gas deposits. But a movement towards this northern region could open up opportunities in the North and Norwegian Seas by drawing away some of the majors and leaving smaller deposits for companies which find them economically viable.

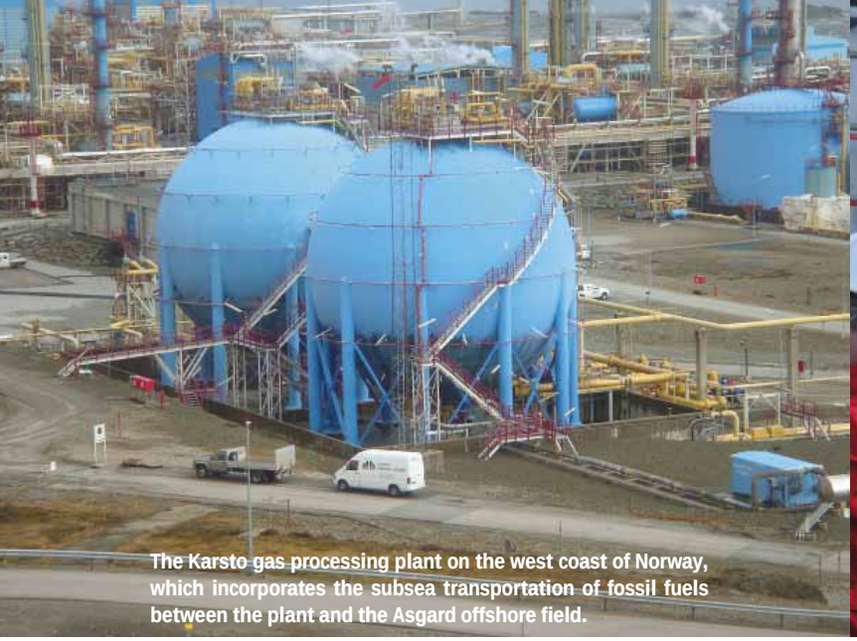
Utseth confirmed that the government's long-term Arctic management plan (which will take into account environmental and ecological issues) will not be delayed, and this means Statoil and Norsk Hydro will in turn not be delayed when the go-ahead is finally given to explore the coastal regions of northern Norway.

"The southern part of the Barents Sea is the most frontier area of the NCS with about 65 exploration wells in an area almost twice the size of the Norwegian section of the Norwegian Sea," said Utseth. "The big oil companies were more concerned with the frontier areas, so the smaller companies were given the chance to take part in the recent licensing system."

This change of tack has seen the overall number of companies involved in NCS exploration activities increase in the last few years, and has also seen the two corporate giants in the region, Hydro and Statoil, assess their smaller reserves. Norway, from an exploration perspective, has never really had a population of small independent companies. In the UK, by comparison, there are dozens of independent companies working within the exploration sector.

"There are quite a few 1970s and 1980s discoveries in Norway that have essentially lain dormant because they were not material to the larger companies," said Tim Sullivan, CEO, Revus Energy, an independent E&P company which focuses on the untapped opportunities on the NCS. "Some of the work we do would be a big project for a company of our size, but very small for a company such as Exxon, and that's the changing theme in the North Sea."

Most of the yet-to-be-discovered reserves in the North Sea, which total several billion barrels, are in small (under 100m b) locations, and this makes them nonviable for the oil majors. "For this reason," argues Sullivan, "there will be a generation of small companies coming through. It's going to take the smaller companies to bring the rest of the oil out of the North Sea."



The Karsto gas processing plant on the west coast of Norway, which incorporates the subsea transportation of fossil fuels between the plant and the Asgard offshore field.

Senior Vice President, Hydro Projects, Morten Ruud, talking to journalists at the Ormen Lange gas production facility.

Creating the right environment

In addition to the technological advances, the Norwegian region also offers a stable fiscal environment, readily available skilled labour, and government encouragement. "Around the North Sea there is a very strong academic environment with well-educated people and a competitive talent pool," said the vice president and general manager, North Sea, Schlumberger, Carl Trowell. "Also, the companies here are very open to collaborating on research and development."

Schlumberger, a developer of oil and gas technology solutions, invests over $78m a year in research and development in Norway, a country which Trowell believes is "very important for Schlumberger in terms of our operational standpoint and regeneration of the company through new products and ideas."

It's generally accepted that the exploration environment around Norway is difficult, but that is said to drive new technology applications. "The whole Norwegian Continental Shelf would never have been developed had it not been a region that drove technology," said Trowell. "There are some world-beating technologies that were developed here that have moved out of this region to improve oil and gas exploration production worldwide."

For practical purposes, the North Sea is starting to be seen as a single area of operation for a lot of companies, thanks mainly to the fact that there is now a lot more co-operation between governments on both sides of the North Sea, and a recognition of the need to treat it as one region so as to share human resources and technology.

"We now refer to the 'North Sea' rather than just the UK and Norwegian sectors," said Trowell. "We decided to do that because to put an artificial divide in the middle just didn't make sense. The industry is going through mean times and there is enormous pressure on people, and resources are tight. So, by combining this into one region means we can move and share resources."

Statoil continues growth

Another company on the move is Statoil, which is aiming to maintain oil production growth at eight per cent a year through 2007. "We are discovering more resources than we are selling at the moment, and we've never been in a better state of economic development," said the CEO, Statoil, Helge Lund. "We have an ambition of delivering as much oil and gas in 2015 as 2004, and we need to exploit fully the talent and know-how we have acquired over the last 25 years."

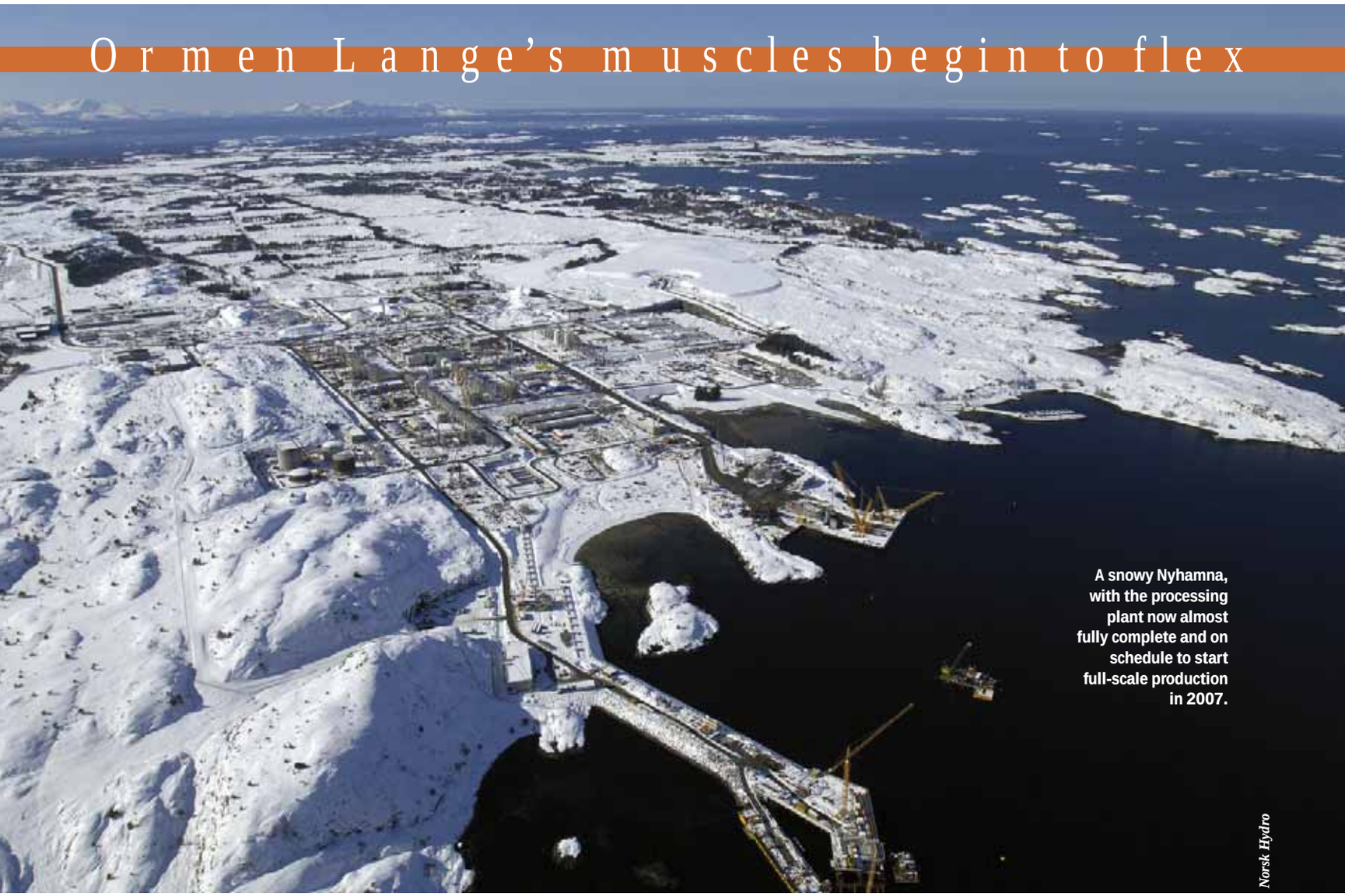
Indeed, as far as Statoil, the biggest company in the Nordic region with a market value of $60 billion, is concerned the NCS is not declining or maturing but growing, with the company "already looking at new exploration facilities." Said Lund: "The NCS needs to be viewed as several sub-regions that are all at different stages of development."

Looking to the future, there may also be a new use for the infrastructure. "By 2020," said Lund, "gas may be declining, but the pipelines will remain. Russia may use some of the pipelines for its gas."

Norway makes no secret of the fact that its oil and gas resources belong to the whole Norwegian society, and as such must be managed to serve the needs of present and future generations, including safeguarding employment and fulfilling responsibilities on the NCS.

However, time will tell if Norway has correctly predicted the decline rate in the North Sea, and if the plans it has in place will safeguard the future of its economy and citizens. Many think they will. Offshore Northern Seas (ONS) is the world's second largest oil exhibition and conference, and has taken place every two years since 1974.

Ormen Lange's muscles begin to flex



A snowy Nyhamna, with the processing plant now almost fully complete and on schedule to start full-scale production in 2007.

Norsk Hydro

The Ormen Lange field, with natural gas reserves close to 400 billion cubic metres, and the second largest field in Norway, is part of one of the largest hydrocarbon endeavours in Europe. With full-scale production due to start in late 2007, OPEC Bulletin Editor, **Edward Pearcey**, looks at the progress of this gas monster.

Discovered almost ten years ago, the giant Ormen Lange field is to be found just over 130 km west of the Norwegian coastal town of Kristiansund, and lies at an approximate water depth of 1,000 metres. But the field is not only a wonderful natural resource — it's also evidence of the continued growth in Norwegian gas production, and serves a testing ground for cutting-edge exploration techniques by bringing together in one project engineering, construction and manufacturing expertise.

The Ormen Lange field is the second-largest gas discovery on the Norwegian Continental Shelf, and Norsk Hydro, a Norwegian oil and energy company, is leading the planning and development phase of the project with companies such as Petoro, Statoil, Shell, and BP. If the project goes according to plan, Norway will become one of the world's largest gas exporters within five years.

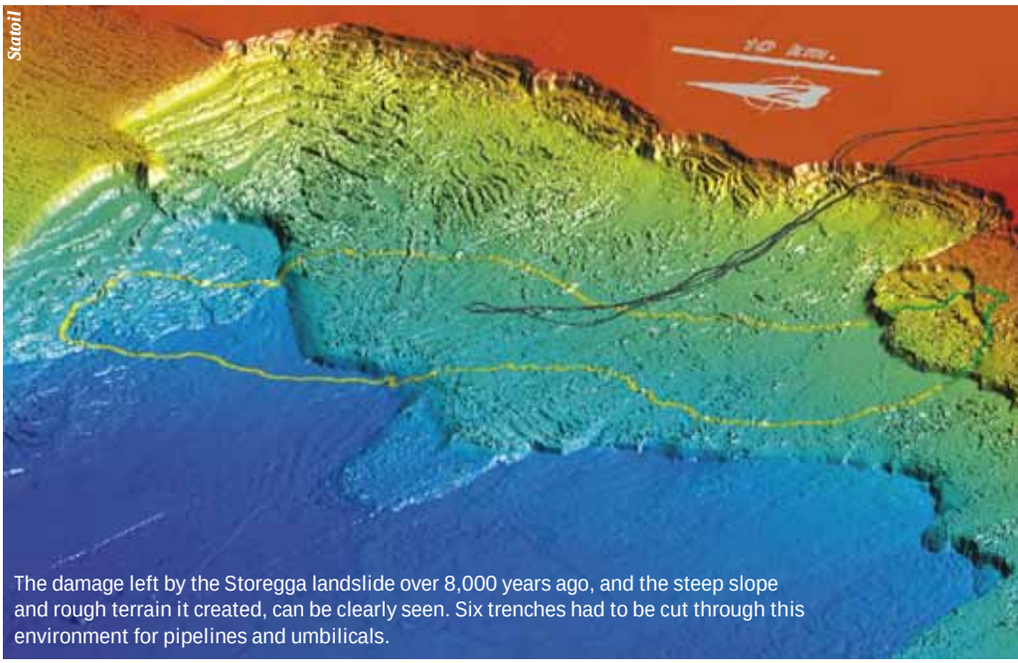
"Ormen Lange is a big project," said senior vice president, Hydro Projects, the Norwegian offshore oil and gas producer, Morten Ruud, "and is probably one of the largest projects in the oil and gas business in Europe today." It's certainly the biggest industrial project in Norway in the last 50 years. "With an initial cost of up to €8 billion, this is not only a very important project for us, but also the UK, as eventually we will have the ability to supply about 20 per cent of the daily gas consumption in the UK," said Ruud.

Ormen Lange — the main facts

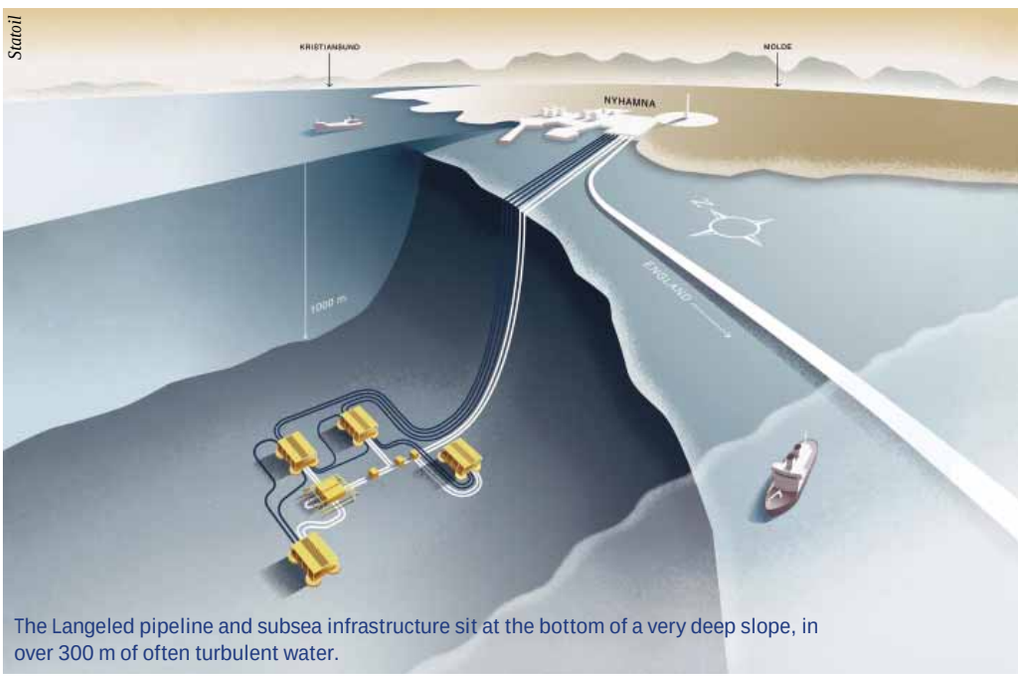
Ormen Lange is the largest gas field (approximately 360 sq km) currently under development on the NCS.

There is estimated to be over 100 years of gas reserves in the Ormen Lange field.

The partners in the Ormen Lange project are Norsk Hydro (18 per cent), Shell (17 per cent), Petoro (36 per cent), Statoil (11 per cent), BP (10.5 per cent), Exxon Mobil (seven per cent) and Conoco Philips (one per cent).



The damage left by the Storegga landslide over 8,000 years ago, and the steep slope and rough terrain it created, can be clearly seen. Six trenches had to be cut through this environment for pipelines and umbilicals.



The Langeled pipeline and subsea infrastructure sit at the bottom of a very deep slope, in over 300 m of often turbulent water.

Complexity and co-operation

The deposit itself is situated under the steep, boulder-covered, 300 km long back wall of the giant Storegga landslide, an event which happened just over 8,000 years ago and which the geological records show caused a huge tsunami to hit the coasts of Norway, UK, and the Faroe Islands.

The location of the deposit adds to the unusual nature of the overall operation, which has seen the excavation of several long trenches across the sea floor and through the landslide debris (with routes chosen to minimize coral and fisheries impact), and the building of a large sub-sea production facility.

"I have a deep respect for the complexity of the problems associated with oil and gas production," said the president and CEO, Gassco, Brian Bjordal, the operators of the pipeline that will run to the UK. "We should all be a bit more humble with regard to the complexity that confronts us."

Ormen Lange is employing a tie-back production and drilling system, whereby remotely controlled seabed-based equipment is used to pipe material back to shore where processing and evaluation can begin. This system eliminates the need for sea-surface equipment. What makes this special is the extremely difficult environmental conditions in which this is taking place. "Ormen Lange is a very high risk challenge, and Gassco is nothing by itself, so we have to work with other companies to make progress," said Bjordal. "In essence, Gassco wants to be a midwife for Norway's unborn gas."

The building phase has also seen the construction of a state-of-the-art onshore gas processing facility at Nyhamna on the west coast of Norway (from where the gas will be transported, via a 1,200 km pipeline, Langeled, to a new facility at Easington, on the eastern coast of the UK).

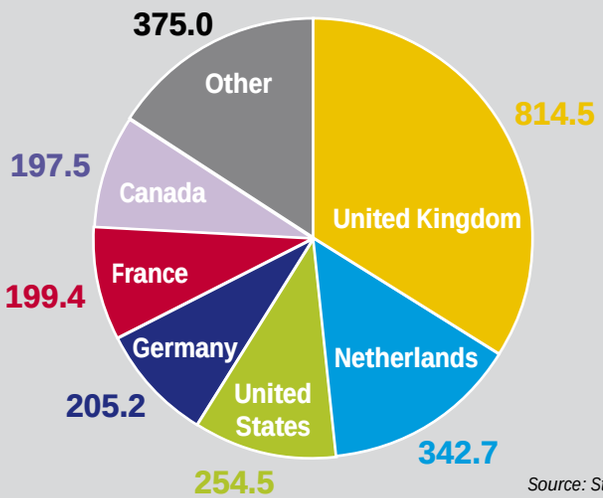
By late 2007 there will be six wells ready for operation (four have already been drilled). Shell will run production and de-commissioning at the Nyhamna plant, which incorporates conditioning, compression and stabilization facilities, as well as the ability to offload products to tankers.

The gas produced by the field will be very dry, with a very high methane level, and so will have a very high heat value. In order for the gas to comply with the UK's gas specifica-

The overall scale of the project is illustrated by the large diameter of the pipes used for the Langeled pipeline

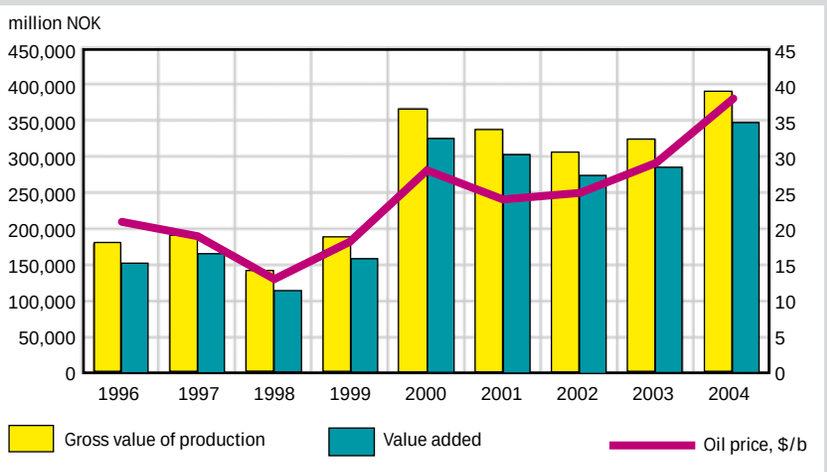
Norway's total oil exports, by destination, 2004

(1,000 b/d)



Source: Statistics Norway.

Gross value of production, value added and oil price 1996—2004



Source: Statistics Norway.

tions it will need to undergo further mixing to give it a lower burning value. The facility aims to supply possibly 20bn cu m of gas per year within the next five years.

But for those involved in the project, there is much more to it than a demonstration of technical ability and agility. There's a chance not only to tap into what could be over the long term a very lucrative gas consuming market in the UK, but also reveal to the world a new way of approaching gas extraction.

"The unmanned nature of this project is in a way the new 'brand' for gas development," said Ruud. "The concepts seen at Ormen Lange are applicable to many other offshore oil producing nations. We plan to start using this facility in October 2007. The first test gas flows will start flowing in October 2006."

The logistics of Langeled

Ormen Lange is actually a couple of sub projects rolled into one. There's the offshore part, which encompasses the innovation, technology development, and turning effort into monetary value; and the onshore part involves the large, gas-receiving facility, and includes getting all the pieces in the right place, essentially a project management task.

"Langeled is very much a logistical event, incorporating 1,200 km of pipelines, and it's all about getting this done in the right sequence," said Ruud. "We are now over 65 per cent complete, and on budget, and the quality of the work meets the requirements that have been set." Pipe segments, about 100,000 in total and weighing about 22 tonnes each, and varying in diameter from 42 to 44 inches, are stored in a couple of places onshore. They are lifted about 20 times each.

The Langeled system, the world's longest sub-sea pipeline, will have used a large proportion of the world's pipeline laying and production resources by the time of its completion. It forms part of the new infrastructure to transport gas to the wider European market, and offers the developers and owners of the technology a new degree of supply flexibility.

"Gassco will have the flexibility to transfer our gas to other markets, thanks to the Sleipner terminal, situated in the middle of the North Sea," said Anne Lycke, asset manager, Langeled Pipeline Project. "If, for some reason, the UK gas market falls apart, we can go to an alternative market. We've seen clearly the growing demand in the European gas market and this was crucial in persuading us to come into this market at this point in time."

The development of Ormen Lange will help Norway in its desire to be perceived as a reliable supplier of large quanti-

ties of energy. "Norway is part of a larger EU energy perspective," said Brian Bjordal.

"As it stands now the indigenous resources within Europe are depleting rapidly at the same time as demand is increasing. Hence, things have had to become more global. It takes very little to disrupt some energy systems. Things are changing, most notably the nature of energy supply and demand and import and export. Norway should try not to leave anybody out in the cold."

The Ormen Lange facilities are nearing completion, and when fully operational will tap into the second largest natural gas field in Norwegian waters.

Geological dangers

In the years leading up to the first excavations, the sea floor was mapped extensively in order to access stability and the possibility of another landslide. It's now widely accepted that there would need to be a long term catastrophic climatic change (essentially a new Ice Age) to destabilize the region. The steep slopes which the pipeline transverses are thought to be stable.

"One of the big issues when we developed this field was to convince ourselves that we could deplete this reservoir of gas without the creation of an unstable situation," said Morten Ruud. "We could imagine, if we created an unstable situation, a new landslide that could create a tsunami, possibly hitting the UK. However, this is not an issue as we used most of the universities around the world to make sure that we had the right calculations."

Photographs unless otherwise credited: Edward Pearcey.

Norwegian Fact File

Country name: conventional long form — Kingdom of Norway, conventional short form — Norway.

Government type: constitutional monarchy.

Population: 4,610,820 (July 2006).

Life expectancy at birth: total population, 79.54 years; male, 76.91 years; female, 82.31 years (2006).

Total area: 324,220 sq km (land, 307,860 sq km; water, 16,360 sq km).

Terrain: glaciated; mostly high plateaus and rugged mountains broken by fertile valleys; small, scattered plains; coastline deeply indented by fjords; arctic tundra in north.

Natural resources: petroleum, natural gas, iron ore, copper, lead, zinc, titanium, pyrites, nickel, fish, timber, hydropower.

Oil production: approximately 3 million b/d.

Oil consumption: 257,200 b/d (2003).

Oil imports: 88,870 b/d (2001).

Proven oil reserves: 9.859bn b (January 1, 2002).

Natural gas production: 73.4bn cu m (2003).

Natural gas consumption: 4.14bn cu m (2003).

Natural gas exports: 50.5bn cu m (2001).

Current account balance: $51.5bn (2005).

Economy: The Norwegian economy is a prosperous bastion of welfare capitalism, featuring a combination of free market activity and government intervention. The government controls the petroleum sector (through large-scale state enterprises).

The country is richly endowed with natural resources — petroleum, hydropower, fish, forests, and minerals — and is highly dependent on its oil production and international oil prices, with oil and gas accounting for one-third of exports. Only Saudi Arabia and Russia export more oil than Norway.

Norway has been saving its oil-boosted budget surpluses in a Government Petroleum Fund, which is invested abroad and now is valued at more than $190bn.

GDP (purchasing power parity): $194.7bn (2005).

GDP (official exchange rate): $257.9bn (2005).

GDP real growth rate: 3.7 per cent (2005).

GDP per capita (PPP): $42,400 (2005).

Source: www.cia.gov.

OPEC's view on the outlook for oil supply/demand

Prediction demand: a job for consumers and producers

At the 7th International Oil Summit in Paris, OPEC's Acting for the Secretary General, Mohammed Barkindo, assessed possible future demands on crude oil, and asked the consuming countries and policy makers to play a greater role in predicting future energy requirements.

During the last 12 months we have witnessed, amongst many other things, some major natural disasters with which the market has had to cope at short notice, escalating geopolitical tensions in some parts of the world, and periods of extreme cold weather in Europe and Asia. Yet the oil market has been well-supplied with crude, which in part is very much as a result of OPEC's reasoned, proactive, and timely actions.

So I would like to take this opportunity to look out beyond the past 12 months, review where the oil market currently resides, and present OPEC's views on global supply and demand issues. This is apt given the recent publication of OPEC's Long-Term Strategy (LTS) document that lays out a coherent and consistent framework for the Organization's future, with the recognition of oil's importance in meeting future global energy demand and its significance to the future socio-economic development of OPEC Member Countries.

As you would expect two of the key issues addressed in OPEC's LTS relate to security of supply and security of demand. Indeed, global energy security is a topic on everyone's lips. The increased visibility of energy security was observed at the recent G8 summit talks in Moscow, where the subject was top of the agenda.


Reuters

Supply and demand links

I believe it is necessary at the outset to stress the strong linkage between security of supply and security of demand. In a nutshell, the two are intertwined and one cannot be achieved without the other. It is not just a question of whether there will be enough supply to meet demand; it is a question of whether there will be enough demand to meet current and predicted supply.

Thus the basis for 'global energy security' is a balanced and mutually supportive supply and demand network. This platform provides the stability from which consumers and producers can develop, build on, and adapt both short- and long-term supply and demand strategies to meet the market's needs.

Talk of supply and demand, for any resource-based industry, initially leads to the question of whether the world has enough resources to meet the levels of demand that have been forecast for the coming decades. OPEC's unequivocal response to this question is undoubtedly: yes. There is no physical shortage of the required resources. This view is

It is necessary at the outset to stress the strong linkage between security of supply and security of demand.

AP Photo

Despite the increasing number of cars in Beijing bicycles are still the main mode of transport, with more than 10 million bikes on the streets.

shared by a wide variety of respected energy industry institutions. Oil is also expected to maintain its leading position in meeting the world's growing energy needs for at least the next two decades. All this leads to the question: how will oil supply and demand develop over the short- and long-term?

Short-term, OPEC projects average world oil demand to grow by 1.5 million barrels a day for 2006. North America, especially the US, will contribute the bulk of demand growth within the OECD countries rising by approximately 0.3m b/d. Demand growth is highest, however, in developing countries where an additional 1m b/d is expected. Almost 80 per cent of this growth is anticipated to fall in the non-OECD Asian countries and the Middle East region.

To meet anticipated increases in demand, OPEC Member Countries have already increased production by around 4.5m b/d since 2002. This has led to a steady rise in OECD commercial oil stocks with inventory levels increasing monthly and as of now sit above their five-year average. To meet continued demand growth and to reestablish a comfortable level of spare capacity, where possible, Member Countries have also accelerated plans to bring on-stream new production capacity.

More increases in capacity have also been planned — and are being implemented — for the rest of the decade. Together with the expected growth in non-OPEC supply and OPEC natural gas liquids, this means that cumulative world liquids production capacity will rise by around 12m b/d or more over the next five years — well above the expected cumulative rise in demand of 7–8m b/d over the same period.

These figures point to significant increases in spare capacity over the coming years. OPEC capacity growth is underpinned by over 100 E&P projects totaling more than $100 billion and is a demonstration of its continued commitment to oil market stability, and security of supply.

Adequate spare capacity

There are some who still question whether upstream production is adequate, given that recent price levels have hovered around the $60–$70 mark, although I should point out that in real terms these prices are below those of the early 1980s. So in response to those who suggest constraints in supply are an upstream conundrum I would like to offer up a short vignette. In September 2005, OPEC moved to make available to the market spare capacity of around 2m b/d, should it be called for, following the US supply disruption. The spare capacity was not required.

Intimation that supply constraints are an upstream concern is not borne out by this recent event. It is more a market perception than based on any reality. Recent OPEC research has sought to enhance the understanding of what is driving current price levels. Since 2004, the traditional approach to assessing the tightness of the oil market, based on oil inventories as an explanation for oil price movements, has not been applicable.

Downstream investments

Despite continual rising inventory levels on the back of OPEC's additional capacity, prices continued to increase in 2004 and 2005. Research points to downstream tightness, as well as the perception of upstream constraints, which has led to increased activity in the futures market and a significant rise in open interests, namely the number of outstanding contracts for which an entity has not yet made an offsetting sale or purchase. Geopolitical concerns obviously play a role too.

OPEC's Member Countries, although traditionally associated more with the upstream, have themselves taken the initiative to invest in downstream projects; this has been on their own and in partnership with others. Currently, 600,000 b/d of new refinery capacity is under construction, with an additional 1.9m b/d planned. However, all of this does not escape the fact that downstream investment is primarily the responsibility of the international oil companies and consuming countries.

Inadequate past investment and increasingly stringent product specifications have been major factors behind this lack of effective global refining capacity and today investments in the refining sector are also coming at a considerably slower pace than is warranted by expected growth in demand. Thus, the downstream sector could very well remain a source of market instability over the coming years.

As well as these downstream concerns, OPEC's LTS underlines a number of challenges that may impact future world oil demand, such as world economic growth and expanding vehicle usage, country demographics, consuming countries' energy and environmental policies, and technology development. Questions over how future non-OPEC production might evolve further compounds the uncertainty regarding how much oil will be needed from OPEC to achieve a supply and demand balance.

These uncertainties are explored in the LTS by three consistent scenarios, the first of which envisages a future following previous oil demand patterns, with the other two exploring futures leading to lower and higher rates of oil demand growth respectively. The difference between the lower and higher rates of oil demand growth out to 2020 is more than 12m b/d.

Global economic growth

Let me initially focus on global economic growth. This is very much a major unknown and an obvious leading driver for future demand. In recent years, extremes of economic activity have demonstrated the difficulty of assessing what might reasonably be expected to occur over the next 20 years. The average rate of world economic growth in 2004, over five per cent per annum, had not been experienced since the early 1970s, while economic growth in 2005 was the third fastest over the past two decades. On the other hand, as recently as 2001, world economic growth was at its lowest for more than a decade, while 1998 also saw weak global growth in the wake of the Asian financial crisis.

In China and India, there are now just 10–20 vehicles per 1,000 inhabitants, compared with more than 500 vehicles per 1,000 inhabitants in the OECD region.

By far the greatest increase in future demand is expected from developing countries. The recent rapid economic growth of countries such as China and India are cases in point. With a combined population approaching 2.5 billion, the two countries have recently witnessed significant demand increases. And in the future demand is expected to rise further.

For example, in China and India, there are now just 10–20 vehicles per 1,000 inhabitants, compared with more than 500 vehicles per 1,000 inhabitants in the OECD region. With the transportation sector expected to be the single most important source of demand increase, there is clearly enormous potential for the transport sector growth in these two countries alone.

It is important to stress, however, that the OECD region is still expected to be consuming more oil than developing countries by 2025. Moreover, there will remain large differences in consumption per head, with developing countries consuming on average five times less oil per person by 2025 compared to the OECD. It will also be critical to monitor whether developing countries follow similar paths to those already taken by developed countries.

Energy poverty

Yet predicted faster economic growth only offers up the overlying story. The underlying one is that of energy poverty. In the developing world, the lack of basic energy services is a severe impediment to the alleviation of poverty. Halving the proportion of people in the world whose income is less than $1 a day was actually the first declared 'Millennium Development Goal'.

Bringing people out of energy poverty is a focus for us all, and the benefits for those involved are obviously huge. For OPEC, the goal of eradicating poverty is close to the heart of OPEC Member Countries, being developing countries themselves. Yet energy poverty eradication can only be achieved through international collaboration so that these consumers have continuous access to the modern energy services many of us take for granted.

In the transportation sector further uncertainty stems from the impacts on oil demand of technology development. For example, conventional internal combustion engines could continue to achieve significant fuel economy improvements, while hybrid vehicles may witness a significant growth.

Demand is additionally driven by demographics. The world's population has risen by almost 10,000 in the last hour and almost 250,000 over the past day. In India over the past 15 years the population has risen by more than 250 million and in China the figure is approximately 160m.

However, as has been witnessed in many developed countries, changing demographic structures may also lead to a drop in the rate of population increases. China is anticipated to have much lower population growth rates in the coming years. All demographic movements, both acceleration and a slowing, can have a significant impact on demand for oil and exactly how changes in demographic structures will affect oil demand is a further uncertainty.

National policies

Oil demand is also greatly affected by consuming countries' policies. Taxation of energy products is often seen not only as a means of raising revenue, but also a means of controlling demand in addressing environment and energy security issues. Policies demonstrate significant discrimination against oil, involving not only higher tax rates, but also subsidies for competing fuels.

Great uncertainty exists in relation to future developments of consuming countries' policies and is considered one of the main constraints in ensuring adequate security of demand. Scenarios developed at the OPEC Secretariat show that such policies alone could potentially introduce demand uncertainty of the order of 5–10m b/d to 2025.

At this juncture, with talk of countries' environmental policies, I feel it is appropriate to add a few thoughts on OPEC

and the environment. Although OPEC is concerned about the impact of environmental policies from consuming countries, this does not alter the fact that it remains committed to working with all parties to achieve sound and balanced environmental policies that do not undermine the ability of developing countries to pursue their legitimate goals of economic and social advancement.

Climate concerns

OPEC also recognises that its Member Countries need to play an active role in addressing climate change concerns and as an Organization welcomes the Kyoto Protocol. Though renewables can and will make a further contribution to the energy mix, their likely limited role for the foreseeable future leads to an expectation of expanded use of fossil fuels, at least over the next few decades.

In this light, there is a need to emphasise the role of cleaner fossil fuel technology. In particular, carbon capture and storage is a promising technology that is cost effective and can allow the continued use of fossil fuels in a carbon-constrained world. In conjunction with enhanced oil recovery, it also offers a win-win opportunity. Steps need to be taken to move this and other advanced and cleaner fossil fuel technologies forward.

Returning to uncertainties, both singularly and taken as a whole these all represent significant challenges. If there is no particular departure from past trends, oil demand might be expected to grow by something of the order of 1.5m b/d annually over the next two decades. Yet supply and demand of OPEC oil is also impacted on by the development of non-OPEC supply. This further complicates the making appropriate and timely investments in OPEC Member Countries. It is anticipated that although non-OPEC supply will continue to expand during this decade and further, it will eventually reach a plateau.

Given the uncertainties, the amount of oil that OPEC is projected to supply over the next 10–15 years could range by as much as 10m b/d or more and somewhere between $230bn and $470bn in investment terms. This vast range in oil demand and investment becomes even more acute when taking into account the long lead and pay back times involved and it must also be noted that uncertainties are overwhelmingly skewed to the downside.

Dialogue and co-operation

The way forward is dialogue and co-operation. To this end OPEC continues to devote much effort in this direction, with dialogue now being widened and deepened in an open and constructive spirit. As you may know, the most recent result of this was the establishment, last year, of energy dialogues between OPEC and, respectively, the European Union, China and Russia. The close involvement with the International Energy Forum and the establishment of its Secretariat in Saudi Arabia demonstrates clearly OPEC's commitment to this ongoing process.

OPEC is committed to 'global energy security', both today and in the future and its most recent actions, both upstream and downstream, bear witness to this. This is no empty statement. It needs to also be recognized that the revenues oil-producing countries receive from petroleum sales are essential for financing their economic and social development.

Planning investment

Yet without the confidence that demand for OPEC's oil will emerge, the incentive to undertake investment can be reduced, which, in turn, can exacerbate concerns over eventual sufficiency of capacity in the future, and hamper the drive towards long-term oil market stability.

Thus, more transparency and predictability in the evolution and implementation of economic, energy and environmental policies in consuming countries, and how they will affect future demand growth is essential. High-quality, timely information underpins well-functioning markets and today there is a particular need for better data on the evolution of demand and stocks.

As an industry we have to be inclusive: to think and plan ahead and to look at the needs of the world market, not just this year and next, but over the next decade and beyond. That is the timescale on which the industry has to think, and to invest. 'Global energy security' and its twin pillars of supply and demand may be checkered with uncertainties, but future market stability resides in all our hands.

Saudi Aramco to supply Sinopec with 1m b/d by 2010

Aramco president and chief executive, Abdallah S Jum'ah.

A memorandum of understanding has been signed between Saudi Aramco and Sinopec to supply the Sinopec group (China Petroleum & Chemical Corporation) and its affiliates with one million barrels of Arabian crude per day by 2010. Saudi Aramco president and chief executive, Abdallah S Jum'ah, and chairman and group president, Sinopec, Chen Tong Hai, signed the MoU in Riyadh in a ceremony attended by senior figures from both organizations.

Currently, China imports almost 20 per cent of its crude oil from Saudi Arabia. This figure is set to rise to 70 per cent within the next few years as Chinese demand is set to increase.

The agreement covers upstream and downstream industries. Specifically, it aims to focus on commercial and technical collaboration, for example in relation to processing and storage, and petrochemical derivatives.

In the downstream sector, the agreement makes provision for the start of work on some projects this year, most notably the Fujian Refining and Ethylene Project. This has been on the drawing board for some years.

Another joint project between Sinopec and Saudi Aramco, the Qingdao Refinery Project, also received a boost as both parties agreed that it should come onstream by the end of 2008. It will be able to process 10 million tons of imported crude oil per year.

For Saudi Aramco, the MoU with Sinopec is a continuation of its strategy to diversify its business development and build upon continual and consistent growth at home and overseas.

Saudi Aramco currently has 85 oil fields with 120 drilling rigs in Saudi Arabia, and is planning to develop more fields and increase that number to 127 rigs by the end of next year.

An oil worker at the Al Basra Oil Terminal, south of Basra.

Middle Eastern energy investment to total $220bn within five years

APICORP — The Arab Petroleum Investments Corporation (APICORP) sees energy investments in the Middle East region and North Africa reaching $220 billion in the next five years. The gas sector will account for $103bn of that total.

APICORP predicted that the region's Arab states will spend $80bn on the oil sector between now and 2010, with $36bn allocated for exploration and development. Spending of over $6bn would be required for the mid-stream sector, with almost $40bn needed for new refineries.

The report includes Saudi Arabia, Qatar, Kuwait, Algeria, the United Arab Emirates, Libya, Oman, Egypt, Syria, Yemen, Bahrain, Iraq, Sudan, Tunisia, Morocco, Jordan, Lebanon and Mauritania.

Saudi-based APICORP is an inter-Arab joint stock company established in accordance with an international agreement signed and ratified by the governments of the ten Member States of the Organization of Arab Petroleum Exporting Countries (OAPEC).

APICORP is owned by ten member states of OAPEC, and provides funds for oil and gas related projects in Arab states.

APICORP estimated that Arab investment in new energy projects in 2005 was $39bn, a level of investment which it claims is equivalent to four per cent of Arab GDP and 18 per cent of Arab gross accumulation of fixed capital for 2005.

In related news, OPEC's oil output rose 140,000 b/d in April to the highest monthly level this year as Iraq and Nigeria boosted exports. Output from OPEC averaged 29.76 million b/d in April, up from 29.62m b/d in March.

in brief

Norway April oil output falls to 2.22m b/d

Reuters — Norway's oil production fell to a preliminary 2.22 million b/d on average in April from 2.44m in March due to maintenance work, said the Norwegian Petroleum Directorate. Production of natural gas liquids and condensate rose to a preliminary 480,000 b/d in April from 467,000 b/d in March, the directorate said. Norway is the world's third biggest oil exporter after Saudi Arabia and Russia.

OPEC — higher energy prices could curb growth

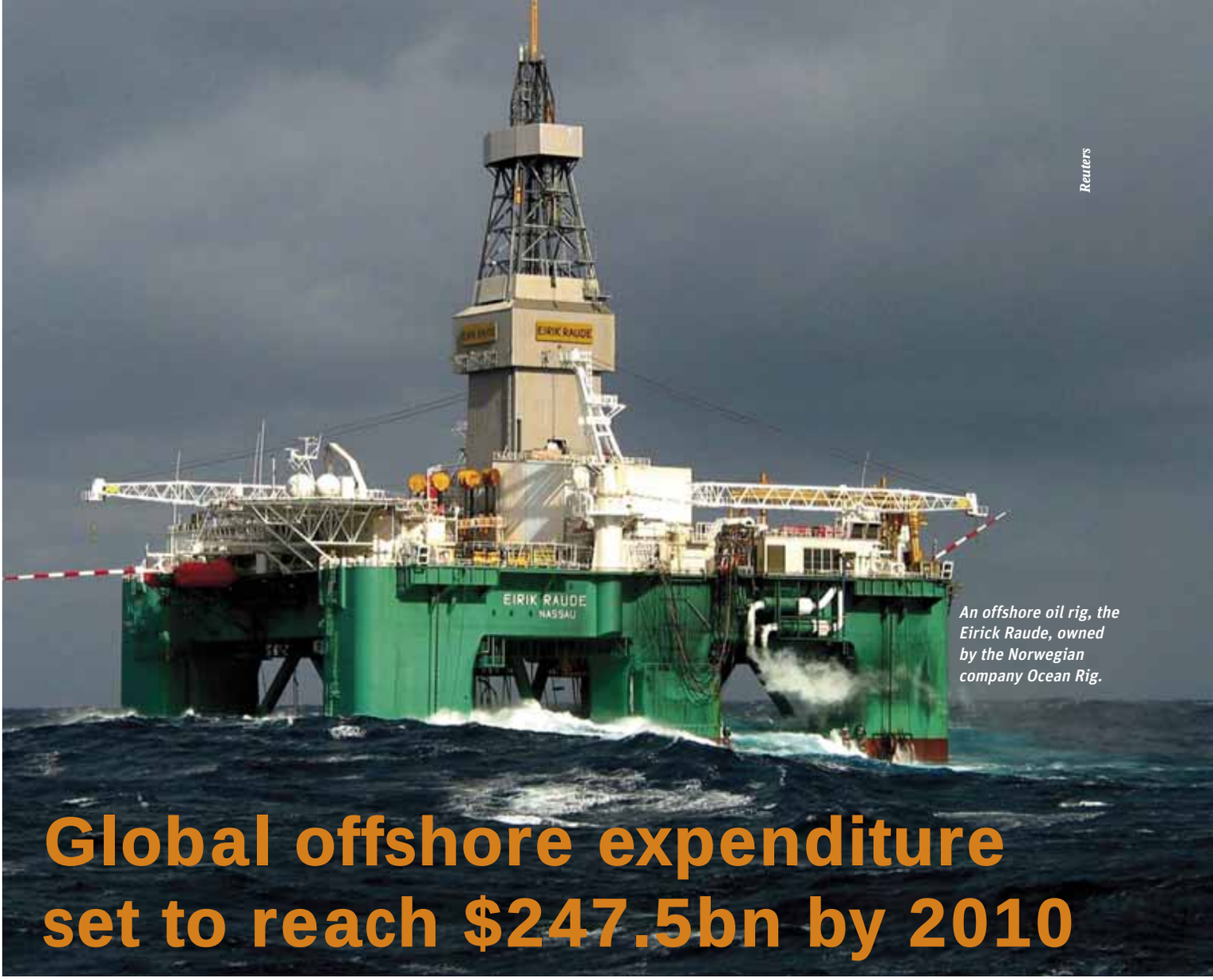
Reuters — OPEC has warned that higher energy prices could curb global growth and trimmed its oil demand growth forecast. "Sustained higher energy prices may pose a risk to growth, especially in economies where consumer budgets face pressure from rising interest rates," said OPEC in its Monthly Oil Market Report. The Organization has revised downwards its 2006 world oil demand growth forecast to 1.43m b/d from 1.46m b/d in last month's report. It also revised upwards the call on its crude for this year to an average of 28.5m b/d, up 100,000 b/d compared with its March report.

Kazakhstan to pipe 4.5m t of oil to China in 2006

Reuters — Kazakh crude flowing through the landmark Kazakh-China pipeline will supply 4.5 million tonnes this year to the world's number-two oil user, said a Chinese industry official. The new supply, equivalent to about four per cent of China's total crude oil imports last year, is part of Beijing's plan to boost supply security by raising imports under long-term deals with major suppliers and reduce purchases from the red-hot spot market.

Indonesia plans 300,000–400,000 b/d more oil output

Reuters — Indonesia plans to counter its falling oil output with a 300,000–400,000 b/d production increase in the next four years, said the country's OPEC Governor, Dr Maizar Rahman. Rahman said production was around one million b/d and was set to remain stable for the rest of the year. Some of the expected extra oil will come from the Cepu field, the subject of a protracted dispute between Exxon Mobil and Indonesia's Pertamina over operatorship.



Reuters

An offshore oil rig, the Eirick Raude, owned by the Norwegian company Ocean Rig.

Global offshore expenditure set to reach $247.5bn by 2010

Douglas-Westwood, a UK-based energy and marine research company, estimates that total global spending in the offshore oil and gas sector will reach $247.5 billion in 2010, compared with the $192.9bn expected by the end of this year.

Furthermore, total offshore oil and gas production is predicted to hit 53 million boe/d by 2010, compared with 43m boe/d currently.

The research company, which conducts market survey, research, analysis and strategy services for clients all over the world, has predicted that by 2010 we will see operational expenditures of $127bn per year, compared with just $83bn per year by the end of 2006.

There will also be a growth in floating production systems, subsea production systems (particularly in shallow water), and processing hardware.

However, despite the increased opportunities for offshore development, the report cited sector vulnerability after 2010 due to economic and political instability in certain regions, coupled with the generally higher investment needed to explore new areas.

As such, the overall growth in offshore activity will not be across the board and will vary considerably from region to region, with West Africa seeing an unusually high level of activity and growth, particularly in deepwater exploration.

Deepwater oil production currently accounts for about ten per cent of total offshore oil and gas production, but spending to develop deepwater sites is expected to reach $65bn by 2010, an almost 50 per cent increase on the current figure.

This will also be a sector dominated by companies willing to specialize in smaller fields found in deeper water, often in colder regions.

Douglas-Westwood also pointed to the growth of offshore gas (and the gas-to-liquids industry) to satisfy a growing global gas market as something that will encourage a movement offshore into fields that are known but are yet to be exploited.

Exploration opportunities grow offshore Vietnam

Life goes on at a petrol station in Hanoi.

Chevron Vietnam, via affiliate Chevron Vietnam Phu Khanh (Block 122), has signed a 30-year production sharing contract with Vietnam Oil and Gas for Block 122 offshore eastern Vietnam.

Chevron Vietnam now holds a 50-per cent interest in the venture. Petronas Carigali Overseas (Petronas) holds the remaining 50 per cent, and in the event of a commercial discovery, Petro Vietnam, via an affiliate, has the option of obtaining up to a 20-per cent participating interest.

The Block 122 covers 6,981 square kilometres and lies in the Phu Khanh basin. The water depth ranges from 50 to 2,500 metres.

"Chevron is very pleased to work with our partners and the Vietnamese government to help address the country's growing energy demand," said the managing director, Chevron, and CEO for the Asia South Strategic Business Unit, Steve Green.

"This prospective area is a promising opportunity," continued Green, "and if commercial quantities of petroleum are found, it will provide additional opportunities to develop petroleum resources that could be used to help satisfy the growing Vietnamese economy." Vietnam relies on imported oil products due to its current lack of major crude oil refineries. Chevron Vietnam was selected as the successful bidder for the exploration license round in October 2005.

Meanwhile, Santos, an Australian oil and gas exploration and production company and one of Australia's largest gas producers, has entered Vietnam with an agreement to obtain an interest in an exploration site off Vietnam's southern coast, currently held by Premier Oil.

Santos International will hold a 37.5 per cent interest in the Blocks 12E and 12W production sharing contracts after funding part of a two-well drilling programme. The blocks cover 5,160 sq km in the Nam Con Son basin.

"This is an important step for Santos as we continue to broaden and build our international exploration interests," said managing director, Santos, John Ellice-Flint. "The Nam Con Son Basin is a proven hydrocarbon province and we are pleased to be teaming up with an established operator with excellent regional experience."

in brief

EIA – US refiners up rates but gasoline stocks fall

Reuters – US refiners cranked up fuel production in April as the industry restarted processing units from a prolonged stretch of maintenance and repairs, said the US government. The boost in refinery activity contributed to a small decline in commercial crude inventories, but failed to prevent the eighth consecutive weekly drop in gasoline supplies, the Energy Information Administration said. US commercial crude inventories fell 200,000 barrels to 345m b in the week to April 21. Gasoline supplies dropped 1.9m b to 200.6m b.

Kuwait invites companies to bid on $6.3bn refinery project

Platts – State refiner the Kuwait National Petroleum company (KNPC) has officially asked pre-qualified companies to pick up their invitations to bid for a project to build a new 615,000 b/d refinery valued at around $6.3 billion. The notice came after the April 23 approval by the Kuwait's tendering board, known as the Central Tenders Committee, of the pre-qualified companies that have shown interest in competing for the project.

China March crude oil imports up 10.9 per cent

Reuters – China imported 12.73 million tonnes of crude oil in March, 10.9 per cent more than a year earlier. Crude oil imports for the first three months of the year were up 25.2 per cent at 37.13m t, after a particularly strong leap in January. Light diesel imports in March totalled 23,800 t, 16 per cent less than in the same month of 2005, while fuel oil imports also fell 5.6 per cent to 2.22 m t but kerosene imports soared to 580,000 t.

Kuwait needs at least $64bn for energy sector

Reuters – Kuwait needs to invest at least $64 billion in coming years to develop its energy industry and boost its oil output capacity, a senior Kuwaiti oil industry official has said. "We will need at least $64bn for our oil projects," said vice managing director, Kuwait Petroleum Corporation, Nabeel Boresly. He said the figure was conservative and may have to be increased by 10 to 15 per cent. Boresly reiterated Kuwait's plan to raise its crude output capacity to 4m b/d by 2020 from about 2.6m b/d now.

BP sees profits down ...

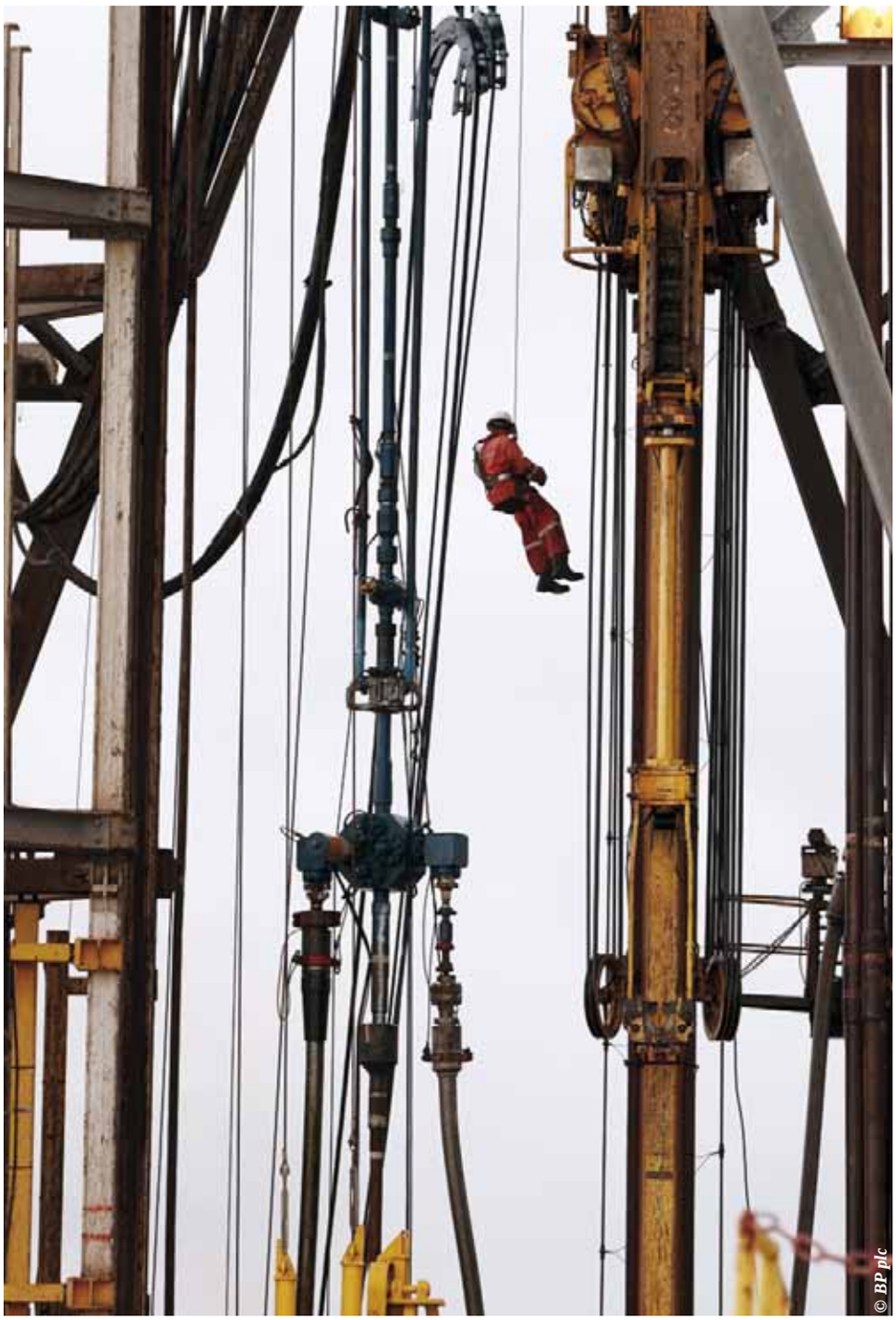
BP has seen profits fall by 15 per cent in the first quarter of 2006, down to $5.6 billion from $6.6bn at the same point last year, blaming a shutdown at its main Texan refinery in the wake of Hurricane Katrina, and an increase in tax levels.

BP reported its Texas City refinery, still the largest in North America, is currently running at 43 per cent of its 460,000 b/d installed capacity. The company said the problems at the refinery may cost it as much as $800 million in revenue.

Moreover, the company reported that the closure of several platforms in the Gulf of Mexico had slowed its global production to 4.035m boe/d, compared with 4.101m boe/d at the same point last year. There were also production shortfalls in Russia due to extremely cold weather.

Staying in Russia, higher tax charges also hit the company. The region which has given BP so much growth over the last two years imposed an 18 per cent tax hike on the world's second-largest oil company by market capitalization. Overall tax payments more than doubled in Russia to reach $2.9bn.

However, overall revenue for the company jumped by 23 per cent to reach $67.1bn, with the current oil price being seen as primarily responsible.



A worker abseils down the 180 ft high drilling derrick on the Jack Ryan drill ship, located in block 31, Angola.

… but Shell sees rising income

Chief executive, Royal Dutch Shell, Jeroen van der Veer.

Royal Dutch Shell has revealed that its net income has risen 12 per cent in the first quarter of 2006 to approximately $6.1 billion, a figure slightly above what most analysts had predicted.

However, geopolitical issues meant production fell three per cent to 3.7 million boe/d. The company expects to reach 3.8m boe/d in 2007, and its capital spending is set to reach $21bn in 2007 from $19bn in 2006.

"Upstream, we are committed to increase our production to a possible 4m boe/d in 2009," said the chief executive, Royal Dutch Shell, Jeroen van der Veer, "and we have record investments for our future in hand. Downstream, we are making selective growth investments. Our downstream businesses should generate over $1bn of further improvements by the end of this decade."

Van der Veer pointed to long term investments that could open up resources totaling 20bn boe, with the Anglo-Dutch company looking to mature around 50 projects, all of which will start by the end of 2009. The company is also looking at developing less conventional hydrocarbons, such as oil sands and gas-to-liquids, to help drive replacement of production.

The exploration of conventional fuel sources continues however, with the Shell Nigeria Exploration and Production Company (SNEPCO) announcing the discovery of new oil and gas in the Bonga offshore field. The Bonga field has a current output level of 200,000 b/d and is estimated to hold a reserve of 1bn b.

The Bonga North 2X well is located in the north of the Bonga main field, and was spudded on October 25, 2005, and drilled in 1,019 metres of water.

The exploration well reached a total depth of 4,135 m in December 2005, and penetrated about 90 m of hydrocarbon bearing sands in several intervals. Shell has not given any details on the volume of the oil reserves now available.

in brief

EIA – Russia to supply less oil than expected

Reuters – Oil supplies from Russia will fall short of expectations over the next four years, adding to supply concerns, the UK's Financial Times has reported, citing IEA executive director, Claude Mandil. He told the newspaper that expectations for growth in Russian oil supply were too optimistic, and OPEC would have to make up the difference.

Sudan opens oil pipeline able to pump 500,000 b/d

Reuters – Sudan's oil minister has inaugurated the country's newest pipeline, which will raise oil production to 500,000 b/d and provide a structure to potentially double output in the coming year. Mohamed Salih Osman, the project manager, said that initially 88 oil wells would provide between 160,000–180,000 b/d in the 1,400 km (870 mile) pipeline from Upper Nile in Sudan's south-east to the eastern Port Sudan.

SABIC reports 17 per cent drop in Q1 net profits to $1.1bn

Platts – The Saudi Basic Industries Corporation (SABIC) has announced first-quarter 2006 profits of $1.1 billion, a 17 per cent decline compared to the same period in 2005, and a seven per cent decrease from the preceding quarter. The lower profits were attributed to a ten per cent decrease in global product prices, coupled with an increase in some feedstock prices, although sales were up 14 per cent in Q1 2006 from the corresponding period in 2005.

Venezuela's PDVSA eyes small refinery in Dominica

Platts – Venezuela is considering building a small refinery on the island of Dominica to supply local Caribbean markets, said a director at PDVSA. "We're thinking of Dominica, a refinery of 10,000 b/d in a first phase there, producing gasoline," said refining chief, Alejandro Granado. The plant would fall under Venezuela's PetroCaribe initiative, which includes supplying oil at preferential terms to more than a dozen Central American and Caribbean countries as well as building oil storage and processing infrastructure.

OPEC Fund hosts meeting of Heads of Arab aid institutions

OFID Director-General, Suleiman J Al-Herbish, who opened the conference.

'Co-ordination and co-operation' was the theme of the 10th Heads of Institutions Conference of Arab Funds, the Islamic Development Bank, and the OPEC Fund for International Development (OFID), which was hosted by OFID in early May.

In a communiqué released after the meeting, the heads highlighted the high degree of co-operation and co-ordination that was reflected in the operations of their institutions in providing assistance amounting to $70 billion for 130 partner countries.

They reiterated their commitment to continuing the drive toward promoting development and ensuring the effective delivery of their aid to partner countries. They also reaffirmed the institutions' commitment to assisting partner countries realize the Millennium Development Goals (MDGs).

The eight MDGs, which include cutting by half the global level of extreme poverty and slowing the spread of HIV/AIDS within ten years, have been agreed upon by all countries and most of the world's major international institutions.

Delegates from the attending institutions assemble at the OFID headquarters in Vienna.

In attendance were chief executive officers and senior representatives of the Arab Bank for Economic Development in Africa (BADEA); the Arab Fund for Economic and Social Development (Arab Fund); the Arab Gulf Programme for United Nations Development Organizations (AGFUND); the Arab Monetary Fund (AMF); the Islamic Development Bank (IsDB); the Kuwait Fund for Arab Economic Development (Kuwait Fund); the Saudi Fund for Development (Saudi Fund), and OFID.

Technical assistance

The heads recognized partner countries' need for technical assistance to enhance capacity-building, and pledged to continue to offer assistance, as far as possible, for this purpose by financing projects and programmes.

They expressed satisfaction at the ability of the institutions to respond to changing circumstances and commended the expansion of their activities in the social sector and micro-credits towards alleviating poverty. The meeting welcomed the initiative of Saudi Arabia's Prince Talal Bin Abdulaziz Al Saud to launch an Arab African Fund for boosting the micro-credit industry in the Arab World and Africa.

In acknowledging the prominent role of the private sector in development and in the creation of new employment opportunities, the heads praised the programmes designed by some members of their group to provide financing for the private sector initiative.

They also recognized the important contribution made by the AMF, the Arab Fund and the IsDB in trade finance, emphasizing the need for appropriate arrangements to be made at an international level to enable developing countries realize their full potential in global trade.

The Conference, which began with an opening statement by OFID Director-General, Suleiman J Al-Herbish, was divided into two sessions. In the first session, the Arab Fund led a discussion on 'The experience of the group in co-ordination and co-operation: objectives, achievements and challenges.'

This was followed by the theme 'Deepening the process of co-ordination and co-operation in the post-approval stages of the project cycle' which was introduced by the Kuwait Fund. Session one concluded with the IsDB leading talks on 'Broadening the scope of co-ordination and co-operation to new activities.'

During the second session, a debate on 'Knowledge of economic developments in Arab countries and its management (the Partnership for Arab Development Portal),' was led by the AMF. This was followed by a Saudi Fund-led discussion on 'Evaluating the development on the ODA arena.' The session finished with a topic on 'The new development paradigm: where do we stand?' which was introduced by AGFUND.

April

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

Crude oil price movements

OPEC Reference Basket[1]

The petroleum market began the month on an upward trend due to revived fear of a supply shortfall amid ongoing political tensions in both the Middle East and West Africa. Concerns over a depletion of refined products as refineries underwent heavy seasonal maintenance supported the bullish sentiment. The Basket closed more than five per cent or $3 higher at $59.08/barrel on March 3. Steady OPEC output amid a call to keep quotas unchanged at the March Meeting of the Conference helped the market to turn bearish. The Basket slipped by $2.90/b or nearly five per cent on average to settle at $56.18/b on March 10. However, concern over gasoline supply in the West as more refineries moved into the maintenance season amid prolonged light sweet grade supply disruptions from Nigeria revived market jitteriness once again. The lower April programme from Europe amid a widened Brent/Dubai spread preventing crude flows into Asia inspired the renewed upward trend. While ample supply in the USA kept a cap on the rally, concern over stringent gasoline specifications prevented any further decline. The Basket closed up $2.29/b or four per cent to stand at $58.47/b on March 17.

In the fourth week, the sentiment eased on ample crude oil supply amid the expectation of lower global demand growth. Concern over light sweet crude supply maintained the market's bullish sentiment as some US refineries returned from turnaround. The Basket eased a marginal 42¢ to close at $58.05/b on March 24. In the final week of the month, the bullish sentiment gained momentum on developments in the Middle East and West Africa, as well as an expected rise in demand as US refineries returned from turnaround. The month ended with a hefty drop in the US gasoline stocks. Hence, in the final week of the month, the Basket rallied over $3 or five per cent to close at $60.64/b. The monthly average was $57.86/b, representing a gain of $1.24 or over two per cent.

During the first week of April, the bullish momentum was sustained by attention turning to the geopolitical arena. The Basket reached a new record-high of $65.02/b on April 17 with month-to-date average at $62.67/b (see **Table A**).

US market

The US crude oil market was pressured by outages in Nigeria, although rising crude oil stocks amid sluggish refinery demand helped to calm market sentiment. However, concern over gasoline supply during the driving season narrowed differentials for the light crude. The WTI/WTS (West Texas Intermediate/West Texas Sour) spread weakened in the first week to $7.60/b, compared to a peak of over $10/b and an average of $8.62/b in the previous month. The resumption of some refineries in the US Gulf Coast stepped up demand for sour crude. Hence, the sweet/sour spread for light crude narrowed further in the second week to average $6.28/b. Continued outage from Nigeria forced refiners to take alternative grades as more CDUs returned to production amid the shift towards grades with higher gasoline yields. Thus, the WTI/WTS spread narrowed to $5.81/b.

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

European market

Differentials for North Sea crude firmed early in the month on strong demand amid limited availability. However, closed transatlantic arbitrage depressed differentials by the end of the first week. Continued high OPEC output amid the prospect of the return of Nigerian production calmed the market in the second week. However, lower availability in the April loading programme kept differentials for North Sea grades firm in the third week amid the eastward flow of some North Sea crude. The return of oil fields from maintenance as buyers moved to the sideline kept differentials steady. In the final week, differentials were underpinned by stronger buying interest as some refineries returned from turnaround. The price differential strengthened at the end of the month on reduced April production amid high outright prices in Asia prompting some barrels to flow eastward.

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

	Feb 06	Mar 06	2005	2006
OPEC Reference Basket	**56.62**	**57.86**	**43.29**	**57.67**
Arab Light[1]	56.54	57.53	42.29	57.51
Basrah Light	52.32	54.01	40.82	54.00
BCF-17	45.90	49.52	na	47.86
Bonny Light[1]	62.12	63.80	48.01	63.36
Es Sider	59.13	60.22	44.90	60.39
Iran Heavy	55.39	56.54	40.17	56.36
Kuwait Export	55.01	55.79	39.72	55.78
Marine	59.06	59.39	42.21	59.44
Minas[1]	61.35	62.30	47.67	62.35
Murban	61.77	62.33	45.75	62.28
Saharan Blend[1]	61.59	62.97	47.93	62.90
Other crudes				
Dubai[1]	57.61	57.82	41.25	58.00
Isthmus[1]	53.87	56.85	42.94	56.47
Tia Juana Light[1]	49.98	52.27	39.41	52.52
Brent	60.12	62.08	47.62	61.79
West Texas Intermediate	61.49	62.82	49.84	63.25
Differentials				
WTI/Brent	1.37	0.74	2.21	1.46
Brent/Dubai	2.52	4.27	6.38	3.79

Note: As of the third week of June 2005, the price is calculated according to the current Basket methodology that came into effect as of June 16, 2005. BCF-17 data available as of March 1, 2005.
1. Old Basket components: Arab Light, Bonny Light, Dubai, Isthmus, Minas, Saharan Blend and T J Light.
na not available
Source: Platt's, direct communication and Secretariat's assessments.

Far East market

The market for Middle Eastern crude began the month under pressure from heavy maintenance in Asia amid the eastward flow of some rival grades such as Algerian and North Sea crude. May Oman traded at a 5–10¢/b discount to MOG in the first few days of March. In the second week the sentiment continued to weaken on slow demand and the flow of arbitrage barrels as the Brent/Dubai spread narrowed to $2.20/b. May Oman was discussed on bid/offer at a 15–6¢/b discount to MOG.

As the heating season drew to a close in the north-east Asian region, kerosene-rich crude remained under pressure with May Murban slipping from an early 5¢ premium to a 10¢/b discount to ADNOC's official selling price (OSP). In the third week, persistent slow demand helped May Oman to continue trading at discount of 5–10¢/b to MOG, while Murban was offered at a 20¢/b discount amid rising production. However, the Brent/Dubai spread continued to widen to $4.81/b preventing price differentials from slipping further.

May Murban was also steady at a discount of 20¢ to the official selling price on the prospect of a cut in production of some 100,000 b/d in May due to maintenance work. In the final week, the market sentiment for the Mideast crude remained weak on a flow of rival western crude and slow refinery demand amid lingering May barrels. May Oman was trading at a steeper discount of 15¢/b to MOG with Murban at a discount of some 30¢/b to OSP. Nonetheless, emerging June trade for both grades firmed on the prospect that cargoes will arrive as refineries return from seasonal turnaround.

June Oman was assessed between a 2¢ discount and a 5¢/b premium to MOG amid a widening Brent/Dubai spread which reached $6.12/b. The monthly average Brent/Dubai spread was $4.27/b, up from $2.52/b in February.

Asian market

The Asia/Pacific regional crude rose to a record-high premium due to direct burning, although the heavy maintenance programme kept the market under pressure. Malaysia's April Tapis traded at a $2/b premium to Asian Petroleum Price Index, about $1 lower than the last March deal. Nevertheless, a cyclone in the Pacific which shut in production along the Australian coast helped the market to remain firm but balanced by weak demand for naphtha-rich crude. Uncertainty over Nigerian supply was somewhat offset by refinery maintenance work in the east.

The market strengthened on limited regional May supply amid the shutdown of a nuclear power plant prompting more direct burning crude. However, the flow of West African crude for April arrival prevented premiums from escalating further. Another in a series of cyclones halted Australian production and pushed the premium to firm, although slower demand for naphtha by north-east Asian petrochemical producers, amid surplus naphtha supplies from south-east Asian producers, kept the market calm at the end of the month.

The tanker market

After showing a decline of more than 2.4m b/d in February, OPEC spot fixtures enjoyed some recovery with an increase of 400,000 b/d or 2.8 per cent to reach 311m b/d in March, driven by eastbound chartering. Nevertheless, OPEC spot fixtures remained 1m b/d below the March 2005 level. Despite this recovery, the share of OPEC in total spot fixtures declined from 66 per cent in February to 63 per cent in March, meaning that spot fixtures from countries outside OPEC saw higher increases. Middle East/eastbound fixtures increased by 300,000 b/d or 4.6 per cent to average 5.6m b/d, while westbound fixtures dropped by 200,000 b/d or almost ten per cent to stand at 1.7m b/d due to lower activity from the USA, supported by high stocks and ongoing refinery maintenance. Compared to a year earlier, both Middle East/east- and westbound fixtures were 100,000 b/d lower.

The share of Middle East spot fixtures in total spot fixtures remained stable at 40 per cent with eastbound at 27 per cent and westbound at 13 per cent. However, non-OPEC spot fixtures surged by more than 1m b/d, the highest growth in almost one year to average 7.6m b/d, which corresponds to a 600,000 b/d year-on-year growth.

Following the growth in OPEC and non-OPEC fixtures, total spot fixtures averaged 20.7m b/d, a gain of 1.4m b/d from the previous month. Preliminary estimates put OPEC sailings at 24.2m b/d, which corresponds to 1.3m b/d below February level. This decline is explained to some extent by the drop in OPEC fixtures displayed in the previous month. Sailings from the Middle East retreated by around 900,000 b/d to 17.7m b/d. Arrivals increased in most of the main importing regions, except for the Euro-Mediterranean countries where they fell 500,000 b/d to 4.5m b/d.

Arrivals at US Gulf/East Coasts and the Caribbean, as well as in Japan continued to increase for the second consecutive month to average 12.3m b/d and 4.8m b/d, respectively, which corresponds to 1m b/d and 200,000 b/d above February levels. Arrivals in North-West Europe improved by 800,000 b/d or 11 per cent, the highest increase in more than one year, to stand at around 8.5m b/d. Compared to a year earlier, arrivals at US Gulf/East Coasts and the Caribbean were 2m b/d higher while arrivals in the other regions were around 500,000 b/d.

Global oil demand appears to have grown by almost 1m b/d or 1.2 per cent to average 83.1m b/d in 2005.

World oil demand

Estimate for 2005

With preliminary figures available for the first time for the whole of 2005, global oil demand appears to have grown by almost 1m b/d or 1.2 per cent to average 83.1m b/d in 2005. The estimated growth is almost identical to the figure presented in the last report; however, on a quarterly basis some minor adjustments have been made based on historical data revisions. Thus, 1Q06 absolute world demand was raised a slight 40,000 b/d to 83.8m b/d, while 2Q06 figures were adjusted up by 100,000 b/d to 82.2m b/d. The 3Q06 and 4Q06 figures also suffered minor revisions of 40,000 b/d to 82.7m b/d and 50,000 b/d to 83.8m b/d, respectively.

On a regional basis, OECD growth of 200,000 b/d made up less than one-fifth of total global demand growth, while developing countries (DCs) accounted for more than three quarters of total world oil demand growth. China's apparent demand appears to have risen by a disappointing 0.3 per cent in sharp contrast to a GDP growth rate of nearly ten per cent.

Forecast for 2006

World oil demand is forecast at 1.4m b/d or 1.7 per cent to average 84.5m b/d, marginally lower with respect to the growth estimate in the last report. The slight downward revision to this year's growth can be traced back to disappointing consumption in the USA during the first three months of 2006 partially offset by above trend growth in Western Europe, especially in January. Although complete information for China's apparent demand for the 1Q06 is not yet available, preliminary trade and production figures point to very volatile consumption, with demand appearing to have surged by around 20 per cent in January but increasing by only three per cent in February.

The latest EIA figure showed a substantial contraction in 1Q06 demand in the USA. The figures indicate that total petroleum supplies dropped by more than 400,000 b/d or two per cent in January only to register a minor y-o-y rise of three per cent in February. The weekly data, which is available for the period January–March, points to a fall of 200,000 b/d or nearly one per cent for the 1Q6. Warm weather, which affected heating oil demand, along with lower fuel oil consumption on inter-fuel switching with gas, could in part explain the drop in consumption; nonetheless, with the economy expected to grow at a consensus rate of by four to five per cent during the 1Q06, it is clear that there is a dichotomy between economic and demand growth possibly attributable to high domestic petroleum product prices.

OECD

OECD demand is projected to grow by 400,000 b/d or 0.8 per cent to average 50m b/d for the whole of 2006. Naturally, the lion's share of the growth is expected to originate in the North American region, with US consumption accounting for nearly 80 per cent of the growth. As was the case in previous years, OECD countries combined demand growth is expected to be around one-quarter of total global demand despite the fact that the group accounts for more than three-fifths of world demand. According to the latest data available for the month of January 2006, inland deliveries of petroleum products

fell by 200,000 b/d or 0.5 per cent y-o-y. The sizeable drop in demand occurred in the North American region where oil requirements fell by nearly 600,000 b/d or 2.4 per cent with respect to January. On the other hand oil demand in Western Europe and the OECD Pacific regions rose by 400,000 b/d or 2.9 per cent and 60,000 b/d or 0.7 per cent y-o-y in January partially offsetting the decline in the North American region. As indicated earlier, total petroleum product supplies in the USA fell by 170,000 b/d or nearly one per cent during 1Q06.

Developing countries

On a regional basis, the Middle East and non-OECD Asia are expected to account for 27 per cent and 39 per cent of the total growth in oil demand with Latin America and Africa contributing 19 per cent and 14 per cent, respectively. The quarterly breakdown indicates a y-o-y growth of nearly 600,000 b/d during the 1Q06 followed by a 400,000 b/d rise during the 2Q06. Growth in the 3Q06 and 4Q06 is estimated to reach 600,000 b/d and 700,000 b/d, respectively. The rapid deceleration in oil demand growth rates in non-OECD Asian countries observed in the second half of 2005 – when demand rose by only 1.7 per cent and 0.1 per cent y-o-y in the 3Q06 and 4Q06 compared to more than four per cent during the first half – seems to have extended to the beginning of 2006.

World oil supply

Non-OPEC

Estimate for 2005

Non-OPEC supply in 2005 is expected to average 50.1m b/d, representing an increase of 200,000 b/d over 2004. Baseline revisions to the 2004 and 2005 estimates have resulted in a slight adjustment to the level of non-OPEC supply, but not to growth.

Revisions to the 2004–05 estimate

The full year estimate for 2004 has been revised up 7,000 b/d to account for a higher baseline than previously assessed. For 2005, the level of non-OPEC supply has also been revised up 29,000 b/d due to the impact of historical revisions in the UK, and the inclusion of actual data for India, Vietnam, Malaysia, Syria, Yemen and China.

Forecast for 2006

Non-OPEC oil supply for 2006 is expected to average 51.5m b/d, an increase of 1.4m b/d over 2005, broadly unchanged from the last assessment, but the impact of historical revisions and actual data, recently announced maintenance plans, unscheduled shutdowns, as well as adjustments to project schedules have resulted in a material revision in the quarterly breakdown. In particular, the outlook of the USA, Canada, Norway, UK, Australia, Philippines, Angola, Azerbaijan and China have been adjusted. Major uncertainties remain in the second half including the expected path of recovery for the US Gulf of Mexico (GoM), and a potential slide in the start up of some fields from 4Q06 to 2007.

OECD

OECD oil supply is expected to average 20.5m b/d, representing an increase of 120,000 b/d versus the previous year and unchanged from last month's report. The outlook for the US and Australia has been revised slightly down, whilst that of Canada has been revised upward.

USA

US oil supply is expected to average 7.4m b/d in 2006, an increase of 130,000 b/d versus 2005, but slightly lower versus the last assessment. On a quarterly basis, US oil supply is expected to average 7.2m b/d, 7.4m b/d, 7.4m b/d, and 7. 7m b/d in 1Q06, 2Q06, 3Q06 and 4Q06, respectively. The revision reflects a slightly worse expectation for the recovery of the US GoM in 2Q06 and 3Q06. Assumed GoM losses in 2Q06 have been adjusted to 280,000 from a previous estimate of 200,000 b/d while for 3Q06 losses are now assumed at 100,000 b/d compared to a previous 50,000 b/d.

The second reason for the revisions is related to the problems in Prudhoe Bay gathering centre No 2, which averaged 100,000 b/d in March. Some of these losses will extend into April, but recovery is under way with over 70 per cent of the lost output back on line. Preliminary data puts average US oil supply at 7.2m b/d in the 1Q06, reaching 7.2m b/d in March. The latest weekly preliminary data also indicates that in the first few days of April, US supply averaged 7.2m b/d. It is important to highlight that despite the lower than expected recovery in the US GoM, oil supply continues to improve due to the combined effect of new start ups and more drilling in conventional matured fields. Looking forward, the greatest uncertainty/risk remains the path of recovery of GoM production, the impact of new storms, and a potential slide in the start up of the Atlantis field from 4Q06 to 2007, which remains unconfirmed.

Non-OPEC oil supply for 2006 is expected to average 51.5m b/d, an increase of 1.4m b/d over 2005.

Mexico and Canada

Mexican oil supply is expected to average 3.8m b/d in 2006, flat from last year and broadly unchanged from the previous month. The last data available indicates that total oil supply averaged 3.8m b/d in February, a level which is likely to be maintained in March.

Western Europe

Total oil supply in Western Europe is expected to average 5.4m b/d in 2006, a drop of 300,000 b/d versus 2005 and broadly unchanged from last month. Recent announcements indicate

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

	1Q	2Q	3Q	4Q	Year	Growth y-o-y
2002	5.14	5.84	5.85	5.49	5.58	0.99
2003	5.87	6.75	6.72	6.61	6.49	0.91
2004	7.17	7.30	7.38	7.37	7.31	0.82
2005	7.49	7.73	7.81	7.89	7.73	0.42
2006[1]	7.75	8.24	8.25	8.10	8.09	0.36

1. Forecast.

Table C: OPEC NGL production, 2002–06

m b/d

2002	2003	2004	04/03
3.60	3.71	4.02	0.31
1Q05	**2Q05**	**3Q05**	**4Q05**
4.13	4.18	4.23	4.28
2005	**05/04**	**2006**	**06/05**
4.21	0.19	4.50	0.29

that maintenance levels will be higher than previously assessed, resulting in a significant re-distribution of the quarterly production levels in Norway and the UK, and OECD as a whole. Norwegian oil supply is expected to average 2.8m b/d to 2.9m b/d in 2006, a drop of 110,000 b/d versus last year and broadly unchanged versus last month.

On a quarterly basis, oil supply is expected to average 2.9m b/d, 2.9m b/d, 2.8m b/d, and 2.9m b/d, in 1Q06, 2Q06, 3Q06 and 4Q06, representing a revision of down 78,000 b/d, up 20,000 b/d, up 89,000 b/d, in the second, third, and fourth, respectively. On a monthly basis, maintenance levels are expected to be in the order of 250,000 b/d and 300,000 b/d in 2Q05 and 3Q06, respectively. January and February production averaged 2.9m b/d in each month.

Asia Pacific

Oil supply in the Asia Pacific region is expected to average 580,000 b/d in 2006 or 22,000 b/d lower than previously thought. The region has come under pressure due to intense cyclone activity which has resulted in the shutdown of oil and gas production during January, March and April in Australia.

Developing countries

Oil supply in the DCs is expected to average 13.3m b/d, an increase of 700,000 b/d over 2005 and broadly unchanged from last month's report. The main changes in the outlook took place in India, Vietnam, Argentina, Angola and Gabon all of which have been revised slightly up, whilst the outlook of Philippines and Ecuador has been revised down.

FSU, other regions

FSU oil supply is expected to average 12m b/d, an increase of 400,000 b/d versus 2005, broadly unchanged from last month. The forecast for Other regions (Other Europe and China) has been revised up slightly, with total oil supply expected at 3.8m b/d in 2005 representing an increase of 70,000 b/d from 2005.

Russia

The outlook for Russia remains unchanged. Oil supply is expected to average 9.6m b/d in 2006, an increase of 180,000 b/d versus 2005. Data for 1Q06 indicates that oil supply averaged 9.5m b/d, or 18,000 b/d higher than our forecast resulting in a slightly positive adjustment to the 1Q06 figure. In April the new tax duty came into force for crude exports which may affect some producers, particularly those that depend on rail exports. It is interesting to notice that despite the level of oil prices seen this year, recent drilling statistics show that drilling footage is down seven per cent y-o-y in January, mainly due to the cold weather, but the trend over the last several months also shows a slight negative/flat slope for the growth in drilling footage, which correlates well with the slowdown in the rate of production growth seen recently.

Caspian, China

Azeri oil production is expected to average 64,000 b/d in 2006, an increase of 200,000 b/d versus 2005 and 19,000 b/d higher than previously thought. The performance of the ACG project has been better than expected. The project is reported to have reached 420,000 b/d in January which represents a three fold increase since early 2005. Azeri oil supply averaged 560,000 b/d in January and 600,000 b/d in February.

Kazak oil production is expected to average 1.3m b/d in 2006, an increase of 40,000 b/d over last year, and unchanged from last month. During 1Q06 Kazak oil production averaged 1.22m b/d, and there are positive signs to suggest that production may now be on a recovery path after a number of accidents, and disputes between the government and operators regarding the issue of gas flaring no longer exist. Additionally, the expansion of the CPC pipeline has now been agreed, the impact of which is likely to be positive for producers as this will allow the continuing expansion and resumption of activities in large projects next year.

The estimate for China has been revised up slightly to 3.7m b/d, or 27,000 b/d following indications that the baseline is higher than previously assessed.

OPEC NGLs and non-conventional oils

OPEC natural gas liquids (NGLs) are expected to average 4.5m b/d in 2006, representing an increase of 300,000 b/d versus 2005. Additionally, non-conventional oil is expected to average 160,000 b/d, broadly unchanged from last year, but the absolute level has been revised down historically, resulting in a lower base for total OPEC NGLs and non-conventional oils.

OPEC non-conventional oil is composed of Venezuela's Orimulsion and Saudi Arabia's input into MTBE plants. However, the estimate for Orimulsion has been revised down for the 2003–05 period to reflect lower baseline production and a slightly different conversion factor to assess the plant's output.

Orimulsion is now estimated to have averaged around 60,000 b/d in 2003 and 90,000 b/d in 2004 and 2005. In 2006, the new forecast assumes a level that is slightly lower than last year due to the shutdown of the Morichal plant operated by Petróleos de Venezuela SA (PDVSA), which ceased production as of April 1, 2006, and the expected build up of the new Sinovensa plant (JV between PDVSA, CNPC, Petrochina) to around 110,000–120,000 b/d by

Table D: OPEC crude oil production, based on secondary sources									*1,000 b/d*
	2004	**2005**	**2Q05**	**3Q05**	**4Q05**	**Jan 06**	**Feb 06**	**Mar 06**	**Mar/Feb**
Algeria	1,228	1,349	1,344	1,366	1,374	1,377	1,374	1,377	2.8
Indonesia	968	942	945	937	935	921	923	922	-0.1
IR Iran	3,920	3,924	3,946	3,937	3,911	3,824	3,868	3,866	-2.3
Iraq	2,015	1,829	1,841	1,968	1,675	1,551	1,794	1,803	8.4
Kuwait	2,344	2,504	2,505	2,524	2,548	2,544	2,540	2,531	-8.7
SP Libyan AJ	1,537	1,642	1,634	1,654	1,665	1,668	1,682	1,684	2.3
Nigeria	2,352	2,413	2,423	2,423	2,470	2,384	2,299	2,122	-177.2
Qatar	777	795	794	796	806	811	810	816	6.0
Saudi Arabia	8,982	9,404	9,456	9,498	9,439	9,398	9,394	9,379	-15.2
UAE	2,360	2,447	2,398	2,478	2,518	2,496	2,515	2,516	1.0
Venezuela	2,582	2,637	2,640	2,618	2,592	2,580	2,605	2,596	-8.1
OPEC-10	**27,049**	**28,057**	**28,084**	**28,232**	**28,258**	**28,003**	**28,009**	**27,810**	**–199.4**
Total OPEC	**29,064**	**29,886**	**29,925**	**30,199**	**29,933**	**29,554**	**29,803**	**29,612**	**–191.0**

Totals may not add, due to independent rounding.

end 2006. The plant began operations on April 1 according to JV partners and is expected to make its first delivery by the end of the month.

OPEC crude oil production

Total crude oil production averaged 29.6m b/d in March, according to secondary sources, a drop of 200,000 b/d from last month. Iraq's oil production was 1.8m b/d as loading and weather conditions continue to improve.

However, Nigerian oil production continues to be affected by community disturbances in some parts of the Delta, and more specifically the shutdown of the Forcados terminal and EA field.

FSU net oil exports (crude and products)

The forecast for 2006 shows FSU net oil exports averaging 8.1m b/d, which represents an increase of 300,000 b/d over 2005. In 2005, FSU net oil exports averaged 7.7m b/d, or 400,000 b/d higher than the previous year. During 1Q06, FSU exports came under pressure due to cold weather, resulting in a significant drop in January versus December. However, February data and preliminary indications for March suggest that net oil exports are on the rise again, for both crude and products. In fact, all routes for crude are showing month on month increases, except high cost rail exports. To note is the significant increase on Azeri oil exports via the Batumi port in Georgia.

Balance of supply/demand

Estimate for 2005

The estimated demand for OPEC crude in 2005 (a–b) has been revised to 28.8m/d, representing an increase of 600,000 b/d from last year and a revision of 100,000 b/d. In the same year, OPEC crude production averaged 29.9m b/d, and this contributed to a 1m b/d build in OECD inventories during the year.

Forecast for 2006

In 2006, the demand for OPEC crude is expected to average 28.5m b/d (versus 29.6m b/d production now), representing an upward revision of 100,000 b/d versus last month. On a quarterly basis, the new forecast shows the demand for OPEC crude at 29.9m b/d in 1Q06, 27.8m b/d in 2Q06, 28m b/d in 3Q06 and 28.3m b/d in 4Q06, representing an upward revision of 400,000 b/d in 2Q06, and a negative revision of 100,000 b/d in the third. Preliminary data indicates that in 1Q06 there was a stock draw of 250,000 b/d.

Total (OPEC) crude oil production averaged 29.6m b/d in March, according to secondary sources, a drop of 200,000 b/d from last month.

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

World demand	**2001**	**2002**	**2003**	**2004**	**1Q05**	**2Q05**	**3Q05**	**4Q05**	**2005**	**1Q06**	**2Q06**	**3Q06**	**4Q06**	**2006**
OECD	48.0	48.0	48.6	49.5	50.6	48.7	49.3	50.0	49.6	50.7	49.0	49.7	50.7	50.0
North America	24.0	24.1	24.5	25.3	25.5	25.3	25.5	25.4	25.4	25.4	25.5	25.8	25.9	25.7
Western Europe	15.3	15.3	15.4	15.6	15.6	15.3	15.7	15.7	15.6	15.7	15.3	15.7	15.8	15.7
Pacific	8.6	8.6	8.7	8.5	9.5	8.1	8.1	8.8	8.6	9.5	8.2	8.2	9.0	8.7
Developing countries	19.7	20.2	20.4	21.5	21.8	22.3	22.3	22.4	22.2	22.4	22.7	22.8	23.1	22.8
FSU	3.9	3.7	3.8	3.8	3.9	3.7	3.8	4.0	3.9	4.0	3.7	3.9	4.1	3.9
Other Europe	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
China	4.7	5.0	5.6	6.5	6.5	6.6	6.4	6.6	6.5	6.9	7.0	6.8	7.1	6.9
(a) Total world demand	**77.1**	**77.7**	**79.2**	**82.1**	**83.8**	**82.2**	**82.7**	**83.8**	**83.1**	**84.9**	**83.3**	**84.1**	**85.8**	**84.5**
Non-OPEC supply														
OECD	21.8	21.9	21.6	21.3	20.9	20.9	19.8	19.7	20.3	20.2	20.3	20.2	21.0	20.5
North America	14.3	14.5	14.6	14.6	14.4	14.6	13.7	13.5	14.1	14.2	14.4	14.4	14.9	14.5
Western Europe	6.7	6.6	6.4	6.1	6.0	5.7	5.5	5.6	5.7	5.6	5.4	5.1	5.5	5.4
Pacific	0.8	0.8	0.7	0.6	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.7	0.6
Developing countries	11.0	11.4	11.5	12.0	12.4	12.6	12.6	12.8	12.6	12.9	13.0	13.6	13.9	13.3
FSU	8.5	9.3	10.3	11.2	11.4	11.5	11.6	11.9	11.6	11.8	11.9	12.1	12.2	12.0
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	3.3	3.4	3.4	3.5	3.6	3.6	3.6	3.6	3.6	3.7	3.7	3.7	3.7	3.7
Processing gains	1.7	1.7	1.8	1.8	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Total non-OPEC supply	**46.5**	**47.9**	**48.8**	**49.9**	**50.4**	**50.6**	**49.7**	**49.9**	**50.1**	**50.7**	**51.0**	**51.6**	**52.9**	**51.5**
OPEC NGLS and non-conventionals	3.6	3.6	3.7	4.0	4.1	4.2	4.2	4.3	4.2	4.4	4.4	4.5	4.7	4.5
(b) Total non-OPEC supply and OPEC NGLS	**50.1**	**51.5**	**52.5**	**53.9**	**54.5**	**54.8**	**53.9**	**54.2**	**54.3**	**55.0**	**55.5**	**56.1**	**57.5**	**56.0**
OPEC crude supply and balance														
OPEC crude oil production[1]	27.2	25.4	27.0	29.1	29.5	29.9	30.2	29.9	29.9	29.7				
Total supply	77.3	76.9	79.5	83.0	84.0	84.7	84.1	84.2	84.2	84.7				
Balance[2]	**0.2**	**–0.8**	**0.2**	**0.8**	**0.2**	**2.5**	**1.5**	**0.3**	**1.1**	**–0.2**				
Stocks														
OECD closing stock level *m b*														
Commercial	2630	2476	2517	2550	2546	2625	2646	2593	2593					
SPR	1288	1347	1411	1450	1462	1494	1494	1487	1487					
Total	3918	3823	3928	4000	4009	4119	4140	4080	4080					
Oil-on-water	830	816	883	908	927	929	925	962	962					
Days of forward consumption in OECD														
Commercial onland stocks	55	51	51	51	52	53	53	51	52					
SPR	27	28	29	29	30	30	30	29	30					
Total	**82**	**79**	**79**	**81**	**82**	**84**	**83**	**81**	**82**					
Memo items														
FSU net exports	4.6	5.6	6.5	7.3	7.5	7.7	7.8	7.9	7.7	7.7	8.2	8.2	8.1	8.1
[(a) – (b)]	**27.0**	**26.2**	**26.8**	**28.2**	**29.3**	**27.4**	**28.7**	**29.6**	**28.8**	**29.9**	**27.8**	**28.0**	**28.3**	**28.5**

1. *Secondary sources.*
2. *Stock change and miscellaneous.*

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

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

*The monthly evolution of spot prices for selected OPEC and non-OPEC crudes is presented in **Tables One and Two** on page 75, while **Graphs One and Two** (on page 76) show the evolution on a weekly basis. **Tables Three to Eight**, and the corresponding graphs on pages 77–78, show the evolution of monthly average spot prices for important products in six major markets. (Data for Tables 1–8 is provided by courtesy of Platt's Energy Services).*

Table 1: OPEC Reference Basket crude oil prices, 2005–2006

$/b

Crude/Member Country	2005 Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	2006 Jan	Feb	March 1W	2W	3W	4W	5W	5Wav
Arab Light – Saudi Arabia	46.85	48.68	47.09	52.47	53.46	58.24	57.63	54.65	51.55	52.84	58.43	56.56	57.32	56.53	57.31	56.70	59.38	57.54
Basrah Light – Iraq	46.21	45.74	44.57	50.59	52.24	57.10	55.68	51.39	48.07	49.15	55.59	52.32	53.32	52.27	54.06	52.85	56.77	54.01
BCF-17 – Venezuela	32.86	32.73	32.39	37.48	44.07	46.15	50.79	47.51	41.33	42.34	47.90	45.90	46.20	48.20	48.70	49.74	52.70	49.52
Bonny Light – Nigeria	53.15	53.18	50.23	55.93	58.40	65.49	65.60	60.74	57.18	57.91	64.04	62.12	62.78	61.94	63.79	63.20	66.34	63.80
Es Sider – SP Libyan AJ	49.71	49.67	47.90	53.15	55.71	60.27	60.39	58.25	54.92	57.14	61.77	59.12	60.38	58.73	60.22	58.86	62.44	60.22
Iran Heavy – IR Iran	46.50	46.06	43.25	49.60	51.07	55.69	55.10	51.73	49.28	50.88	57.10	55.43	56.23	55.76	56.37	55.82	58.08	56.56
Kuwait Export – Kuwait	46.42	47.89	46.36	51.15	51.31	55.18	54.60	51.76	49.19	50.83	56.52	55.01	55.69	55.12	55.56	54.93	57.28	55.80
Marine – Qatar	46.53	48.23	46.66	52.27	53.57	57.49	58.37	55.80	53.17	54.72	59.85	59.06	59.42	58.98	59.18	58.59	60.46	59.39
Minas – Indonesia	54.30	55.96	50.34	55.01	56.17	61.07	60.27	58.64	53.87	54.43	63.35	61.35	61.49	61.40	62.26	61.79	63.81	62.30
Murban – UAE	49.90	52.35	51.03	55.16	57.05	61.78	62.68	59.30	56.13	57.47	62.72	61.77	62.75	61.92	62.09	61.36	63.24	62.33
Saharan Blend – Algeria	52.59	51.98	48.69	54.41	57.30	63.67	63.30	59.48	56.15	57.65	64.06	61.59	62.40	61.17	62.94	62.38	65.25	62.98
OPEC Reference Basket	**49.07**	**49.63**	**46.96**	**52.04**	**53.13**	**57.82**	**57.88**	**54.63**	**51.29**	**52.65**	**58.48**	**56.62**	**57.36**	**56.81**	**57.67**	**57.08**	**59.77**	**57.87**

Table 2: Selected OPEC and non-OPEC spot crude oil prices, 2005–2006

$/b

Crude/Member Country	2005 Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	2006 Jan	Feb	March 1W	2W	3W	4W	5W	5Wav
Arab Heavy – Saudi Arabia	41.81	43.33	42.21	48.34	48.83	52.02	51.57	49.03	47.40	49.16	54.89	53.21	54.10	53.71	53.83	53.19	55.21	53.94
Brent – North Sea	52.60	51.87	48.90	54.73	57.47	64.06	62.75	58.75	55.41	57.02	63.05	60.12	60.93	59.72	62.35	61.51	64.91	62.08
Dubai – UAE	45.60	47.24	45.68	51.37	52.78	56.55	56.41	54.20	51.63	53.22	58.56	57.61	58.18	57.52	57.55	56.84	58.78	57.82
Ekofisk – North Sea	52.34	51.68	48.85	55.03	57.59	63.92	62.55	59.22	55.76	57.54	63.34	60.36	61.60	60.67	62.55	62.00	64.95	62.53
Iran Light – IR Iran	48.50	48.42	45.53	52.37	53.86	60.41	58.74	54.38	51.31	53.20	58.99	57.00	57.98	56.88	58.86	58.24	61.13	58.77
Isthmus – Mexico	47.52	47.13	45.05	51.48	53.85	59.66	59.92	55.64	51.57	52.77	58.54	53.87	55.04	54.35	56.56	56.48	60.62	56.85
Oman –Oman	46.95	48.22	46.70	52.20	53.42	57.46	58.24	55.52	52.78	54.21	59.35	58.61	59.22	58.71	58.92	58.35	60.44	59.19
Suez Mix – Egypt	44.58	44.81	43.11	48.88	51.64	56.01	55.91	52.83	49.29	51.59	56.92	54.54	56.19	54.44	55.32	53.91	57.50	55.54
Tia Juana Light[1] – Venez.	43.50	43.27	41.67	48.19	49.10	54.22	53.87	51.48	48.77	49.23	54.28	50.98	51.19	49.97	52.01	51.93	55.74	52.27
Urals – Russia	47.92	47.89	46.27	51.87	54.95	58.64	58.23	55.80	52.38	54.63	59.58	57.06	58.49	56.79	58.01	56.63	60.21	58.11
WTI – North America	54.09	53.09	50.25	56.60	58.66	64.96	65.28	62.67	58.42	59.36	65.39	61.49	62.26	60.82	62.57	61.82	66.01	62.82

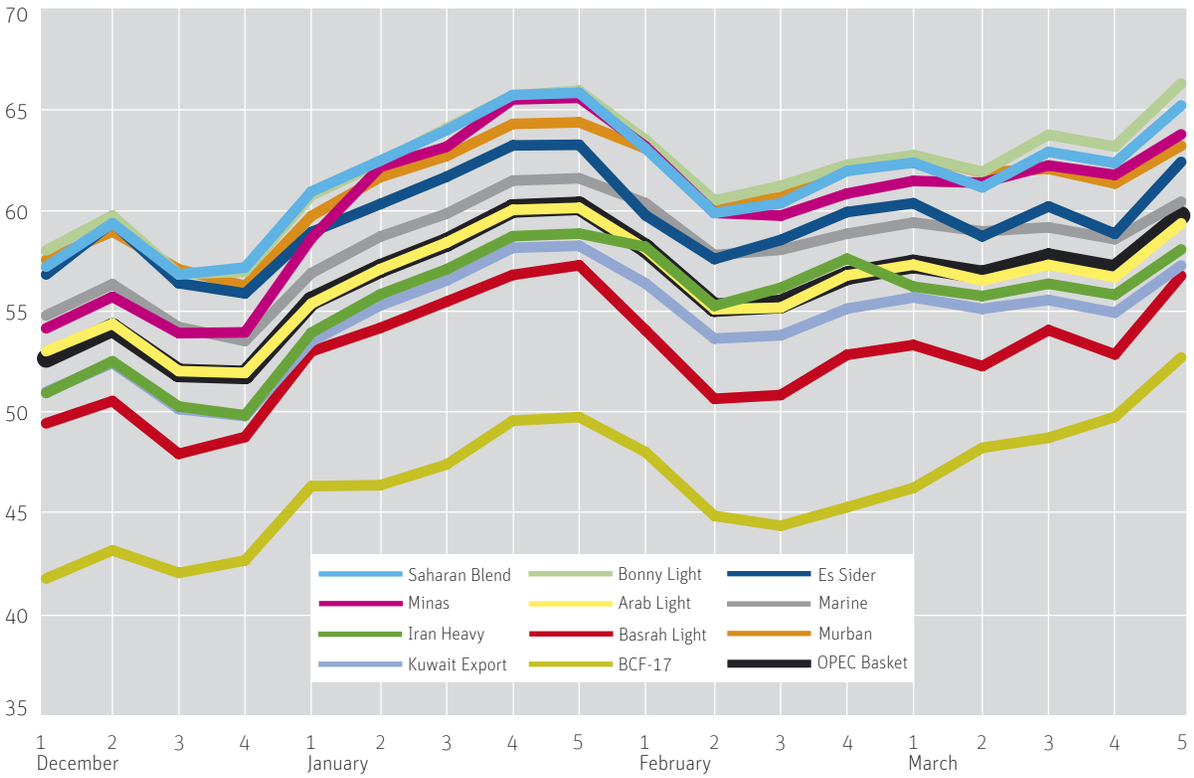
Note: As of January 2006, monthly averages are based on daily quotations (as approved by the 105th Meeting of the Economic Commission Board). As of June 16, 2005 (ie 3W June), the OPEC Reference Basket has been calculated according to the new methodology as agreed by the 136th (Extraordinary) Meeting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

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

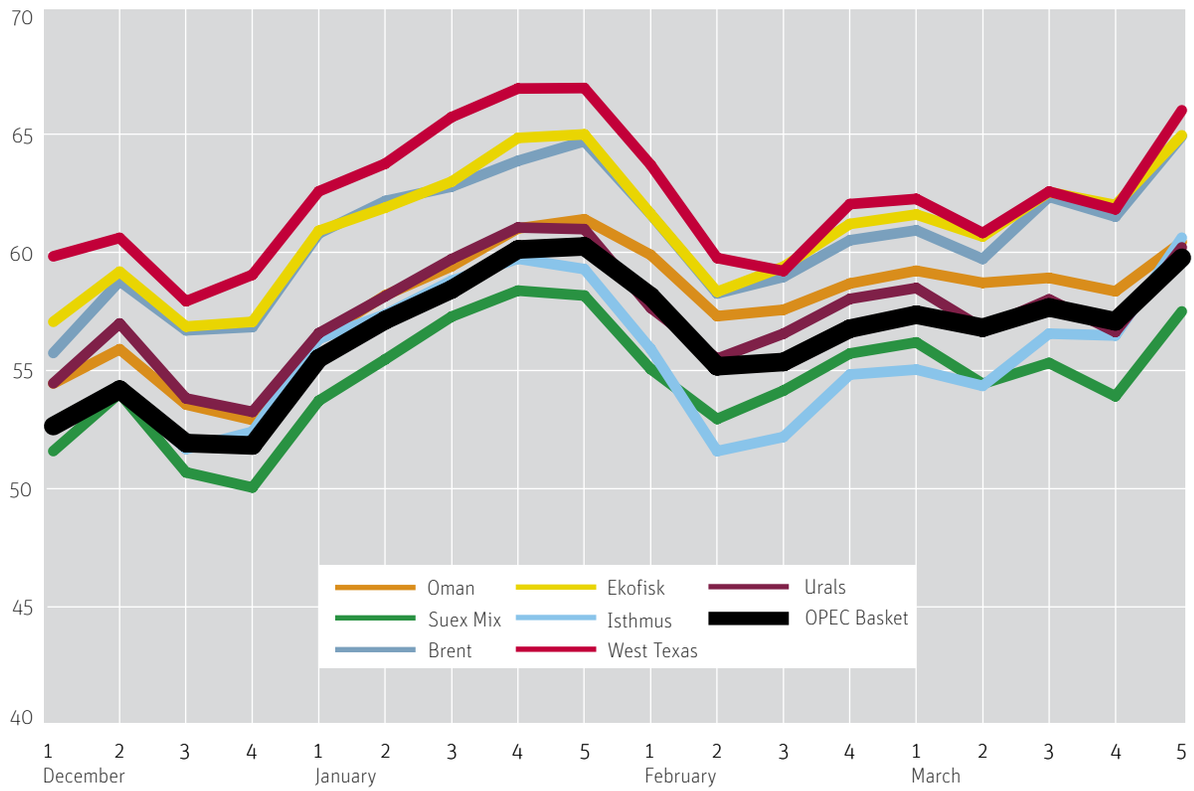
Kirkuk ex Ceyhan; Brent for dated cargoes; Urals cif Mediterranean. All others fob loading port.

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

Graph 1: Evolution of the OPEC Reference Basket crudes, December 2005 to March 2006 *$/b*



Graph 2: Evolution of spot prices for selected non-OPEC crudes, December 2005 to March 2006 *$/b*



Note: As of June 16, 2005 (ie 3W June), the OPEC Reference Basket has been calculated according to the new methodology as agreed by the 136th (Extraordinary) Meeting of the Conference.

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

$/b

		naphtha	regular gasoline unleaded	premium gasoline 50ppm	diesel ultra light	jet kero	fuel oil 1%S	fuel oil 3.5%S
2005	March	62.33	55.94	62.03	69.30	68.81	34.06	30.09
	April	61.62	61.29	68.55	70.38	71.67	35.59	34.53
	May	54.65	56.14	62.85	64.51	64.90	34.56	33.79
	June	57.23	61.88	69.54	73.02	72.32	35.01	34.86
	July	61.22	67.78	76.54	74.60	74.02	37.74	36.71
	August	69.12	75.37	84.28	80.15	79.78	41.70	39.25
	September	74.77	82.32	92.35	83.28	83.78	46.70	41.86
	October	71.56	68.81	77.64	81.54	81.27	46.94	39.98
	November	62.65	59.58	67.03	71.05	69.50	42.01	37.50
	December	65.20	60.82	68.24	69.25	70.00	41.75	37.54
2006	January	73.50	67.85	76.37	73.79	76.16	45.19	42.21
	February	68.79	62.43	70.12	72.76	74.31	47.04	44.03
	March	69.12	68.03	76.53	77.42	76.52	45.37	44.02

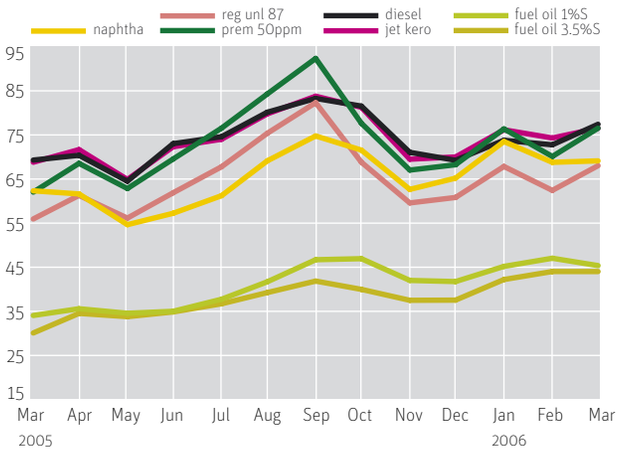


Table and Graph 4: South European market — spot cargoes, fob Italy

$/b

		naphtha	premium gasoline unl 95	premium gasoline 50ppm	diesel ultra light	fuel oil 1%S	fuel oil 3.5%S
2005	March	51.34	54.23	62.87	73.26	35.31	29.07
	April	51.05	59.51	68.88	71.44	38.31	33.67
	May	44.97	53.58	61.99	64.90	35.99	32.20
	June	46.94	59.95	68.85	73.65	38.33	33.59
	July	50.79	na	72.99	74.14	41.03	35.08
	August	58.32	na	83.45	80.97	43.55	37.73
	September	62.01	na	88.35	84.73	48.43	41.43
	October	58.43	na	75.86	81.66	45.39	39.15
	November	51.20	na	64.69	69.80	41.91	35.57
	December	53.71	na	67.95	70.64	43.53	35.02
2006	January	59.23	na	75.71	74.58	47.98	39.62
	February	56.42	na	68.48	74.41	51.10	42.56
	March	57.70	na	77.70	77.59	47.73	43.29

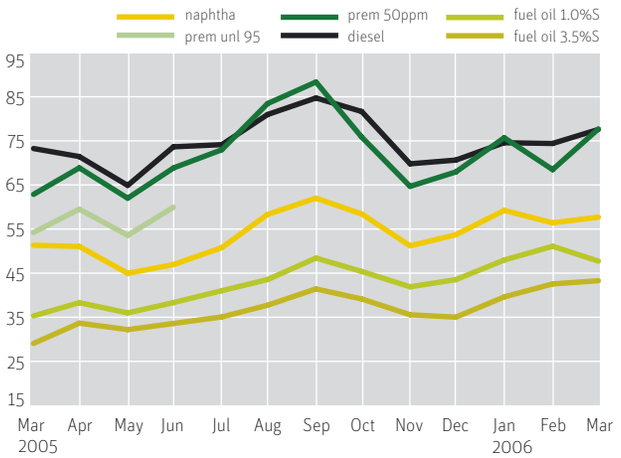
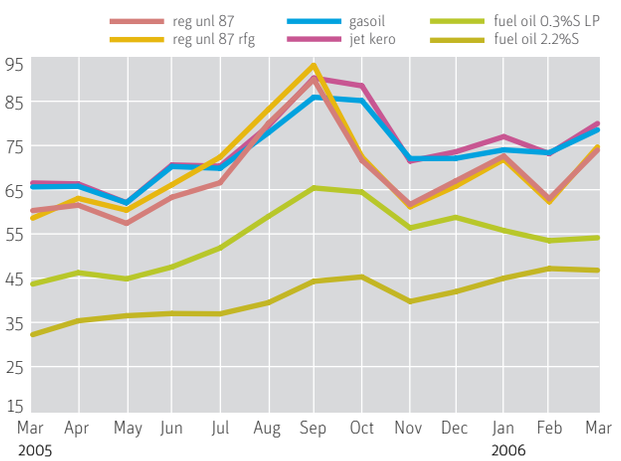


Table and Graph 5: US East Coast market — spot cargoes, New York

$/b, duties and fees included

		regular gasoline unleaded 87	regular gasoline unl 87rfg	gasoil	jet kero	fuel oil 0.3%S	fuel oil 2.2%S
2005	March	60.28	58.57	65.62	66.52	43.66	32.22
	April	61.50	63.04	65.76	66.31	46.23	35.36
	May	57.38	60.37	62.04	62.05	44.83	36.50
	June	63.29	66.13	70.25	70.60	47.52	37.00
	July	66.58	72.37	69.84	70.32	51.82	36.92
	August	79.97	83.13	77.86	79.41	58.94	39.44
	September	89.92	93.13	85.92	90.26	65.40	44.29
	October	71.63	72.41	85.13	88.48	64.45	45.28
	November	61.67	61.14	72.03	71.47	56.36	39.73
	December	66.97	65.79	72.08	73.56	58.75	41.93
2006	January	72.61	71.85	74.01	77.00	55.77	44.99
	February	62.95	62.25	73.36	73.15	53.47	47.17
	March	73.97	74.67	78.53	79.97	54.13	46.78



na not available.
Source: Platts. Prices are average of available days.

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

$/b

		naphtha	gasoil	jet kero	fuel oil 2%S	fuel oil 2.8%S
2005	March	58.11	64.23	66.41	28.22	27.50
	April	59.86	63.31	66.87	31.36	31.07
	May	56.34	58.95	62.57	32.50	32.58
	June	57.06	67.54	70.32	33.00	32.58
	July	68.93	68.93	70.60	32.92	32.54
	August	74.08	76.21	79.54	35.44	33.76
	September	83.80	86.35	94.80	40.29	39.47
	October	65.85	87.54	101.92	41.28	39.37
	November	58.23	70.47	71.86	35.73	33.49
	December	62.83	71.27	73.56	37.93	37.15
2006	January	67.61	73.77	77.25	40.99	40.34
	February	60.19	69.56	74.65	43.17	42.44
	March	71.08	74.98	79.53	42.78	42.56

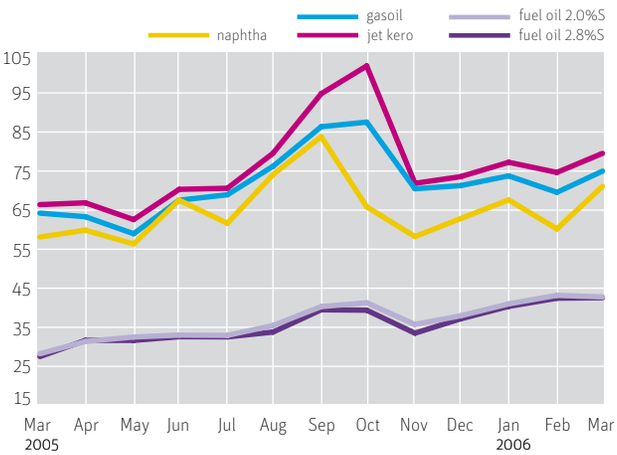


Table and Graph 7: Singapore market — spot cargoes, fob

$/b

		naphtha	premium gasoline unl 95	premium gasoline unl 92	diesel ultra light	jet kero	fuel oil 180 Cst	fuel oil 380 Cst
2005	March	50.74	59.47	58.72	68.34	66.33	34.13	33.61
	April	49.85	61.50	60.23	69.39	71.40	38.30	37.75
	May	44.76	54.46	53.37	63.83	68.93	38.00	37.18
	June	45.71	59.65	58.38	72.42	68.93	39.34	38.11
	July	49.62	64.70	63.43	72.48	70.07	40.27	38.76
	August	58.17	73.19	72.52	74.92	75.84	42.39	41.35
	September	61.73	79.40	78.39	80.77	79.16	47.35	46.68
	October	57.80	69.10	67.91	77.28	75.71	45.42	45.78
	November	53.19	60.87	59.48	66.50	64.78	43.80	42.91
	December	53.77	61.01	59.89	69.10	70.37	43.68	42.48
2006	January	58.26	66.78	65.42	77.61	77.02	46.72	45.33
	February	56.65	65.02	64.20	79.36	74.96	49.18	47.95
	March	59.82	69.64	69.05	82.11	75.66	49.43	48.89

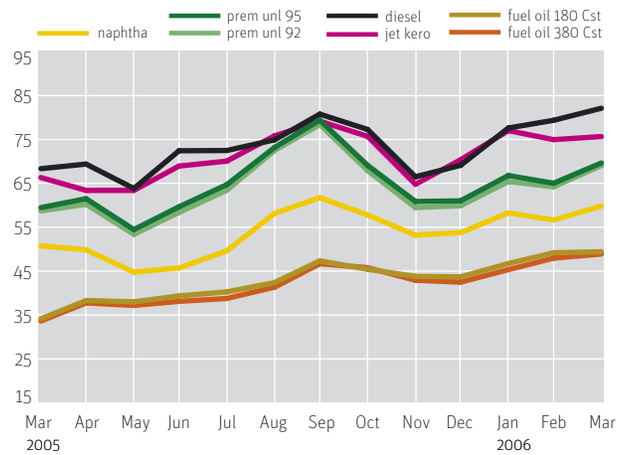
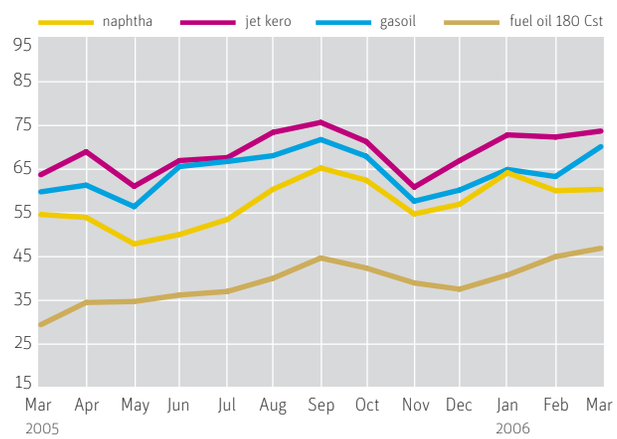


Table and Graph 8: Middle East Gulf market — spot cargoes, fob

$/b

		naphtha	gasoil	jet kero	fuel oil 180 Cst
2005	March	54.66	59.83	63.74	29.44
	April	53.98	61.36	69.00	34.54
	May	47.91	56.45	61.09	34.75
	June	50.08	65.62	66.98	36.24
	July	53.53	66.78	67.66	37.05
	August	60.39	68.09	73.42	40.05
	September	65.28	71.78	75.70	44.71
	October	62.50	67.97	71.33	42.41
	November	54.78	57.69	60.91	39.00
	December	56.99	60.23	66.97	37.57
2006	January	64.19	64.95	72.85	40.82
	February	60.10	63.33	72.36	45.01
	March	60.39	70.17	73.73	46.93



na not available.
Source: Platts. Prices are average of available days.

Forthcoming events

Natural gas market fundamentals, May 29–30, 2006, Calgary, Canada. Details: Canadian Energy Research Institute, #150, 3512–33 Street, NW Calgary T2L 2A6, Canada. Tel: +1 403 282 1231; fax: +1 403 284 4181; e-mail:jstaple@ceri.ca; Web site: www.ceri.ca.

NOC-IOC 2006, May 31–June 1, 2006, Surrey, UK. Details: CWC Associates Limited, 3 Tyers Gate; London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4201; e-mail: pborges@thecwcgroup.com; Web site: www.thecwcgroup.com.

CIS oil and gas summit 2006, May 31–June 2, 2006, Paris, France. Details: The Energy Exchange Ltd, 5th Floor, 86 Hatton Garden, London EC1N 8QQ, UK. Tel: +44 207 067 1800; fax: +44 207 242 2673; e-mail: marketing@theenergyexchange.co.uk; Web site: www.theenergyexchange.co.uk.

Power generation in Russia, June 1–2, 2006, Rome, Italy. Details: Marcus Evans, 4 Cavendish Square, London W1G OBX, UK. Tel: +44 207 499 0900; fax: +44 207 637 0843; e-mail: flaminiag@marcusevansuk.com; Web site: www.meenergy.com.

CERI 2006 petrochemical conference, June 4–6, 2006, Kananaskis Village, Canada. Details: Canadian Energy Research Institute, #150, 3512–33 Street, NW Calgary T2L 2A6, Canada. Tel: +1 403 282 1231; fax: +1 403 284 4181; e-mail: jstaple@ceri.ca; Web site: www.ceri.ca.

Measuring and managing upstream oil and gas performance, June 5–7, 2006, London, UK. Details: Petroleum Economist, Nestor House, Playhouse Yard, London EC4V 5EX, UK. Tel: +44 207 779 8104; fax: +44 207 770 8896/8899; e-mail: amsmith@petroleum-economst.com; Web site: www.petroleum-economist.com.

12th International Caspian oil & gas exhibition and conference, June 6–9, 2006, Baku, Azerbaijan. Details: ITE Group Plc, 105 Salusbury Road, London NW6 6RG, UK. Tel: +44 207 596 5000; fax: +44 207 596 5111; e-mail: enquiry@ite-exhibitions.com; Web site: www.ite-exhibitions.com.

Introduction to Canada's oil sands industry, June 8–9, 2006, Calgary, Canada. Details: Canadian Energy Research Institute, #150, 3512–33 Street, NW Calgary T2L 2A6, Canada. Tel: +1 403 282 1231; fax: +1 403 284 4181; e-mail: jstaple@ceri.ca; Web site: www.ceri.ca.

Asia oil and gas conference, June 11–13, 2006, Kuala Lumpur, Malaysia. Details: Conference Connection Administrators Pte Ltd, 105 Cecil Street, #07–02, The Octagon, 069534 Singapore. Tel: +65 6222 0230; fax: +65 6222 0121; e-mail: info@cconnection.org; Web site: www.cconnection.org.

28th Executive retreat meeting, June 12–13, 2006, Bagshot, UK. Details: Centre for Global Energy Studies, 17 Knightsbridge, London SW1X 7LY, UK. Tel: +44 207 235 4334; fax: +44 207 235 4338/5038; e-mail: marketing@cges.co.uk; Web site: www.cges.co.uk.

Asia geosciences conference and exhibition, June 12–14, 2006, Kuala Lumpur, Malaysia. Details: Allworld Exhibitions, 12th Floor, Westminster Tower, 3 Albert Embankment, London SE1 7SP, UK. Tel: +44 207 840 2136; fax: +44 207 840 2119; e-mail: aridgway@oesallworld.com; Web site: www.allworldexhibitions.com.

ERTC management conference 2006, June 12–14, 2006, Portugal. Details: Global Technology Forum, Highview House, Tattenham Crescent, Epsom Downs, Surrey KT18 5QJ, UK. Tel: +44 1737 365100; fax: +44 1737 365101; e-mail: events@gtforum.com; Web site: www.gtforum.com.

Project economics and decision analysis, June 12–16, 2006. London, UK. Details: CWC Associates Limited, 3 Tyers Gate; London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4201; e-mail: pborges@thecwcgroup.com; Web site: www.thecwcgroup.com.

Future fields 2006, June 13–14, 2006, Amsterdam, The Netherlands. Details: IQPC Ltd, Anchor House, 15–19 Britten Street, London SW3 3QL, UK. Tel: +44 207 368 9300; fax: +44 207 368 9301; e-mail: enquire@iqpc.co.uk; Web site: www.iqpc.co.uk.

Energy risk management, June 14–15, 2006, London, UK. Details: SMi Group Ltd, Unit 009, Great Guildford Business Square, 30 Great Guildford Street, London SE1 OHS, UK. Tel: +44 207 827 6000; fax: +44 207 827 6001; e-mail: client_services@smi-online.co.uk; Web site: www.smi-online.co.uk.

Introduction to the natural gas industry ... from wellhead to burner-tip, June 15–16, 2006, Calgary, Canada; **June 19–20, 2006,** Toronto, Canada. Details: Canadian Energy Research Institute, #150, 3512–33 Street, NW Calgary T2L 2A6, Canada. Tel: +1 403 282 1231; fax: +1 403 284 4181; e-mail: jstaple@ceri.ca; Web site: www.ceri.ca.

Introduction to the upstream petroleum industry, June 19–20, 2006, Calgary, Canada. Details: Canadian Energy Research Institute, #150, 3512–33 Street, NW Calgary T2L 2A6, Canada. Tel: +1 403 282 1231; fax: +1 403 284 4181; e-mail:jstaple@ceri.ca; Web site: www.ceri.ca.

Increasing and developing European energy supply, June 19–20, 2006, Rome, Italy. Details: Marcus Evans, 4 Cavendish Square, London W1G OBX, UK. Tel: +44 207 499 0900; fax: +44 207 637 0843; e-mail: flaminiag@marcusevansuk.com; Web site: www.meenergy.com.

World fiscal systems for oil, June 19–23, 2006, London, UK. Details: CWC Associates Limited, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4201; e-mail: pborges@thecwcgroup.com; Web site: www.thecwcgroup.com.

Advanced international boundary disputes in oil and gas 2006, June 20–21, 2006, London, UK. Details: IQPC Ltd, Anchor House, 15–19 Britten Street, London SW3 3QL, UK. Tel: +44 207 368 9300; fax: +44 207 368 9301; e-mail: enquire@iqpc.co.uk; Web site: www.iqpc.co.uk.

4th Russian petroleum and gas congress, June 20–21, 2006, Moscow, Russia. Details: ITE Group Plc, 105 Salusbury Road, London NW6 6RG, UK. Tel: +44 207 596 5000; fax: +44 207 596 5111; e-mail: enquiry@ite-exhibitions.com; Web site: www.ite-exhibitions.com.

Natural gas market fundamentals, June 22–23, 2006, Toronto, Canada. Details: Canadian Energy Research Institute, #150, 3512–33 Street, NW Calgary T2L 2A6, Canada. Tel: +1 403 282 1231; fax: +1 403 284 4181; e-mail: jstaple@ceri.ca; Web site: www.ceri.ca.

Introduction to Canada's oil sands industry, June 26–27, 2006, Edmonton, Canada. Details: Canadian Energy Research Institute, #150, 3512–33 Street, NW Calgary T2L 2A6, Canada. Tel: +1 403 282 1231; fax: +1 403 284 4181; e-mail: jstaple@ceri.ca; Web site: www.ceri.ca.

World legal systems and contracts for oil and gas, June 26–30, 2006, London, UK. Details: CWC Associates Limited, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4201; e-mail: pborges@thecwcgroup.com; Web site: www.thecwcgroup.com.

Gulf petrochemicals 2006 conference, June 5–6, 2006, Manama, Bahrain. Details: MEED Conference Registration, MEED Office, 20th Floor, Al Thuraya Tower, Dubai Media City, PO Box 25960, Dubai, UAE. Tel: +9714 390 0699; fax: +9714 368 8025; e-mail: conferences@meed-dubai.com; Web site: www.emapconferencesites.co.uk/gulfpetrochemicals.

Third OPEC international seminar: 'OPEC in a new energy era: challenges and opportunities', September 12–13, 2006, Vienna, Austria. Details: CWC Associates, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 20 7089 4203; fax: +44 20 7 89 4201; e-mail: awilliams@thecwcgroup.com; www.thecwcgroup.com.

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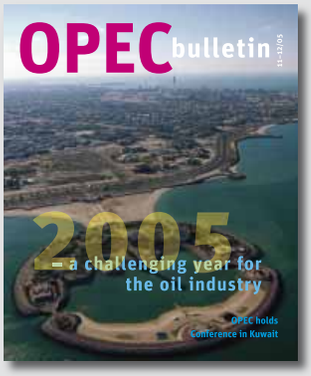

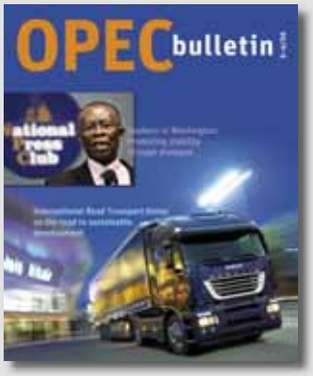

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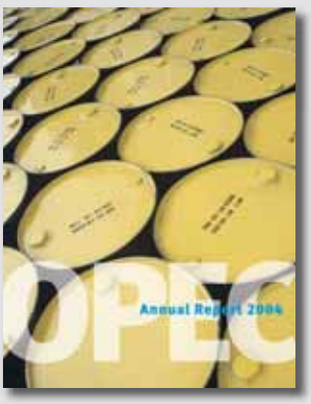

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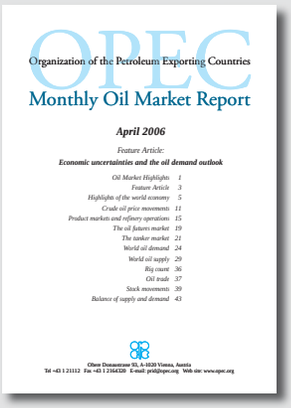

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